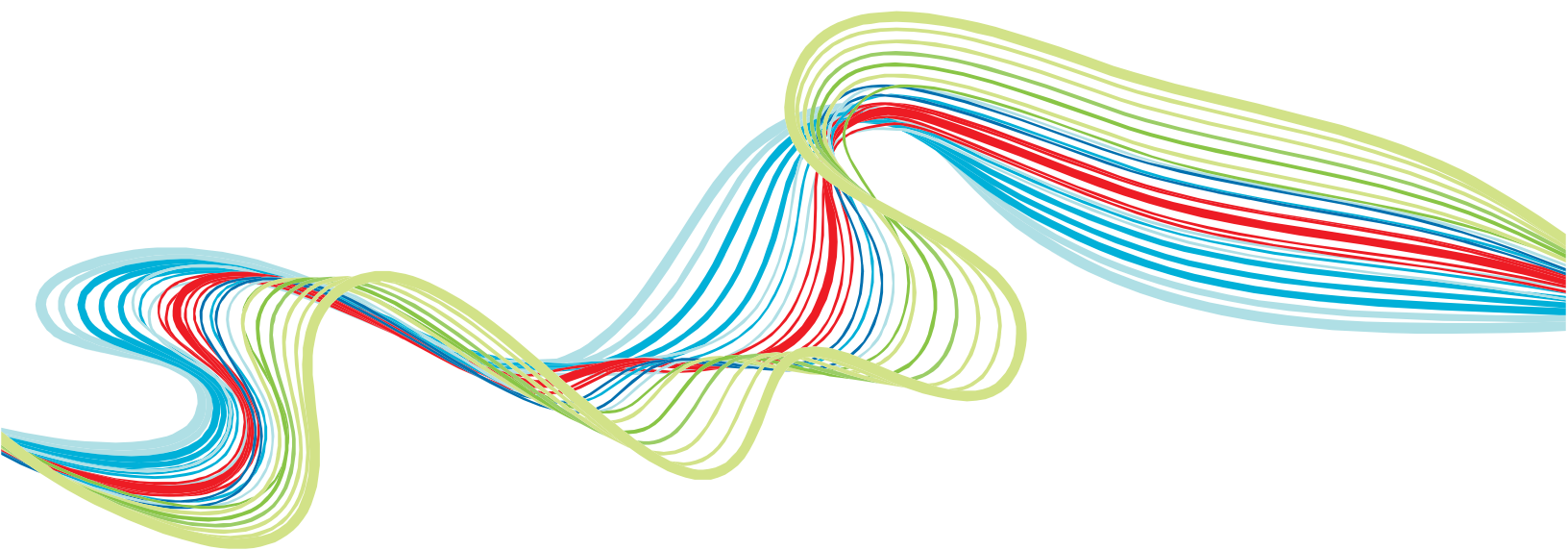




uDirect Studio® Tutorial

Version 7.1



one to one in one™

Notices

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JP Patent 4406364B and pending patents.

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About this tutorial...

Thank you for choosing uDirect Studio — a variable data printing (VDP) solution from XMPie®, a Xerox company. uDirect Studio is an integrated suite of XMPie software — uCreate Print plug-in, ulmage® and uChart™ — that creates variable data printing documents with more impact and relevance through advanced variable data personalization tools.

With uDirect Studio, designers use the uCreate Print plug-in for Adobe InDesign® to create impressive variable data-driven documents with personalized images and illustrations created with XMPie ulmage and attention-grabbing personalized charts created with uChart.

This tutorial will help you get started with uDirect Studio by showing you how to use the uCreate Print plug-in to create a VDP Campaign that includes ulmage and uChart elements, from concept to production.

For the purposes of this tutorial, your client is a fictitious university named EDU.

EDU wants you to create a new campaign called uDirect Studio Tutorial, inviting university prospective students to come to an open house event and learn more about the university.

It is recommended to allocate three hours to complete this tutorial.

Audience

This tutorial is intended for Adobe InDesign users who want to create variable-data documents. If you are new to using InDesign, you may need to refer to Adobe's help and documentation on InDesign while working through this tutorial.

Tutorial Organization

The creation of the **uDirect Studio Tutorial** campaign comprises a series of tasks. The tasks in the tutorial change the campaign, step by step, from a static postcard into a variable data postcard, personalized for each Recipient.

It is recommended to perform the tasks in the order in which they are presented.

To start the tutorial, go to page [9](#).

This tutorial includes the same information as the uDirect Classic Tutorial, with the addition of explanations about uDirect Studio-specific features. If you have already completed the uDirect Classic tutorial, you can go directly to the ulmage (section [G](#)) and uChart (section [H](#)) sections, which cover the gap between these tutorials.

To learn more about the campaign described in this tutorial and the materials included with it, read:

- The [Quick Reference to Campaign Content Objects](#) section [below](#). It describes the different content objects used in this Campaign.
- [Appendix B: uDirect Studio Tutorial Materials Specifications, on page 69.](#)

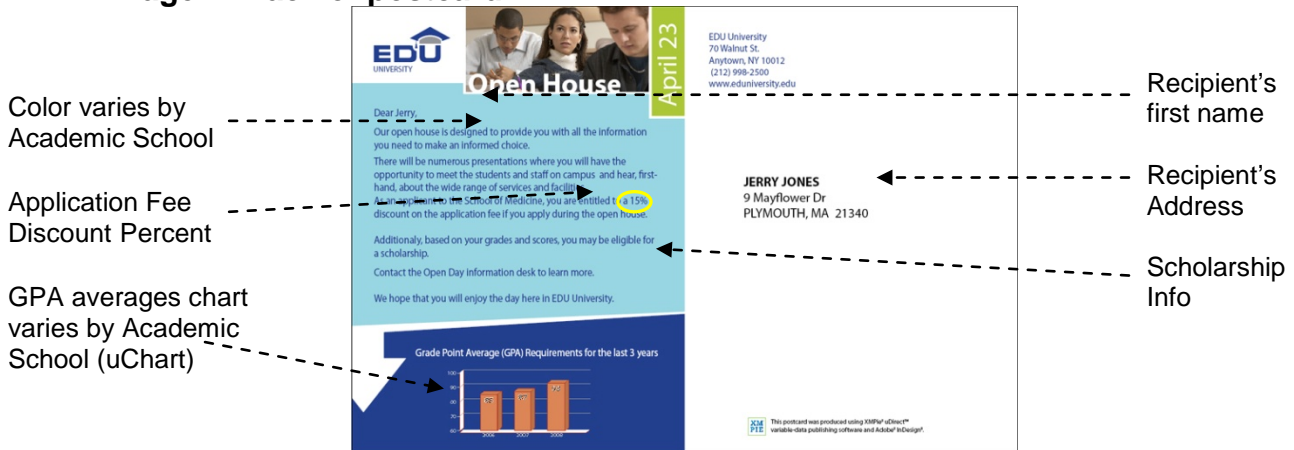
Quick Reference to Campaign Content Objects

Figure 1: uDirect Studio Tutorial Postcard front and back

Page 1- Front of postcard



Page 2- Back of postcard



The next section includes a list of the content objects used in the uDirect Studio Tutorial postcard, grouped by the object type (text, image, etc.). Each object is followed by its task number in the tutorial.

A [Quick Task List](#) is available on page 66 .

Variable Text

Replace Static text with Dynamic text:

- **Recipient Name:** Displays the Recipient's first name.
(See task [10 on page 16](#))
- **Academic school name:** For each prospective student, the specific academic school which he or she inquired about is mentioned in the postcard.
(See task [14 on page 21](#))
- **Recipient Address:** The full address of each Recipient appears on the postcard.

Calculate values based on recipient data and reformat Dynamic text:

- **Add a Rule for missing data:** If there is no available data about a Recipient, regarding a desired academic school, the text EDU University is displayed.
(See task [18 on page 36](#))
- **Show address in uppercase: The Recipient's address.**
(See task [27 on page 59](#))
- **Locate and handle long text values**
(See task [11 on page 17](#))
- **Add a Rule to dynamically change the Application Fee Discount based on the chosen academic school:** All prospects are offered an application fee discount depending on the academic school which the prospect is interested in:
 - Prospects who are interested in engineering are offered a 20% discount
 - The rest are offered a 15% discount
(See task [17 on page 32](#))

Variable Graphics

Replace Static Images with Dynamic Images

- **Change graphics dynamically: Change Academic School Image based on the chosen school:** The image reflects the academic school chosen by the prospect.
(See task [15 on page 23](#))
- **Generate personalized graphics and change dynamically:** The “Chalk Board” image includes the recipient's first name in a hand-written welcome greeting.

Variable Layer Visibility

Change the static design layout into a dynamic one:

- **Show/hide the layer containing Scholarship Information:** Information about the scholarships that the university has to offer is shown only to prospects with an exceptional high grade point average.

(See task [19 on page 40](#))

Variable Styles

Change static formatting styles to dynamic formatting:

- **Change object style: School Object Style:** Colors in the postcard change according to the chosen academic school.

(See task [20 on page 44](#))

- **Change character style: School Character Style:** The character style includes the text color. An object with a dark color style requires a bright color for the text written on it, and vice versa.

(See task [20 on page 44](#))

Variable Data-driven Chart

- **Variable Data-driven:** Recipients are shown the requested entry score to their preferred academic school for the past three years.

The Tutorial

Below is the list of tasks that you will perform in this tutorial. Each task has a step-by-step procedure, described below.

If you want to print a [Quick Task List](#) to serve as a checklist you can refer to, as you follow the procedures through the tutorial, you may find a task index [on page 66](#).

Install the uCreate Print plug-in before you start this tutorial.

Note that uDirect requires Adobe InDesign CS6/CC/CC-2014.

Read more about hardware and software requirements in [Appendix A: Hardware and Software Requirements on page 68](#).

Install the uCreate Print plug-in

If you have not already done so, download and install the uCreate Print plug-in, from:

<http://www.xmpie.com/trial> uCreate Print is a plug-in to InDesign, therefore:

Make sure that InDesign is not running when you install the uCreate Print plug-in. Also, make sure that you have the uDirect Studio license key to activate the software and enable ulmage and uChart.

You will not see an uCreate Print shortcut icon within your **Programs** menu or on your desktop. Instead, the next time you launch InDesign; it will include the **uCreate Print** panel.

A. Getting Started

1. Download the Tutorial files.

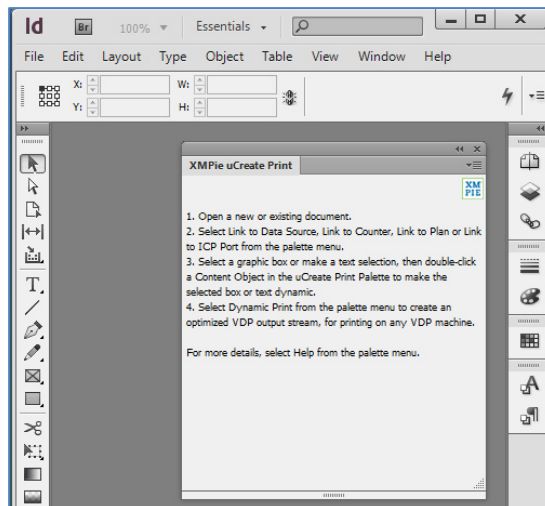
- a. Go to the <http://www.xmpie.com/xmpie-tutorials> page, and then click the “uDirect with ulmage “Open House” Tutorial” link.
- b. Fill in the download form and click “Submit.”
- c. Save the “uDirect_Studio_EDU_Tutorial.zip” file on your hard drive (If you prefer to unzip the file anywhere else in your file system, note the location, as it will be referenced several times during this tutorial).

2. Unzip “uDirect Studio Tutorial” into a new folder.

3. Launch Adobe InDesign.

From the “**Window**” menu, select “**XMPie uCreate Print**” to open the **XMPie uCreate Print Panel** (Figure 2):

Figure 2: InDesign with the XMPie uCreate Print Panel

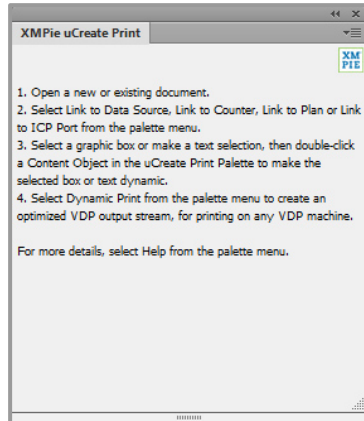


Note: If you do not see **XMPie uCreate Print** in the **Window** menu, uCreate Print has not been installed properly. If the uCreate Print panel displays an **Activate** button, you will need to activate the product to continue.

4. Display the uCreate Print Menu.

Before you first use uCreate Print plug-in to edit an InDesign file, the **uCreate Print** panel shows an initial screen that provides basic instructions on how to start using the product (as shown in [Figure 3](#)).

Figure 3: XMPie uCreate Print panel: Initial Screen



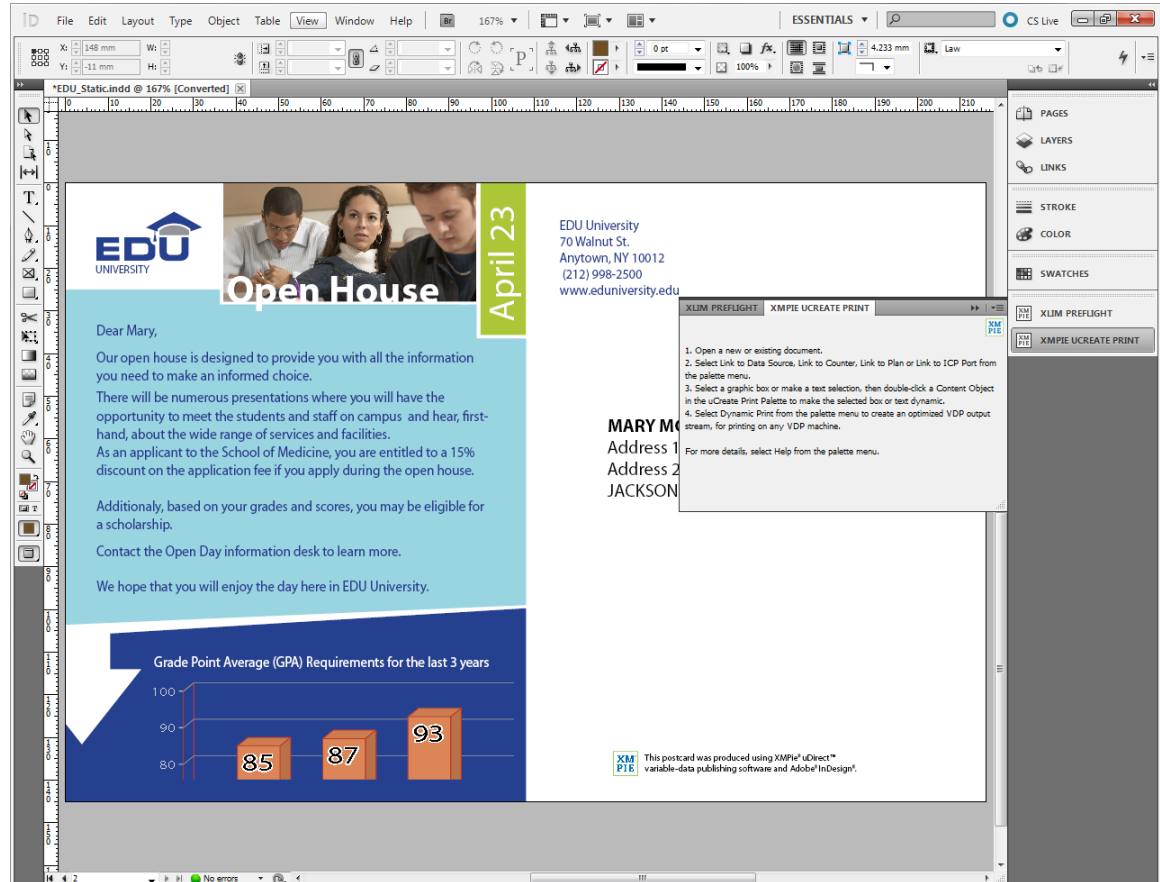
This tutorial uses the main features of the **uCreate Print** panel.

To learn more about using the **uCreate Print** panel, read [Appendix C: Learn to Use the uCreate Print Panel on page 71](#)).

5. Open the "EDU_Static.indd" InDesign file ([Figure 4](#)).

You will find the file EDU_Static.indd in the **uDirect Studio Tutorial** folder (located where you unzipped these files in task 2).

Figure 4: The “EDU_Static” InDesign file



6. Enable InDesign automatically locate links.

In some cases, InDesign may display a message regarding missing links. If this happens, select **Update Links** and then **Relink** images on the InDesign **Links** panel menu, if needed. The required images are in the Resources folder.

7. (Optional step) Change the fonts if needed .


This document uses Myriad Pro and Impact fonts. If you do not have these fonts installed, you may need to replace the font to another that is installed on your computer.

- a. From the **Type Menu**, select **Find Font....**
- b. For any font in the document that is missing, select a different font **family and style**, then click **Replace all**.

8. Save the document with the new name.

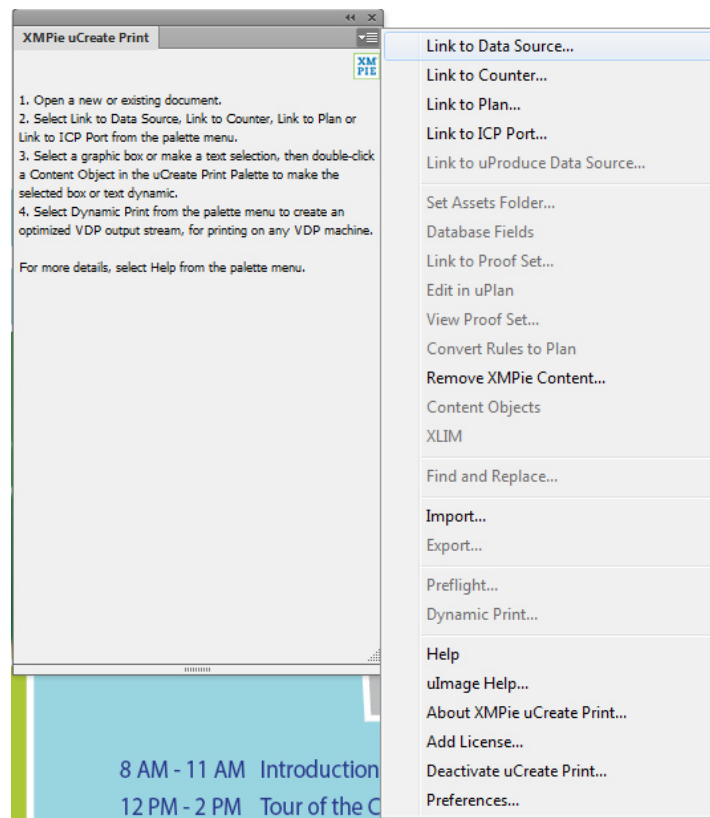
It is a best practice to leave the original document intact and save your working document after any initial changes, such as relinking images. Choose **File > Save as** from the menu. If needed, browse to your tutorial folder and name your working file “EDU_postcard.indd”.

9. Link the postcard to a Data Source.

To perform this instruction, you must first display the **uCreate Print** panel menu, by clicking the button () at the top-right corner of the **uCreate Print Panel**.

The **uCreate Print** panel menu is displayed ([Figure 5](#)).

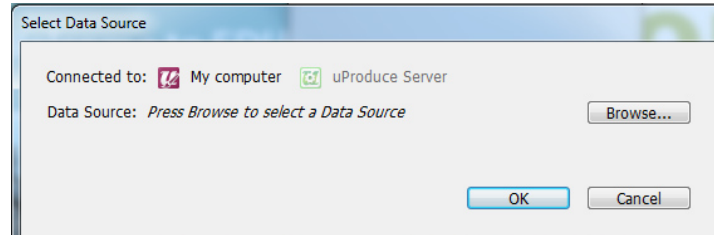
Figure 5: uCreate Print Panel Menu



- a. From the uCreate Print panel menu, select “Link to Data Source...”

The **Select Data Source** window is displayed (Figure 6).
Note that this option is grayed out when there is no open Document.

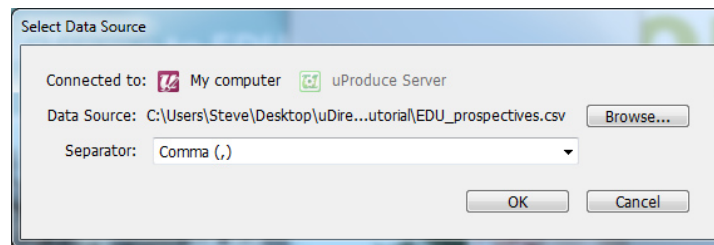
Figure 6: Select Data Source window



- b. Click the **Browse...** button and navigate to the tutorial folder, select **"EDU_prospectives.csv"**, and click **"Open"**.

The **Specify a Separator** window is displayed (Figure 7):

Figure 7: Specify a Separator window



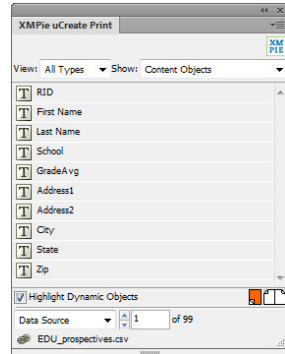
- c. Click **"OK"**.

In our case, the **EDU_prospectives.csv** Data Source uses a comma (,) separator, which is the default selection in this window.

Once you link to a Data Source table, uCreate Print automatically creates an object for each of the table columns. The name of the object is the column header. These objects are known as Content Objects.

The **uCreate Print** panel now displays a list of Content Objects (Figure 8).

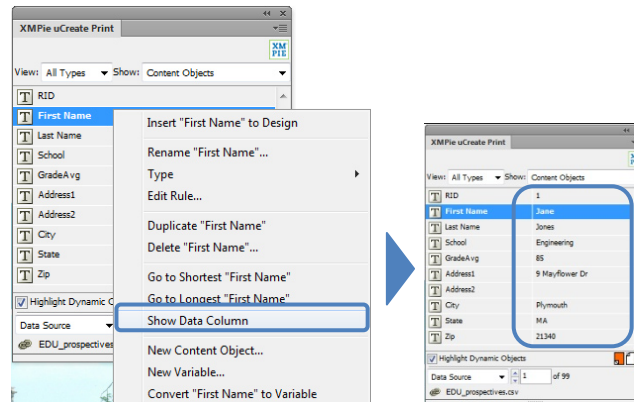
Figure 8: uCreate Print panel, populated with EDU Content Objects



d. Show the Content Object values

The **uCreate Print** panel allows you to view the Content Object's value per Recipient. To display the Content Object values, right-click any Content Object, or Cmd-click on a Mac, and select **Show Data Column** from the menu (Figure 9).

Figure 9: Displaying the Data Column in the uCreate Print panel



B. Dynamic Text

10. Replace the static Recipient name (“Mary”) with dynamic content containing the Recipient’s first name.

In this task, you will replace the static Recipient name “**Mary**” with dynamic content, by replacing the text with the *First Name* Content Object (Figure 10). This action is called “tagging”.

The first name appears on page 1 (front) (Figure 1) ‘Welcome’ text, in the scholarship text, as well as on page 2 (back).


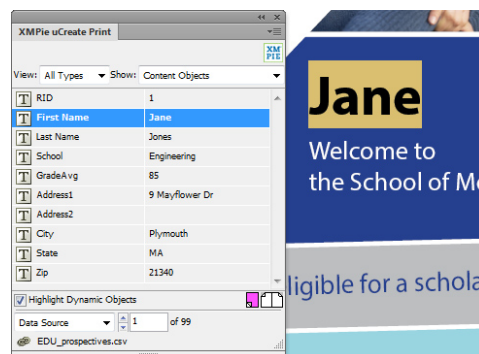

- In the InDesign Tools panel, select the Type tool ().
- In the ‘Welcome’ text, highlight or double-click the text “Mary” (make sure you select the entire name).
- In the uCreate Print panel, scroll down the Content Objects List and double click the *First Name* Content Object.

Figure 10: Replacing Static Text with Dynamic Text on the Welcome notice



Note how the text **Mary** is instantly replaced with the text **Jane** from the **EDU_prospectives.csv** Data Source that your Design is currently linked to. **Jane** is the first of 99 records in this Data Source.

- See how your Design changes dynamically as you browse through your Recipient records (see more details about browsing records for preview in task 11).

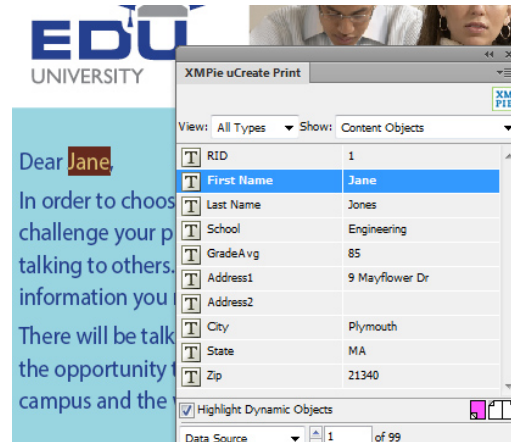
Click the Record Selector (up/down arrows ) at the bottom of the uCreate Print panel, to browse through the records of the **EDU_prospectives.csv** Data Source. Note how uCreate Print dynamically updates the Design with different first names.

Learn more how to browse through Recipients in task 11 on page 17.

- Repeat this procedure to tag the static text “Mary” to *First Name* Content Object within the Scholarship text (below the Welcome

text) and on page 2 (back), at the top, with the *First Name* Content Object.

Figure 11: Replacing Static Text with Dynamic Text page 2(back)



Note how all names change as you scroll through Recipient records.

11. Previewing dynamic content

To see how your Design changes dynamically as you browse through your Recipient records do the following:

a. Scroll through the Data Source records.

Click the up and down arrows in the **Record Selector**, and note the changes in the *First Name* and *School Name* Layer dynamic text.


b. View a specific Recipient's data, by typing that Recipient's record number in the Record Selector.

View the data of Recipient number 75 by typing "75" in the **Record Selector**.

Figure 12: Viewing a Specific Recipients Data



c. In the InDesign Tools panel, click and hold the "Preview" mode

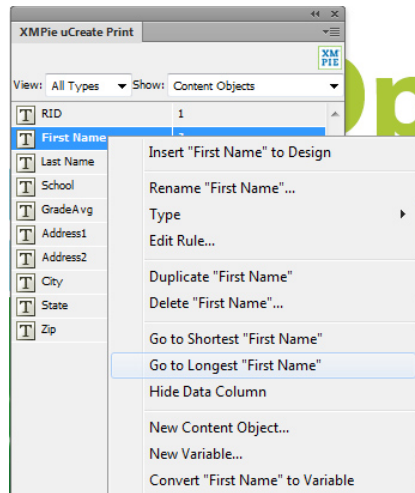
icon , and select "Preview" from the menu to view the Dynamic Objects as they will appear after composition. You can also use the shortcut key "W" on your keyboard to toggle between Preview mode and Normal mode.

12. Locate and handle long text values

In **record 80**, the Recipient First Name consists of two words: 'Douglas William'.

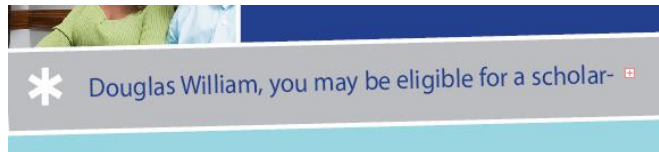
You can easily find the record with the longest value for the first name by right-clicking on First Name and selecting the **Go to Longest** feature or you can browse to this record (see [Figure 13](#)).

Figure 13: Go to Longest value



If you browse to his record, you can see that in both the **Welcome notice** and the **Scholarship note**, on page 1 (front), the name does not fit into the text frame (see [Figure 14](#)) and both story boxes show an overflow (little red plus sign).

Figure 14: Long Name at Recipient 80



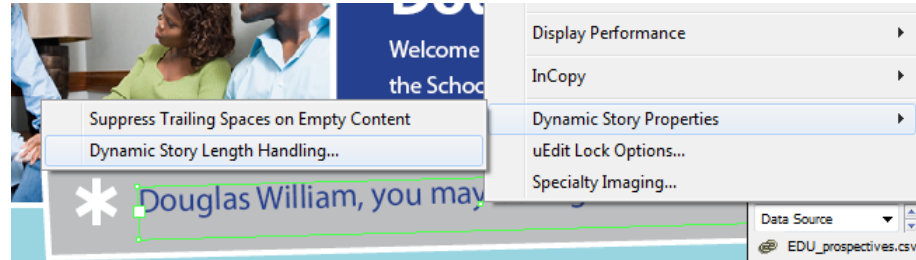
To fix overflow text in story boxes containing dynamic text, use the **Copy Fitting** option. This option enables you to reduce the font size, horizontal scaling of characters or the auto leading (vertical space between lines) to make any length of dynamic text fit its desired space.

To apply the Copy Fitting option, do the following:

- a. **Right-click on First Name in the uCreate Print panel or Cmd-click on a Mac, choose “Go to Longest First Name”.** This action brings you to record 80 (see [Figure 13](#)).
- b. **Select the “Scholarship Note” text box and right-click the “Scholarship Text” box, or Cmd-click on a Mac. From the menu,**

select “Dynamic Story Properties” > “Dynamic Story Length handling” (see Figure 15).

Figure 15: Dynamic Story Length Menu

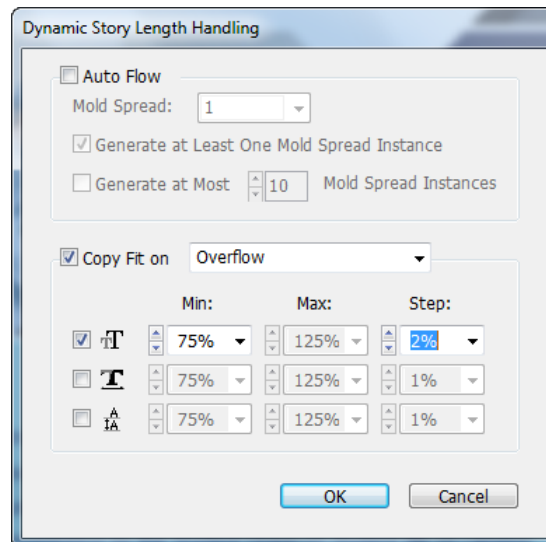


The **Dynamic Story Length Handling** window is displayed.

- c. Select the “Copy Fit on” checkbox and make sure that “Overflow” is selected from the drop-down list.
- d. Select the text size checkbox and set the minimum size to 75% with a 2% step.

The text will shrink in 2% increments (98%, 96% etc.) until it fits the text box, and will not shrink below 75% of its original size.

Figure 16: Dynamic Story Length Handling window



- e. Click OK to close the window
- f. Repeat this task with the “Welcome” text box as well.
- g. Test the design using the Record Selector, to see how the overflowing text now shrinks to fit for record 80 and remains unchanged for other records.

The Recipient's name should now fit into the box for all Recipients.
Remember that Copy Fitting is applied per-text box and does not affect other text boxes.

13. Rename the *School* Content Object

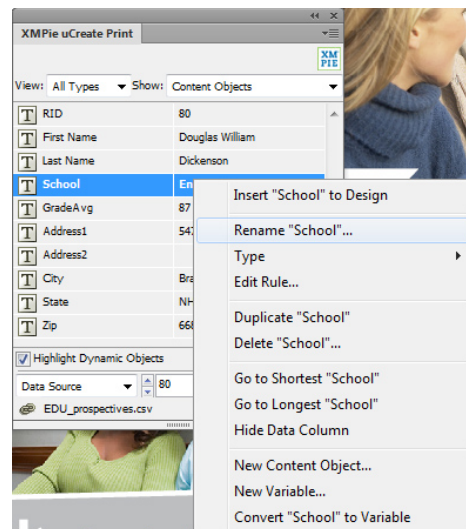
It is important to give Content Objects meaningful names, which accurately reflect their content and usage. For this purpose, you may occasionally need to rename a Content Object.

In this example, you will rename the *School* Content Object.

This Content Object indicates the Recipients' requested school name: whether they requested information about the School of Engineering, the School of Medicine or the School of Law. Let us rename the *School* Content Object to *School Name*.

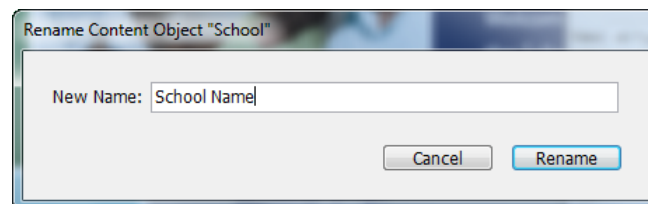
- a. In the Content Objects List, right-click the *School* Content Object, or Cmd-click on a Mac, and choose Rename "School" ... from the menu.

Figure 17: Renaming a Content Object (School)



The **Rename Content Object** window is displayed.

Figure 18: Rename Content Object window (School)



b. Rename the Content Object

In the **New Name** field, type **School Name** and click **Rename**.

The Content Object's name is updated in the Content Objects list.

14. Replace the static school name “Medicine” with the *School Name* Content Object.

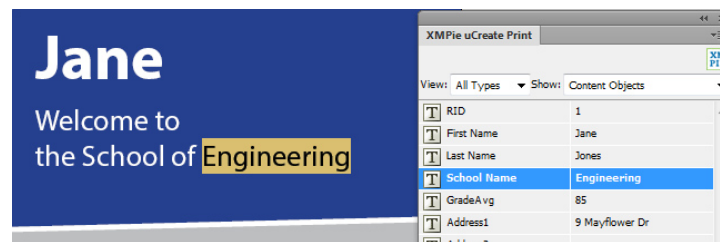
In this task, you will tag the text with the *School Name* Content Object (Figure 19). The school name appears on page 1 (front) and on page 2 (back), (Figure 1). In the InDesign Tools panel, select the **Type** tool.

a. In the “Welcome” text box, highlight or double-click the text “Medicine”.

Make sure you select the entire name.

b. In the uCreate Print panel, scroll down the Content Objects List and double-click the *School Name* Content Object.

Figure 19: Replacing Static Text with Dynamic Text on the Welcome notice



If you are still viewing Recipient record 80, the text **Medicine** is instantly replaced with the text **Engineering**. Other Recipients may have a different school name.

c. See how your Design changes dynamically as you browse through your Recipient records.

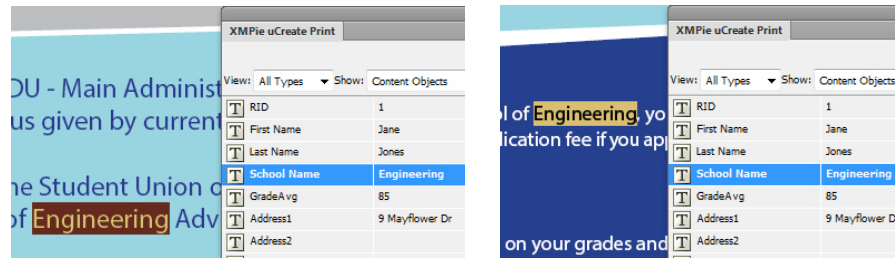
Browse through EDU_prospectives.csv Data Source records by clicking the Record Selector (up/down arrows Data Source 1 of 99).

d. Repeat this procedure to tag the rest of the text with the *School Name* Content Object.

The school name appears:

- Within the Schedule text at the bottom of page 1 (front) before the word Advisors.
- On page 2 (back) – after “As an applicant to” (see Figure 20)

Figure 20: Replacing Static Text with Dynamic Text on the event schedule part on page 1 (front), and in the second part of text on page 2 (back)



e. Browse through the Recipients and see the school name change.



Note: A Recipient school name may be either “Engineering”, “Medicine”, “Law” or empty. Handling ‘empty’ cases, when a Recipient with no data about their school, will be completed at a later stage (see task 18 on page 36)

C. Dynamic Graphics

15. Replace the static school image with a dynamic graphic.

To complete this task, duplicate the existing Content Object School Name and change the duplicated Content Object's type to Graphic. Since the filenames of the images (Assets) for each school is identical to the school name within the data (see [Appendix B: uDirect Studio Tutorial Materials Specifications on page 69](#)), uCreate Print automatically locates the right image.

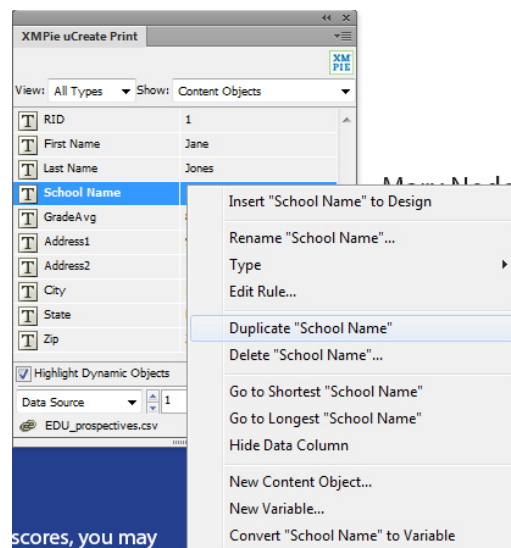


Note: uCreate Print automatically searches images that are within a folder named "Assets", located in the same folder/directory structure where the data is found. When doing other VDP projects, if your folder/directory structure is different, you can use the **Set Assets Folder** option in the uCreate Print panel menu.

a. Duplicate the **School Name** Content Object

In the Content Object list, right-click on the *School Name* Content Object, or Cmd-click on a Mac, and choose **Duplicate "School Name"...** from the menu.

Figure 21: Duplicating a Content Object (School Name)



The new *School Name Copy* Content Object is available now at the end of the Content Objects list.

- b. To give the Content Object an appropriate name, right-click the **School Name copy** Content Object in the Content Object list, or Cmd-click on a Mac, and choose "Rename 'School Name copy'..." from the menu.

The **Rename Content Object** window is displayed.

c. Rename the Content Object:

In the **New Name** field, type **School Image** and click **Rename**.

The Content Object's name is updated in the Content Objects list.

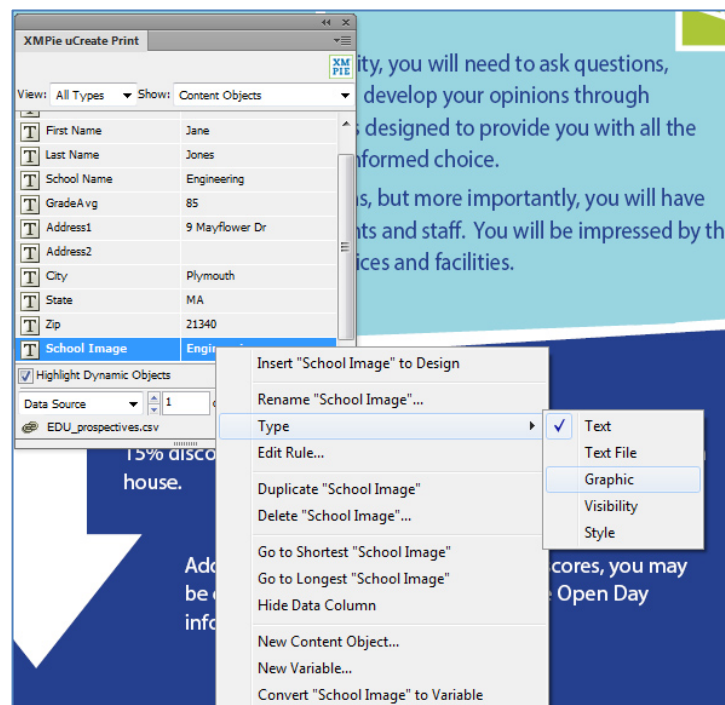
d. Change the object type of the *School Image* Content Object from Text to Graphic



Content Objects have several different possible types based on the type of object they represent in the Design, for example: Text, Graphic, Visibility, etc. By default, all Content Objects are created as Text Content Objects, and their type can be easily changed as needed.

In this case, you want the School Image to show the image of the Recipient's school, so first you need to change its type from Text to Graphic.

- i. In the Content Objects List, right- click the School Image, or Cmd-click on a Mac, and choose "Type > Graphic" (See [Figure 22](#))

Figure 22: Changing the Content Object Type



In the **uCreate Print panel**, the icon of the *School Image* Content Object changes from **Text** () to **Graphic** ()

e. Replace the Static Graphic (the middle image) with a Dynamic Graphic, using the *School Image* Content Object.

The value of a Graphic Content Object is the file name of a specific Asset: a graphic file that changes per Recipient. Any Campaign that uses variable graphics needs to have an Assets folder that contains the Asset files for its variable graphics.

In this case, there are 4 Assets that may be used as the Recipient's *School Image*:

- **Engineering.jpg** - for the School of Engineering,
- **Medicine.jpg** - for the School of Medicine
- **Law.jpg** - for the School of Law
- **General.jpg** - for Recipients that don't have a requested school (will be configured in task [18 on page 36](#)).

The value in the *School* column of the Campaign's Data Source, **EDU_prospectives.csv**, determines the file name of the Asset to be used for each Recipient.

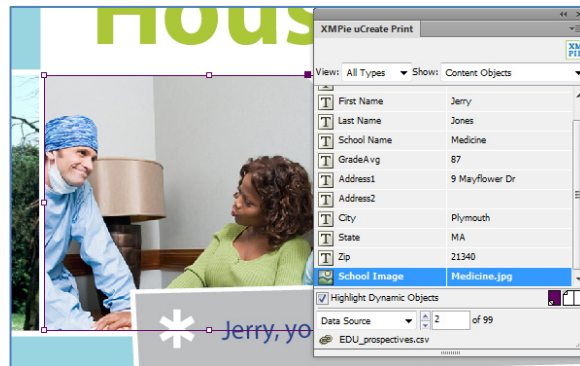
uCreate Print automatically recognizes the graphic file's format; therefore the value in the Data Source does not need to include the file extension (in this case, .jpg).

- i. Using the black arrow (Select Tool on the InDesign Tools panel), select the "School Image" (the image in the middle of page 1(front) – see [Figure 23](#)).
- ii. In the Content Object list, double-click *School Image*.

The **School Image** now reflects the Asset assigned to the current Recipient.

For example, Recipient 1 has school of **Engineering**, while Recipient 2 has school of **Medicine**.

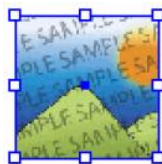
Figure 23: Tagging the image to School Image Content Object



Note: This procedure of creating a Graphic Content Object from a Text Content Object works only when the image file name (with or without its extension, for example, .jpg) is identical to the text supplied by the data. This is true in this Campaign. The image names are: Engineering.jpg, Medicine.jpg and Law.jpg, and the values in the “School” column (within the data, EDU_Pro prospective.cvs) are: Engineering, Medicine and Law. uCreate Print can also easily handle cases where the image file name is not identical by creating rules that assign a specific image to a specific value in your data. You can see this later in task 28 on page 60. If the following image appears (Figure 24), it means that InDesign cannot locate the file.

- iii. (Optional) To point uCreate Print at the location of your Assets folder, open the uCreate Print panel menu, choose Set Assets Folder... and browse to the location of your Assets folder.

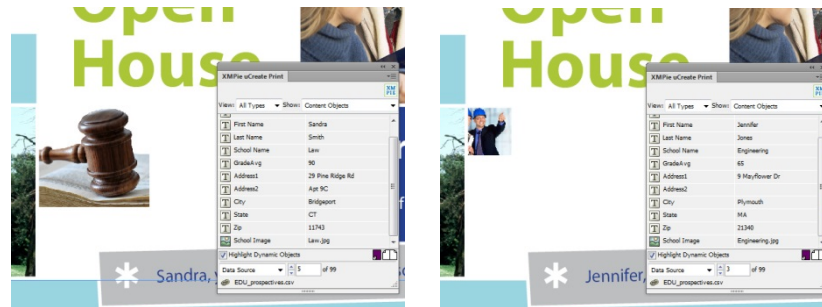
Figure 24: Placement Image for missing Assets



f. **Set the “Fit and Transform” Mode of a Graphic Content Object (School Image).**

If you browse through the recipients, you can see (Figure 25) that each school image has a different size. You would like all the images to be resized automatically, so that they fit nicely into the same frame.

Figure 25 - Image assets of different size need to be managed



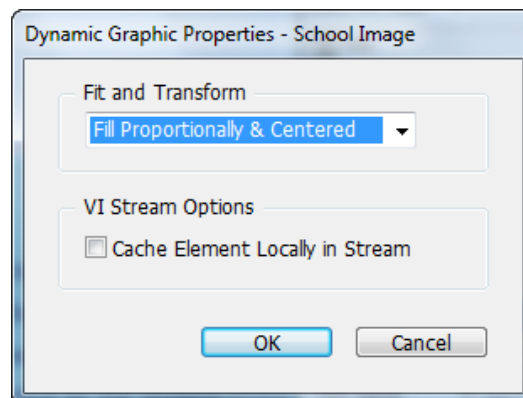
uCreate Print supports several Fitting Modes for dynamic graphic frames. To see the current Fitting Mode of a tagged graphic frame, you need to view the file in **Normal** mode in the InDesign Tools panel, and the **Highlight Dynamic Objects** option is selected in the uCreate Print panel (Figure 27).

The **School Image** graphic frame is currently set to **Maintain Transformation**, while the most appropriate setting for our use is **Fill Proportionally**. To change the **Fit and Transform** options, proceed as follows:

- i. Right-click the School Image, or Cmd-click on a Mac, and choose “Dynamic Graphic Properties” from the menu...

The **Dynamic Graphic Properties** window is displayed.

Figure 26: Dynamic Graphic Properties - School Image



- ii. From the “Fit and Transform” drop-down list, choose “Fill proportionally & Centered” and click “OK”.

Figure 27: Highlight Dynamic Objects



Note: Take a look at Recipient 6. In the School Name Content Object, there is no value in the Data column. Therefore, the new School Image Content Object is also empty, and there is no image in the **School Image** placeholder in the postcard. You will handle these special cases by adding a special rule in at later stage in task [28 on page 60](#).

D. Rule Editor

So far, you have defined Content Objects based on two Attributes: Name and Type. In addition, Content Objects are defined by their Business Rule (Rule, in short). A Rule is an expression that is part of the Campaign Logic that determines how to calculate the Content Object value for each Recipient.

Below are the tasks to be performed using the **Rule Editor**.

To learn more about Rule types and about using the **Rule Editor**, read [Appendix D: Learn to use the Rule Editor on page 73](#)).

Edit Content Object to be displayed using UPPERCASE.

16. Create uppercase *First Name* Content Object to be used in the Recipient's address.

This task will set the *First Name* in the Recipient address to appear in uppercase (JANE instead of Jane).

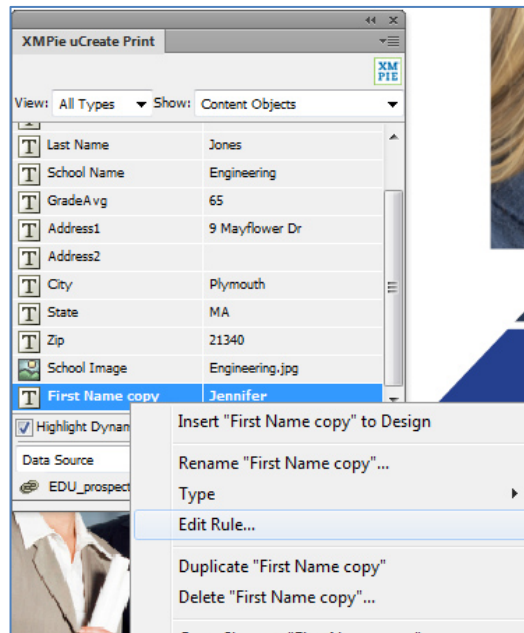
a. Duplicate the *First Name* Content Object

In the Content Object list, right-click the *First Name* Content Object, or Cmd-click on a Mac, and choose **Duplicate "First Name..."** from the menu. The new *First Name copy* Content Object is available now at the end of the Content Object list.

b. Launch the Rule Editor

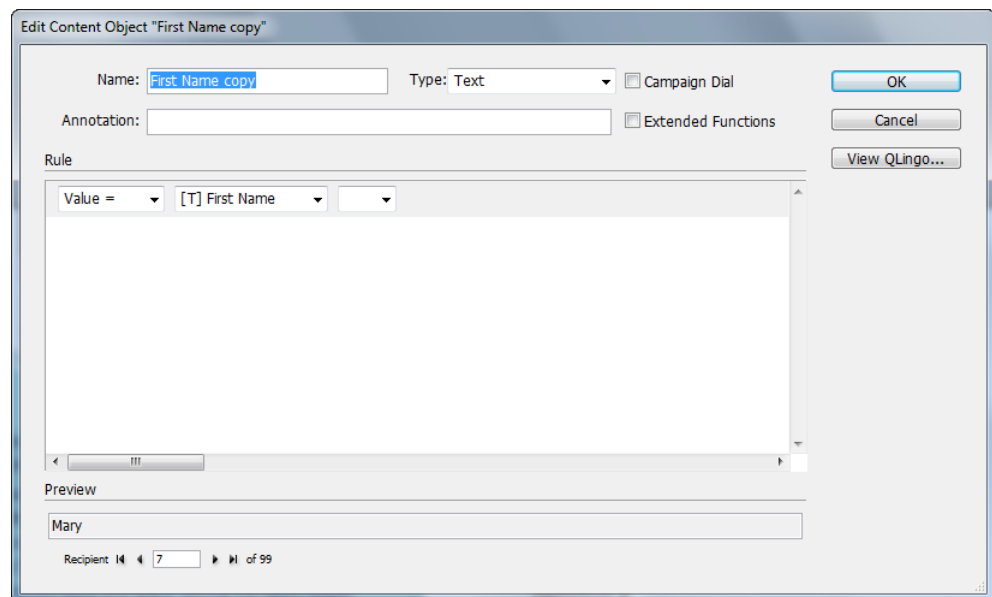
In the Content Object list, right-click the *First Name copy* Content Object, or Cmd-click on a Mac, and then select **Edit Rule...** from the menu.

Figure 28: Editing a Content Object's Rule



The **Rule Editor** window is displayed.

Figure 29: Edit Rule - Rule editor window



- c. **Rename the Rule to *First Name Upper*.**
In the name field, enter *First Name Upper*.

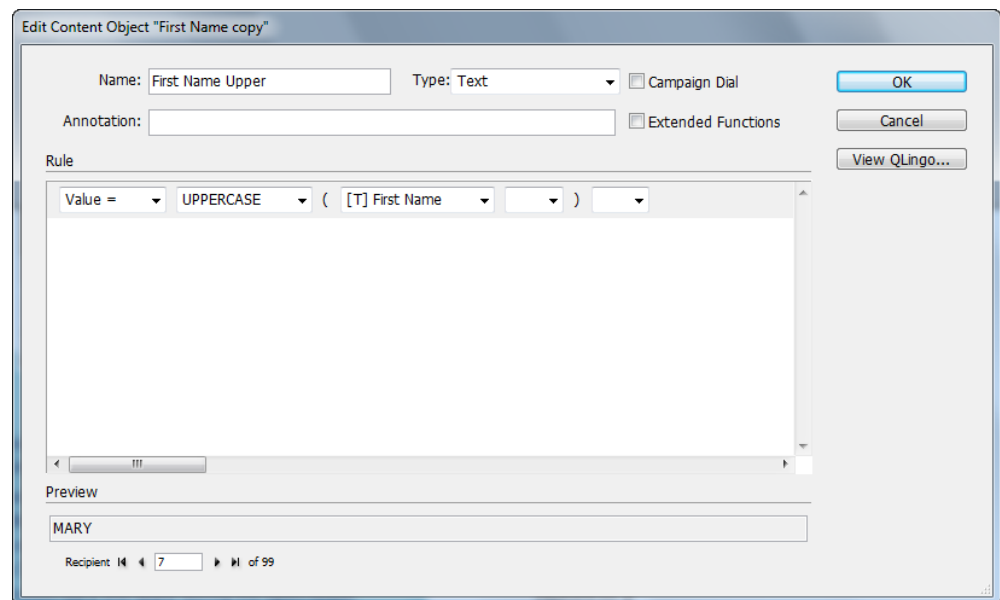
- d. Under Rule, from the second drop-down list, select “UPPERCASE” from the list of common functions (See [Figure 30](#)).

Functions perform specific tasks and often require specific information to perform that task. The specific information required by a function is called a parameter. Parameters are always listed in order (when more than one) and between the parentheses of a function.

In this case, the `UPPERCASE ()` function needs to know what to convert to uppercase letters. The value `[T] First Name` (the *First Name* field from the Data Source) became a parameter when it moved automatically into the parentheses.

Note that you may preview the Recipient data in the **Preview** pane of the **Rule Editor** window (see [Figure 30](#)). The Recipients number is also shown and you can browse to see how other records would be displayed by clicking the arrows.

Figure 30: Edit Content Object *First Name copy*—Updated Rule



- e. Click “OK” to close this window.
- Browse through recipients and see how the Recipient data is changed in the **uCreate Print** panel in the **Data Column** (The **Data Column** was added to the panel in task [9 on page 15](#))
- f. Repeat the above steps to duplicate the **Last Name Content Object**, and create a **Last Name Upper Content Object** that has the last name in uppercase.

- g. Tag the first name in the address line on page 2 (the card's back), with the *First Name UPPER* Content Object.

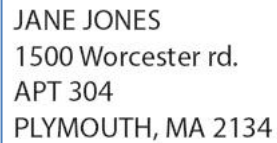
Using InDesign **Type** tool, select the first name in the address line (page 2 (back)), and then double-click the *First Name Upper* Content Object.

- h. Tag the last name in the address with the *Last Name Upper* Content Object.

Using InDesign **Type** tool, select the last name in the address line, and then double-click the *Last Name Upper* Content Object.

The Address is now personalized with a first name and a last name that appear in uppercase, as shown in [Figure 31](#).

Figure 31: The capitalized name (First and Last Names in Uppercase)



JANE JONES
1500 Worcester rd.
APT 304
PLYMOUTH, MA 2134

Create conditional Rules using the Rule Editor

Conditional Rules allow you to determine a Content Object's value using a logical condition. Conditions are written as "is equal to" (=), "is not equal to" (<>), "is greater than" (>), or "is less than" (<), which makes every condition value "true" or "false".

```
If           <condition is met>
Then         <if true show value A>
Otherwise    <if false show value B>.
```

17. Give different discount to each school using *Fee Discount* Content Object

In this case, you will use a conditional Rule to determine the value of the *Application fee Discount* Content Object. This value depends on the value of the *School* field in the Data Source:

The Rule you would like to create is:

```
If           the value of [School] is engineering
Then         for the Discount show 20%.
Otherwise    show 15%.
```


You want to connect between the school name and the discount value.

[School] is the value the Recipient has in the *School* column in the Data Source.

To enter values into a Rule expression, you select from the drop-down list either “String” (=text) or “Number” (see [Figure 32](#)). Both options will give us a box to enter a value to test (i.e. “Engineering”) or a value for the Content Object display (i.e. “20” or “15”). You can only enter numeric values into a **Number** box.

Figure 32: Defined *Discount* Content Object Rule

The screenshot shows the 'New Content Object' dialog box. The 'Name' field is 'Discount' and the 'Type' is 'Text'. There are checkboxes for 'Campaign Dial' and 'Extended Functions'. The 'Rule' section contains the following configuration:

- If** dropdown: [T] School
- =** dropdown: String
- Value field: Engineering
- Then value =** dropdown: Number
- Value field: 20
- Else value =** dropdown: Number
- Value field: 15

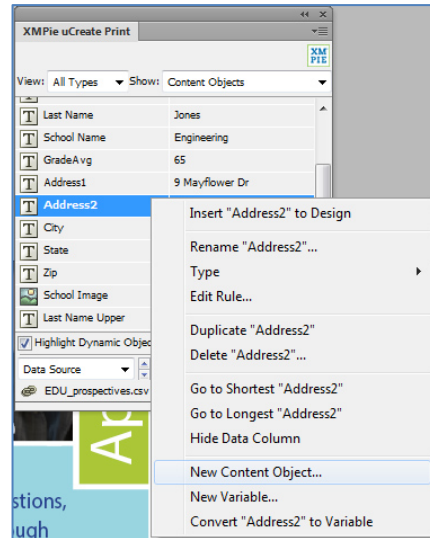
The 'Preview' section shows a value of 0. The 'Recipient' field shows 7 of 99. Buttons for 'OK', 'Cancel', and 'View QLingo...' are on the right.

Here is how to create a conditional Rule that follows this definition:

a. Create a New Content Object

In the Content Object list, right-click anywhere, or Cmd-click on a Mac, and select **New Content Object...** from the menu.

Figure 33: Select New Content Object from the panel menu



The Rule Editor's **New Content Object** window is displayed.

b. In the Name field, name the New Content Object *Discount*.

c. Set the first drop-down list to 'If'.

This will define this Rule as a conditional Rule.

A simple condition consists of three lines. You will edit these three lines in the following steps.

d. Edit the first line (starts with "If").

The "If" (conditional) part of the conditional Rule is always a statement that is either **true** or **false** for each Recipient. In this case, you want to use the following statement: "If the Recipient's school is Engineering". In a Rule, this is specified by "If School = Engineering". Here is how to do it:

- i. Select [T] School from the second drop-down list. This is the *School* column from the Data Source, the Recipient's school.
- ii. Select "=" from the next drop-down list.
- iii. Select **"String"** from the following drop-down list, if needed
- iv. In the empty box that follows, type the school name: **"Engineering"**.



Note: Please make sure to type the school name as shown in the instructions since this field is case sensitive. The school name in the data was entered in a title case (first letter capitalized).

e. Edit the second line (starts with “Then value”).

The “Then” part of the conditional Rule specifies the value for the Content Object when the condition defined in the “If” part above is **true**.

The condition here is whether or not the Recipient’s School is **Engineering**. Thus, when the Recipient’s School is **Engineering**, the condition above is **true**.

When the Recipient’s School is **Engineering**, the discount should be **20**. Therefore, this line should say: “then the discount is 20”. Here is how to specify it:

- i. Select “Number” from the first drop-down list.
- ii. In the empty box that follows, type “20”.

f. Edit the third line (starts with “Else value”).

The “Else” part of the conditional Rule specifies the value for the Content Object when the condition defined in the “If” part above is **false**.

The condition here is, again, whether or not the Recipient’s School is **Engineering**. Thus, when the Recipient’s School is not **Engineering**, the condition above is **false**.

When the Recipient’s School is not **Engineering**, the discount should be **15**. Therefore, this line should say: “else the discount is 15”. Here is how to specify it:

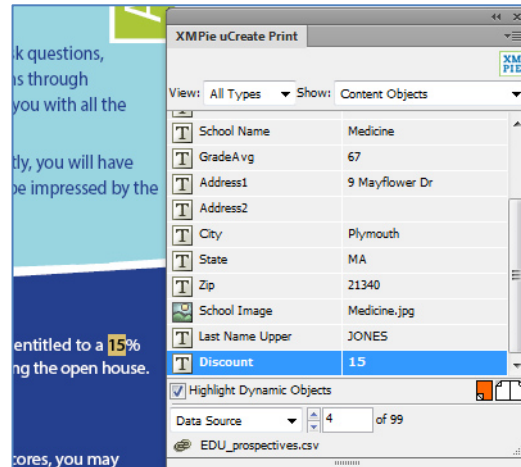
- i. Select “Number” from the second drop-down list.
- ii. In the empty box that follows, type “15”.

g. Make sure your Rule is defined as shown in [Figure 32](#) and then click “OK” to close this window.

h. On the first page of the postcard (bottom left corner), tag the static discount “15” with the *Discount* Content Object you have just created.

- i. On the second page of the postcard in the third paragraph, tag the static discount “15” with the *Discount* Content Object (see [Figure 34](#)).

Figure 34: Discount appearing on the card’s back (comparing records 1 and 6)



- j. Browse through different Recipients, and watch the application fee discounts vary.

As defined in the conditional rule, a Recipient’s fee discount is either “20%” (Engineering) or “15%” (non-Engineering).

18. Adjust the school name to fit an empty data situation.

Right now, the ‘Welcome’ notice in the front of the postcard shows one of these messages for each Recipient, based on their selected school:

- “Welcome to the School of Engineering”
- “Welcome to the School of Medicine”
- “Welcome to the School of Law”

Recipients, for whom the *School* column in the Data Source is empty, get “Welcome to the School of”. Check Recipient (record) 6 to see an example. Obviously, this should be changed.

In this step:

You will delete ‘The School of’ from the card, and for Recipients that **have** a value in the *School* column, you will add “the School of” before the School name, as part of the rule, while for Recipients who **do not have** a value in the *School* column, it will show “Welcome to **EDU University**”.

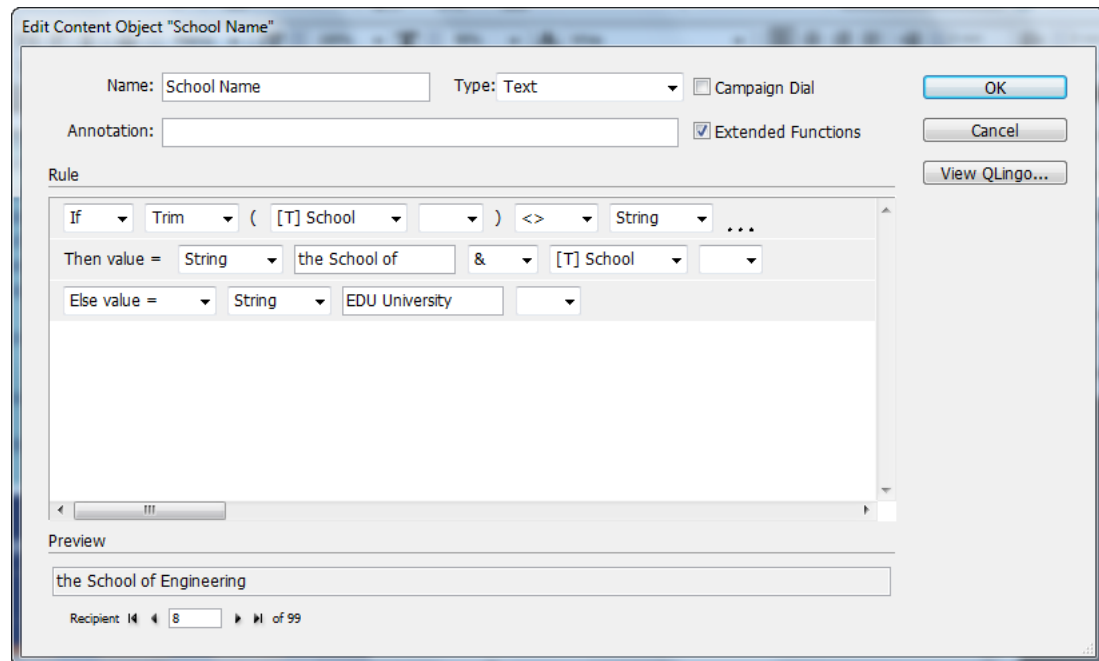
The rule you would like to create is:

```
If [School] is not empty
Then show the School of [School]
```

Otherwise show EDU University

Where **[School]** is the value the Recipient has in the *School* column in the Data Source.

Figure 35: Rule Editor- “School Name” – The edited Content Object Rule

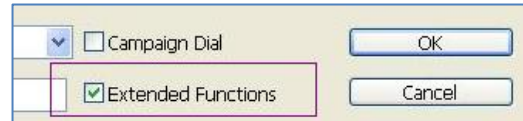


Here is how to create a conditional Rule that follows this definition:

- a. **Before you define the rule, erase “the School of” from the School name appearances** (see [Figure 19](#) and [Figure 20](#) on page 21) in the following pages:
 - i. page 1 (front) on the Welcome notice
 - ii. page 1 (front) in the last line of Schedule section
 - iii. page 2 (back) - in the main text body
- b. **Modify the *School Name* Content Object Rule.**
 In the Content Object list, right-click or Cmd-click the Matched *School Name* Content Object and choose **Edit Rule** from the menu.
 The Rule Editor window is displayed.
- c. **Select the ‘Extended Functions’ checkbox.**

The Rule Editor drop-down list will include additional options that you will need in order to define this Rule.

Figure 36: Rule Editor- Extended function checkbox



d. Set the first drop-down list to “if” instead of “Value=”

e. Edit the first line: ”If” (If school field is not empty)

- i. Set the first drop-down list to “If”.
- ii. Select “Trim” in the second drop-down list.

The Trim function removes all leading and trailing spaces from the field passed to it as a parameter. For example, if a field value is “ John”, trimming it will return the value “John”. Similarly, trimming the value “Maria ” will return the value “Maria”.

If a field contains only spaces, uCreate Print will not recognize it as empty. Therefore trimming a field’s extra spaces assists uCreate Print in identifying empty fields, even when they contain spaces and are not really empty.

You will find the **Trim** option in the second drop-down list.

- iii. Set the third drop-down list to [T]School.
- iv. Change the fifth drop-down list to “<>” not equal to (if needed).
- v. Select “String” from the next drop-down list (if needed).
- vi. Leave the following string box blank.

By blank (or empty) you mean “no value appears in the data source”.

f. Edit the second line: “Then Value =” (then show ‘the School of [School]’).

- i. To add “the School of” before the school name, set the first drop-down list to “String”.
- ii. Type the string you would like to show : “the School of ”. (Make sure you leave a space after “of”, to come before the next word).
- iii. Select the ampersand (&) from the next drop-down list, meaning you want to add to the previous string to the following string.

Adding two strings together is called concatenation.

- iv. Select “[T]School” in the next drop-down list (close to the bottom of the list).

g. Edit the third line: “Else Value=” (otherwise, show ‘EDU University’).

- i. Make sure “String” is selected in the second drop-down list.
- ii. Type “EDU University” in the next string box.

h. Make sure your School Name Rule is set as shown in [Figure 35](#), and then click “OK” to close this window.

i. Browse through school names of different Recipient.

Note that a Recipient school name may be either “Engineering”, “Medicine”, “Law” or, if no data available in the linked Data Source, “EDU University”. A Recipient that does not have a value set in the *School* column can be found in Recipient 6, among others.

See how “the School of” is added to the school name, and how the school name changes as configured in the rule. You may see this change in the Welcome notice and in the schedule on page 1 (front) and in the message area of page 2 (back).

A similar condition should be defined for the school image. You will complete this task in a later stage (see task [28 on page 60](#)).

E. Dynamically Show and Hide Layers

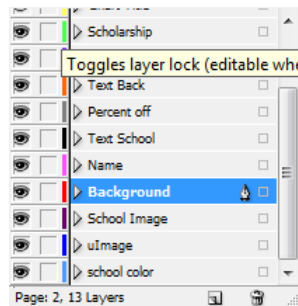
19. Show and hide the “Scholarship” Layer according to the student’s grade average.

You would like to show the scholarship layer only to those students who are eligible, namely those students whose grade point average (GPA) is higher than 85%. The ability to show or hide a layer is done using Visibility Content Objects. Visibility Content Objects can be used to show or hide layers and/or page spread.

Layers

Layers can be shown (on) or hidden (off) by toggling the visibility (the eye symbol on the layer, see [Figure 37](#)). If you have not tried before, left-click the mouse on the eye icon next to the layer to turn the Scholarship layer on and off. When applied to a layer (known as assigning), a Visibility Content Object and its rule (see rule samples below) control if a layer should be displayed or hidden. When a layer is hidden for a specific recipient it will not be printed.

Figure 37: Layers panel, Show/Hide layers



Controlling the visibility of a layer is very useful when you want to change the design layout for a group of recipients based on your data.

Visibility Content Objects for Layers

Visibility Content Objects are easily assigned to layers by selecting the layer (in the Layers panel) and then double-clicking the Visibility Content Object or using Dynamic Layer Visibility option found in the Layers panel menu (select **Dynamic Layer Visibility**: all Visibility Content Objects set in the document will appear in a submenu for selection).

Each layer can only have one Visibility Content Object assigned to it. However, Visibility Content Objects can be assigned to multiple layers.

Because the nature of a layer is to be visible or not, the rule for visibility is always a conditional statement. This means that only Visibility Content Objects rules can use a shorten statement of “*Is visible If*”, as well as the use of a regular conditional statement “If”.

A quick example assigns “true/false” based on the condition:

Is visible If: SomeDataField = SomeDataValue

If the two values are the same, then the value is true, otherwise false

In this step:

In this step, you will use the shortened version of the condition (**Is visible if**) and you will modify the visibility requirements of the Recipient scholarship.

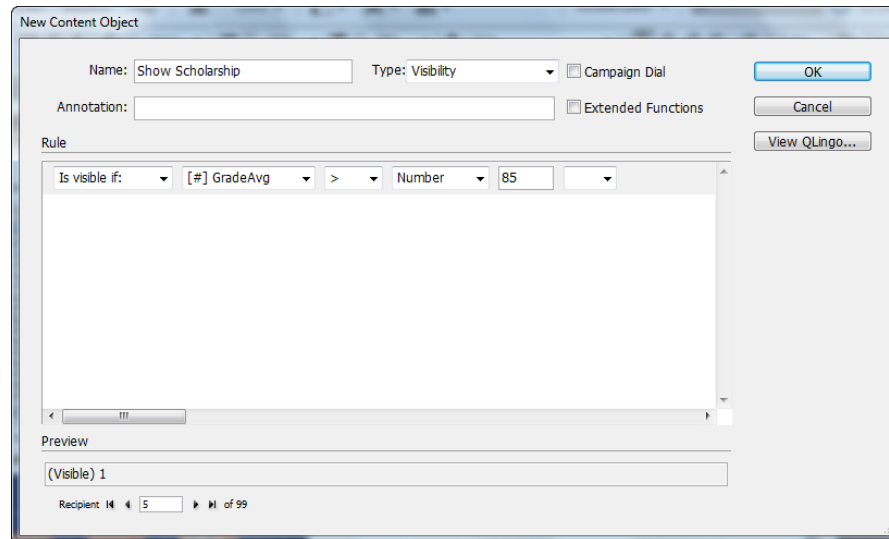
The scholarship message has been designed on an individual layer, named **Scholarship**.

One of the requirements in the “uDirect Studio Tutorial” Campaign brief is that the scholarship message should be shown only to Recipients who have a grade point average (GPA) higher than 85. This information appears in the *GradeAvg* Data Source column.

The rule you would like to define is:

If the Recipient’s ‘*GradeAvg*’ is higher than 85, show the ‘*Scholarship*’ layer, otherwise, hide it. You do not have to specify when to hide it, only when to show it and it will be automatically hidden in all other cases.

Figure 38: Rule Editor--“Show Scholarship”-- Filled Visibility Content Object Rule



Here is how to create a conditional Rule that follows this definition:


- a. In the **Content Object** list, right-click, or Cmd-click on a Mac, and choose “**New Content Object**” from the menu.

The Rule Editor’s **New Content Object** window is displayed.

- b. In the “**Name**” text box, type “**Show Scholarship**”.
- c. From the “**Type**” drop-down list, choose “**Visibility**”.

Note the changes in the **Rule** section: the first drop-down list is set by default to a special condition, **Is visible if**.

- d. In the ‘**Is visible if**’ line, on the second drop-down list, select **GradeAvg**.
- e. From the operations drop-down list, select the “**>**” operator (which means “greater than”).
- f. From the next drop-down list, select “**Number**” and then type the number “**85**”.
- g. Make sure your **Show Scholarship** Rule is set as shown in [Figure 38](#), and then click “**OK**” to close this window.

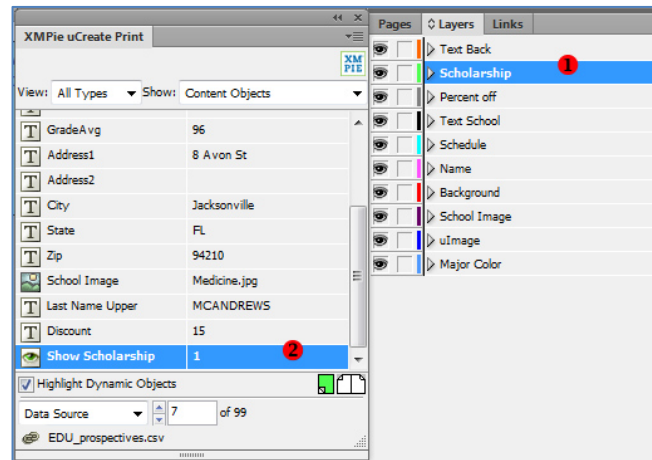
The *Show Scholarship* Visibility Content Object is added at the bottom of the Content Object list, indicated by an “eye” icon .

- h. Select the ‘**Scholarship**’ layer in InDesign’s **Layers** panel

The Layers Panel is displayed by choosing **Window > Layers** from the menu. The **Scholarship** layer has a designated green color which is indicated by the icon of the active layer in the uCreate Print Panel.

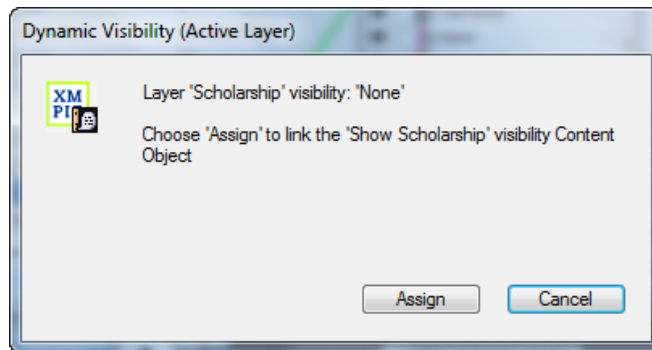
- i. Tag **Scholarship** layer with the **Show Scholarship** Content Object by double clicking the Content Object name.

Figure 39: Rule Editor-Show Scholarship Visibility Content Object Rule



- j. Click “Assign” in the opened window (see Figure 40). See that the layer green icon in the uCreate Print panel was changed to have the Visibility eye icon on it.

Figure 40: Visibility Assign Window



- k. **Browse through different Recipients.** See that Recipient 1 does not have the scholarship note while Recipient 2 does.

You can find the scholarship layer appearances on page 1 (front), in the gray strip, and on page 2 (back) above the bolded “We hope you enjoy...” text line which is above the chart.

F. Dynamically Change Style

You would like to show a different looking design to Recipients, based on their chosen school. You want to have different background colors for each school, so that the colors match the school image. You will dynamically change the background color, and then dynamically change the text color to match the new background color.

To do this, perform the following steps:

1. Create InDesign Object Styles, one for each school. Each Object Style applies the correct background color for the school.
2. Create a matching InDesign Character Style for each of the Object Styles created in step 1. The character style sets the text color to match the background color.

20. Create a *Style* Content Object to change background color (Object Style)

As stated above, the required Object Styles have been predefined in the design you are editing. You can see them in the Object Styles panel: (**Window > Styles > Object Styles**).

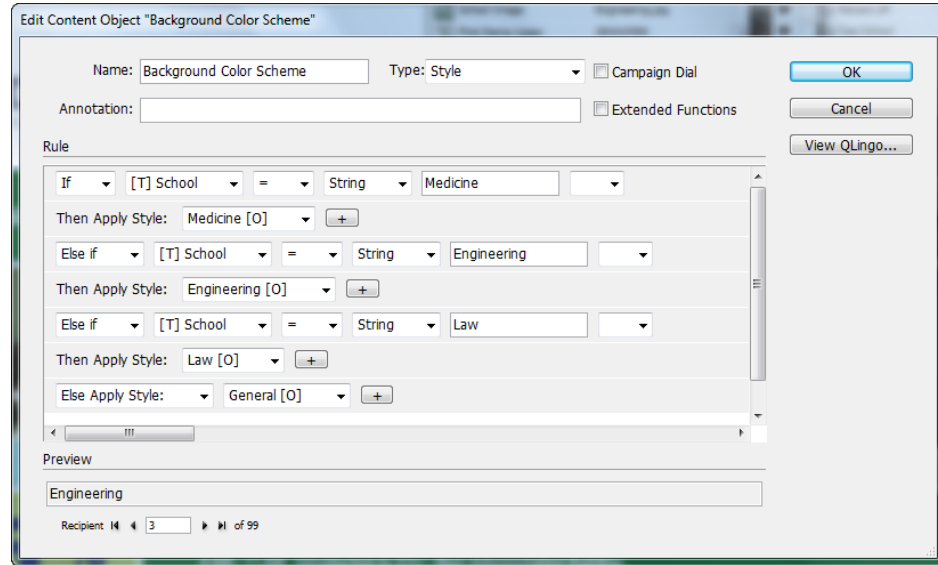
- **General**- Blue background, to be used when no information available on the Data Source about the required school.
- **Engineering**- Green background, to be used as the Engineering's school background.
- **Medicine**- Light blue background, to be used as the Medicine's school background.
- **Law**- Brown background, to be used as the Law's school background.

The rule you would like to set is:

```

If                School is Medicine,
then              Apply Object Style 'Medicine'.
If                School is Engineering,
then              Apply Object Style 'Engineering'.
If                School is Law,
then              Apply Object Style 'Law'.
otherwise         show 'General' object style.
```

Figure 41: Rule Editor-Edited “Background Color Scheme”- Style Content Object Rule



Here is how to create a conditional Rule that follows this definition:

- a. **Right-click, or Cmd-click on a Mac, the Content Object panel and choose “New Content Object...” from the menu.**

A **New Rule Editor** window is opened.

- b. **In the “Name” text box, type “Background Color Scheme”.**
- c. **From the “Type” drop-down list, choose “Style”.**

The Rule Editor Changes the first drop-down list label from: ‘**Value =**’ to ‘**Apply Style**’.

- d. **Edit the first line (create “If school is Medicine”).**

- i. Set the First **Apply style** drop-down list to *If*.
- ii. Change the second drop-down list to *[T] School*.
- iii. Set the following drop-down list to “=”
- iv. Set the following drop-down list to *String*.
- v. Type “Medicine” in the empty box.

- e. **Edit the 2nd line (create “then Apply Object Style ‘Medicine’”).**

- i. Change the drop-down list from *None [OC]* to *Medicine [O]*

- f. **Edit the 3rd line.**

- i. Change first drop-down list from *Else Apply Style* to *Else if*.
- ii. Change the second drop-down list to *[T] School*.
- iii. Set the following drop-down list to “=”


- iv. Set the following drop-down list to *String*.
- v. Write “Engineering” in the following text box.
- g. Edit the 4th line, ‘Then’ (“then apply **Engineering Object style**”).
 - i. Change the drop-down list from *None [OC]* to *Engineering [O]*.
- h. Repeat steps *f* and *g* for the **School of Law**.
- i. Edit the last ‘Else’ line. (“Else, apply **General Object style**”).
 - i. Change the drop-down list from *None [OC]* to *General [O]*.
- j. Make sure your Rule is set as shown in **Figure 41**.
- k. Click “OK” to close the Rule Editor Window. (Note that the Content Object icon is now changed to a Style icon .
- l. Tag all the light blue background objects with the new Background Color Scheme Content Object: select a colored area and double-click the Background Color Scheme Style Content Object (see their location on the card on **Figure 42**).

Figure 42: Objects to be connected to the *Background Color Scheme* Content Object



Background Color Scheme Objects

m. Test the design by browsing through records of Recipients with different school requests (for example, records 1, 2, 5 or 6).

You can scroll through the records, or enter the desired record number to view the different backgrounds.



Note: *InDesign styles can include both Character and Object styles. uCreate Print displays it with [O] for Object styles, and [C] for Character style, next to its name. In the drop-down list after the 'Then Apply Style' one, you will see both Object styles and Character styles. To unapply a style, simply select the object, right click or Cmd-click on Mac, and choose Unapply Style Content Object.*

The character styles need to be changed as well. This is done in another step.

G. Use uImage to Generate Dynamic Graphics.

21. Create uImage Graphic Content Object (chalk board).

In this task, you will create a new Content Object that converts a static Photoshop document into a dynamic template, using the uImage package.

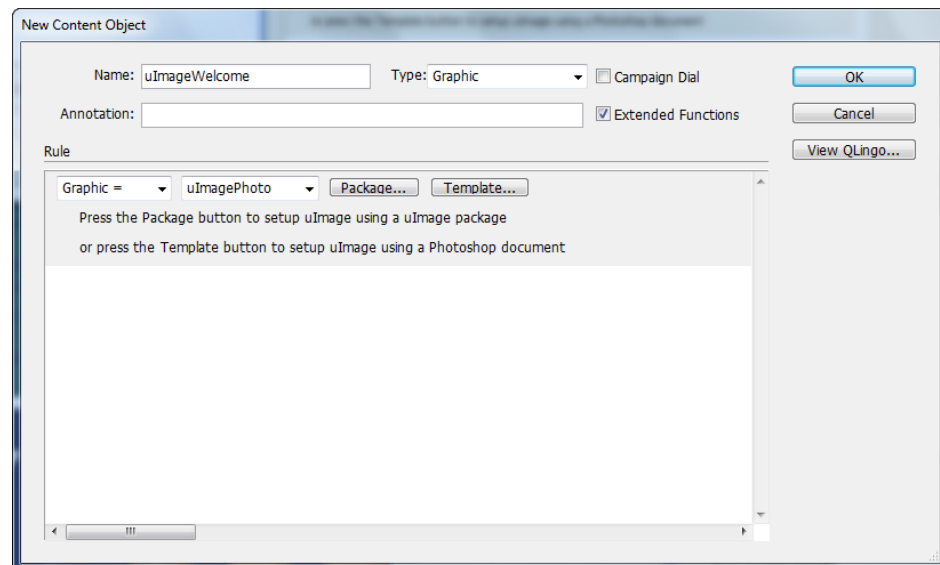
In this tutorial, you are provided with a uImage package that contains a special version of the “Simple Math” template, taken from XMPie Marketplace (marketplace.xmpie.com).

For information about how to adjust a Photoshop image file to work with uImage and to learn more about creating a uImage package read [Appendix E: Prepare a Photoshop file to work with uImage, and pack it as a uImage package](#)

- a. Right-click the uCreate Print panel, or Cmd-click on a Mac, and click ‘Create New Content Object’

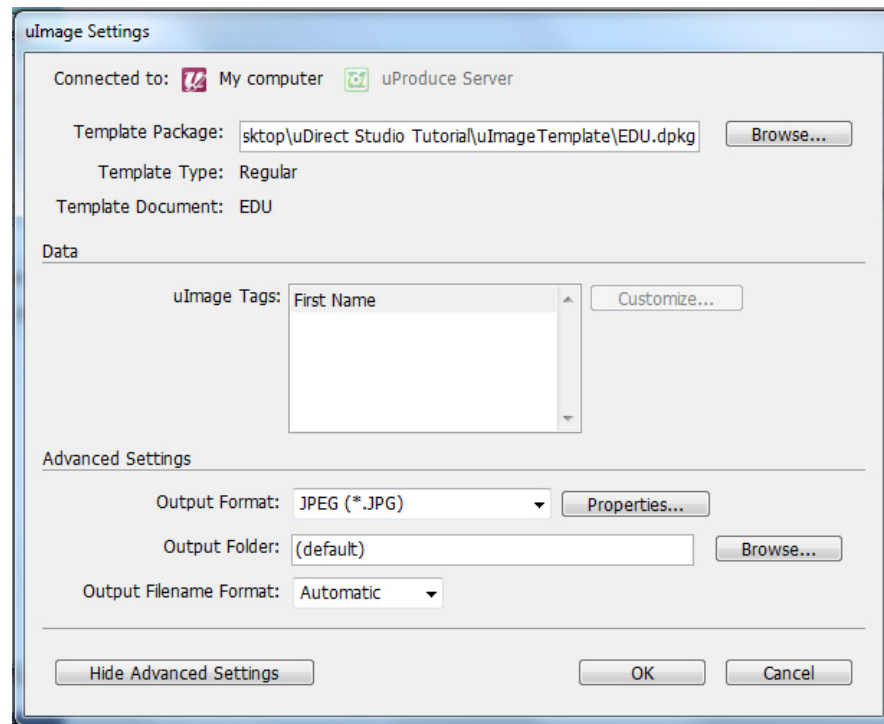
The **New Content Object** dialog is displayed (See [Figure 43](#))

Figure 43: Rule Editor – New Content Object; uImageWelcome



- b. Type ‘uImageWelcome’ in the Name field.
- c. From Type drop-down list, select “Graphic”.
- d. Check the “Extended Functions” checkbox.
- e. In the Rule definition section- Select uImagePhoto from the Functions drop-down list.
- f. Click the “Package...” button.
- g. The “uImage Settings” dialog box is displayed ([Figure 44](#)):

Figure 44: Rule Editor – Complete Content Object configuration; ulmage Welcome



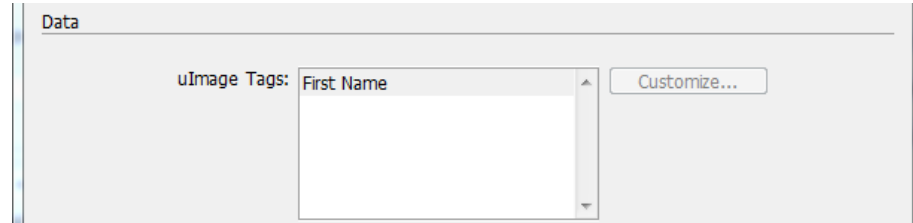
- h. Click “Browse” next to the Template Package field, navigate to your tutorial folder and from the ulmageTemplate folder, select EDU.dpkg, and click “Open”.

The template type and the Template Document name are auto-filled using the selected template package.

- i. Under the Data section, the text that represents the variable data used in the selected template package (ulmage tag) appears in the Parameters pane (Figure 45).

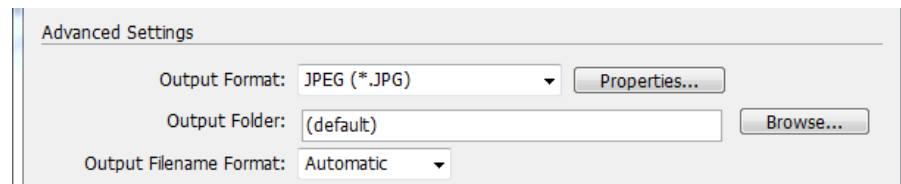
If the image tag matches the data field in the linked datasource, uCreate Print automatically uses the image tag as the tag value. To change or to make sure it does, select the ulmage tag and click the **Customize...** button. The image tag rule is opened. You may change or confirm the value selected for this tag.

Figure 45: ulmage Settings – Data, ulmage Parameters



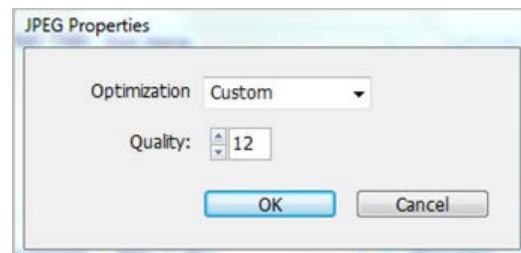
In the “Advanced Settings” pane, you can see additional options.

Figure 46: Advanced Settings



- j. In the “Output Format” list, select the “JPEG” file format and click the "Properties" button. The following dialog box is displayed:

Figure 47: JPEG Properties



Here, you can modify the JPG quality if desired. The settings on this dialog will change depending on the selected Output Format.

- k. The Output Folder locates the folder where the created ulmage outputs are saved. You may use the default location. This will set a folder named Output in the tutorial folder. If you want to use a specific folder, click “Browse” next to Output Folder and navigate to the requested folder.

The ulmage output folder is where the generated personalized images files are saved so that you can see the template change dynamically as you scroll through the records.

By default, the output file name is automatic and is created once per record name - meaning no duplicates are created. For example, in our EDU campaign, only the first name is changed in the image using ulmage. All users that have the same first name will therefore have the same picture.

It is important to remember that if a change is made to the ulmage rule- all outputs created previously must be erased in order to be recreated.

l. In the “ulmage Settings” dialog box, click “OK.”

m. Tag static graphic frame (girl writing on the blackboard) with a ulmage Graphic Content Object (“ulmageWelcome”).

To incorporate the personalized image into the document, select the image (girl writing on blackboard) with the Select tool (black arrow), then double-click the *ulmageWelcome* Content Object you created above.

n. Browse through recipients records and see how the dynamic template changes dynamically.

As you begin to scroll through the records, Photoshop opens automatically (if it is not already open) to generate the output ulmage file for each recipient/record. Browsing may take some time, particularly for the first recipient, as Photoshop loads. Browsing through the subsequent records take less time as Photoshop is already loaded.

For more information about creating a ulmage package in Photoshop, read [Appendix E: Prepare a Photoshop file to work with ulmage, and pack it as a ulmage package](#)

H. Create a Chart to Display Dynamic Data Related to the Recipient.

One of the easiest ways to present tabular data is to visually show that data using a chart or graph. In this tutorial, you are required to show the GPA requirements of each school for the last three years.

Creating a chart with uDirect Studio is a two-part process.

First Part – Create a Table Content Object (See task 22)

To create a *Table* Content Object, you need a second Data Source that is related to the recipient's (first) Data Source. This secondary Data Source has two requirements:

- 1) It must contain a column whose data values relate back to a particular column in the recipient data. This column or field is often called a key field.

In this tutorial, the EDU_Scores.csv (data file) has a column called **School Name** which matches the value of **School** column in the EDU_prospectives.csv.

- 2) The data must be entered in a particular format, the best layout being the **Row** form. The **Column** form will only work in certain instances. Using the data for this tutorial as an example, here are the ways data can be entered.

Data in Row Form

This data layout will work in uDirect Studio and other XMPie products. This is the recommended layout for creating pie charts.

School Name	Year	Score
Medicine	2010	85
Medicine	2011	87
Medicine	2012	93
Engineering	2010	81
Engineering	2011	81

(and so on)

Data in Column Form

This data layout will work in uDirect Studio only for bar charts whose bars are in a unique color. This layout also works using special QLingo programming, usually done in the uPlan module that comes with uDirect Premier.

School Name	Scores for 2010	Scores for 2011	Scores for 2012
Medicine	85	87	93
Engineering	81	81	85

(and so on)

Second Part – Place the Table Content object in to a Graphic Frame

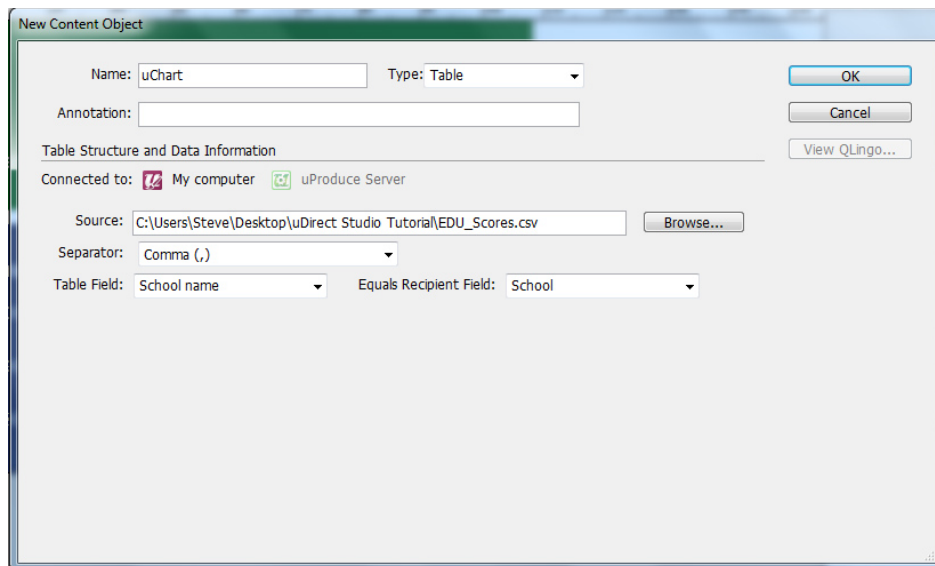
Placing a *Table* Content Object in a Text Frame gives you a Dynamic Table that can be formatted with InDesign table formatting options. Check out Chapter 2 of the *uCreate Print User guide* for more information.

Placing a *Table* Content Object in to a Graphic Frame converts the table data in chart data, which can be formatted using Dynamic Chart Properties options.

22. Create a Table Content Object (Cost Summary)

The first step is to create a *Table* Content Object using the EDU_Score.csv file as your Data Source.

Figure 48: Complete Table Content Object ('uChart')



- a. Right-click anywhere in the uCreate Print panel or Cmd-click on a Mac and select “New Content Object...” from the context menu.

The **New Content Object** dialog is displayed

- b. In the “Name” field, type “uChart”.
- c. From the “Type” drop-down list, select “Table”.
- d. In the “Table Structure and Data Information” section:
 - i. Click the **Browse** button next to the **Source** box, navigate to your Tutorial folder and select the EDU_Scores.csv file, and click **Open**.

- ii. From the **Table Field** drop-down list, select **School Name** (if not already selected).
- iii. From the **Equals Recipient Field** drop-down list, select **School**.

Selecting these fields gives the system the way to connect between the two data tables used in this document. In our case, the school name in the EDU_scores.csv equals the school fields in the EDU_Prospectives.csv data file, therefore connecting these two fields instructs uCreate Print to find the relevant entry score for each recipient for his requested school.

- e. Click “OK” to close the dialog.

23. Create a Dynamic uChart Chart by tagging a Graphic Frame with a Table Content Object

The next step is to create a dynamic chart by tagging a graphic frame with a *Table* Content object within the postcard.

- a. In InDesign, select the placeholder frame in the area allocated to the “Bar Chart”.
- b. In the uCreate Print panel, double-click the *uChart* Content Object to insert the *Table* Content Object into the design.

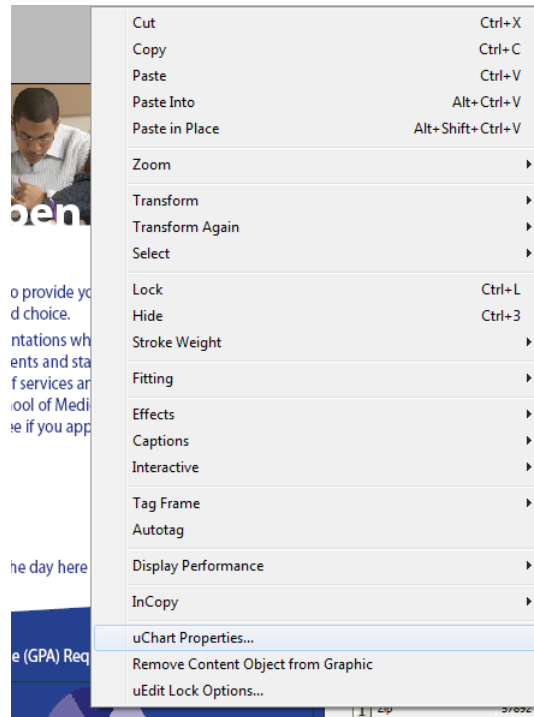
The placeholder frame displays a pie chart indicating that the frame has been associated with the selected *Table* Content Object; the pie chart does not reflect the *Table* Content Object data at this time.

24. Define uChart Properties

Once the *Table* Content Object has been placed in its position within the postcard, you need to specify how the *Table* Content Object data should be presented in this graphic.

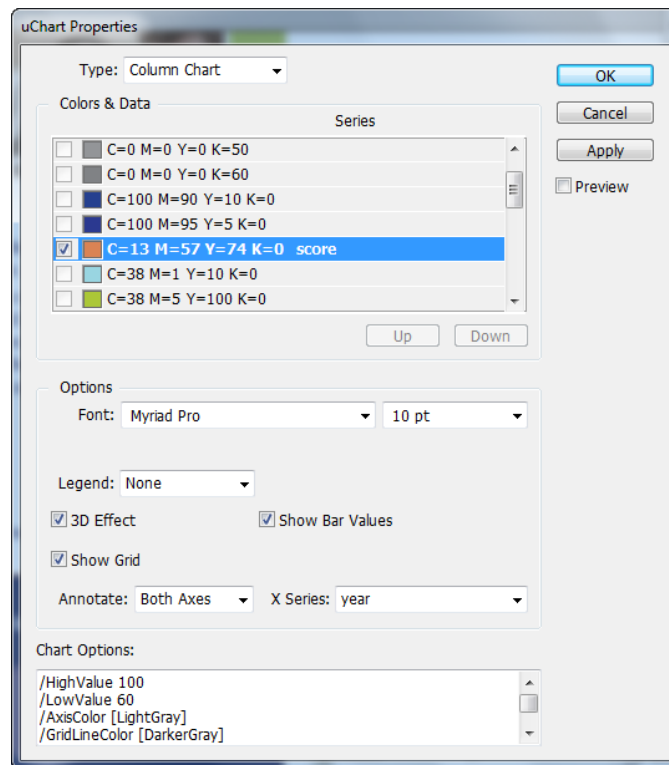
- a. Right-click on the placeholder frame or Cmd-click on a Mac, and select uChart properties.

Figure 49: uChart properties menu item



The **uChart Properties** dialog is displayed (See [Figure 50](#))

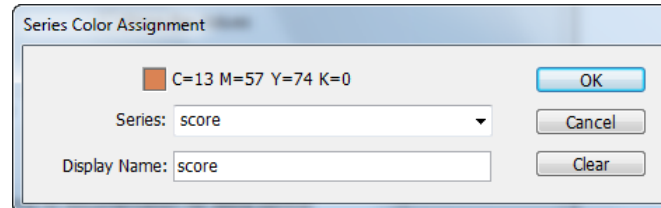
Figure 50: Complete uChart properties dialog



- b. From the “Type” drop-down list, select “Column Chart”.
- c. From the Colors list, double click the checkbox of the orange CMYK color: C=13 M=57 Y=74 K=0.

The **Series Color Assignment** dialog is opened (see [Figure 51](#))

Figure 51: Series Color assignment



- d. Select the score in the series drop-down to define which data column displays in the chart using this color, type the display name you want it to have, and click “OK” to close the Series Color Assignment window.
- e. In the “Options” section,
 - i. Select font as “Myriad Pro” (or a comparable font) and 10pt size.
- f. Make sure “None” is selected in the “Legend” section.
- g. Select the “3D Effect,” “Show Bar Values” and “Show Grid” checkboxes to display these options for this chart.
- h. Change the “Annotate” drop-down to “Both Axes”, and the “X-Series” to year.
- i. In the “Chart Options” pane, enter the following commands: (you can delete the note or leave it, each command needs to be on a line of its own)

```

/HighValue 100
/LowValue 60
/AxisColor LightGray
/GridLineColor DarkerGray
/BarGap 2.5
/ValueColor White
/PrintFloor Yes
/OutlineColor DarkerRed
/ValueLocation Head
/ChartValueSize 2
    
```

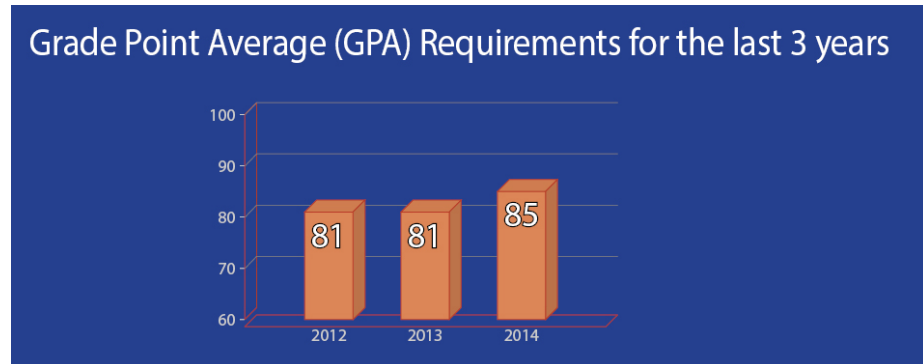

These commands are used to define the visual display of the chart.

See Appendix B of the *uCreate Print User Guide* for a list of and explanation of all the uChart commands.

- j. **Click “Apply” to apply the parameters to the bar chart and “OK” to close the dialog.**

The column chart displays as you have defined in the uChart Properties dialog (See [Figure 52](#)).

Figure 52: uDirect Studio Bar Chart



You now need to resize the chart and reposition it within the frame. Make sure the reference point is in the top-left hand corner.

Do-It-Yourself Section

All tasks have a reference back to the corresponding step in the previous sections. If you are unsure how to complete a task, use this reference to review its corresponding step.

I. Tutorial Revision- Address Block and School Image

The following tasks (steps [25-28](#)) are required to finish the personalization of the uDirect Studio Tutorial postcard. However, they display the same capabilities shown previously. Therefore, the following tasks are listed in brief.

25. **Use the Copy Fitting option to adjust long names in the “Welcome” text box.**
 - a. Add Copy Fitting to the first name appearing in the Welcome page (see [Figure 53](#)).
 - b. Use the Go to Longest... command to preview your settings.
For help, see task [12 on page 18](#).

Figure 53: Copy fit the first name Content Object appearance



26. **Create a Style Content Object to change character style (color).**

In the current design, the text placed on the school background color scheme is blue. The blue text looks good only for the School of Medicine, for all the other schools and for a missing school record, change the text color to white, so that it can be easily read on darker backgrounds.

The required Character Styles have been predefined in the InDesign document (see the **Characters Style** panel in **Window** menu > **Styles** > **Character Styles**).

- **White:** to color the text white
- **Blue:** to color the text blue

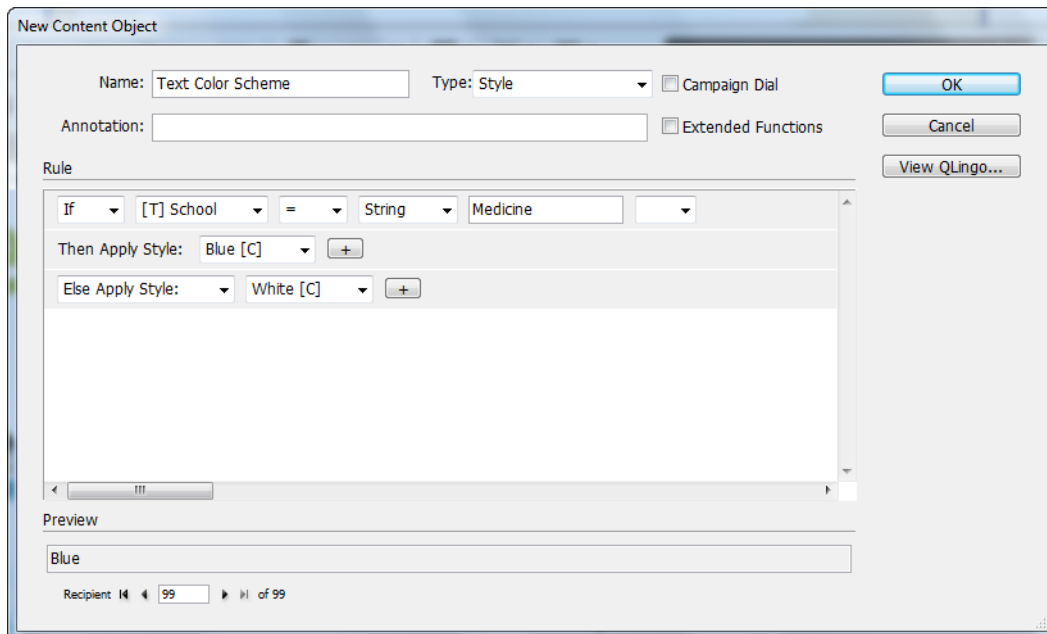
Create a *Style Content Object*, named *Text Color Scheme*, and tag the text on the dynamic backgrounds to it (The **Schedule** bottom of page 1 (front), and the three story boxes containing **Event Details** on page 2 (back)).

To tag the text, select the **Type** tool () and highlight all the text to be tagged. Next, double-click the *Text Color Scheme* Content Object. The rule would read as follows:

```
If          school is Medicine
Then        show style 'Blue [C]'
Otherwise   show style 'White [C]'
```

Make sure that the Rule matches [Figure 54](#):

Figure 54: Using Character Style in a Style Content Object



Hint: using Character style in a *Style Content Object* is the same as using Object Styles in it.

For help, see task [20 on page 44](#).

27. **Edit Address Block to become dynamic and the City & state to be written using UpperCase & TitleCase styles.**
 - a. Tag the “Address Line 1”, “Address Line 2”, “City”, “State” and “ZIP” address box elements with their corresponding Content Objects.

Note that **Address line 2** does not always have values in it. Leave the empty content line as is. In a later stage, you will learn how to suppress trailing spaces on empty content (See task [30 on page 62](#))

For help, see task [10 on page 16](#).

b. Format *State* Content Object to capitals (using the common function “UPPERCASE”).

Hint: You do not need to create new Content Objects, just format the existing ones.

For help, see task [16 on page 29](#).

c. Format *City* Content Object to Title case (using the common function “TitleCase”).

Hint: You do not need to create new Content Objects, just format the existing ones. (The TitleCase function appears next to the UPPERCASE function in the Rule Editor.)

For help, see task [16 on page 29](#).

d. Test the design using the Record Selector.

Check record # 5 and make sure it appears as shown in [Figure 55](#).

Figure 55: Address Box with Text Content Objects (and “UPPERCASE” formatting) for Recipient # 5



Note that in some records, the second address line may be empty.

You will fix this issue in task [30 on page 62](#).

28. Modify the *School Image* Rule to handle an empty data for the school name in *School Image*.

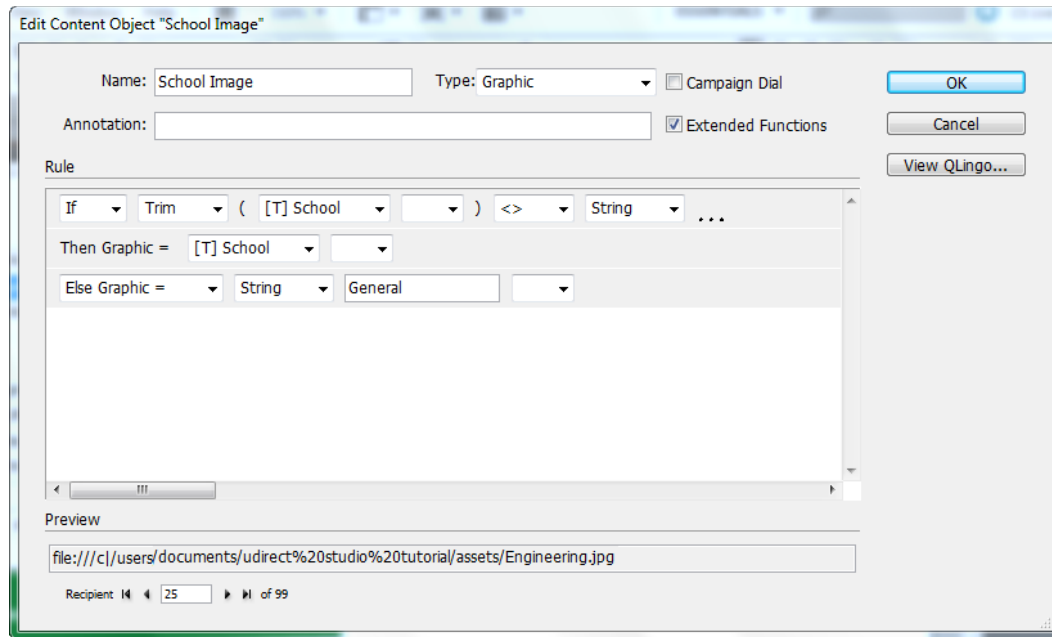
The condition you need to set is:

```
If          trimmed [school] (name) is not empty -
Then        show image named [school].
Else        show image named 'General' .
```

Make sure your rule matches [Figure 56](#). Browse to Recipient 6 to check if the right school image is shown for Recipients with an empty school name.

For help, see task [18 on page 36](#).

Figure 56: Empty School Name



29. Show and hide the Chart and Chart title Layer to handle an empty data for the school name situation

When no school appears in the data source, no chart should be drawn for the recipient. Therefore, the chart should not appear and other text should replace it. To enable the show/hide visibility option, the chart, chart title and chart text replacement are placed on different layers named: **Chart**, **Chart Title** and **Chart replacement**.

a. Create a New Content Object named “Chart Title”.

Change the Content Object type to Visibility Content Object and set the following condition:

Is Visible if trimmed [T]School is not(<>) empty

Is visible if: Trim ([T] School) <> String

b. Create a New Content Object named “Chart replacement”.

Change the Content Object type to Visibility Content Object and set the following condition:

Is Visible if trimmed [T] school is (=) empty

Is visible if: Trim ([T] School) = String

- c. Tag Chart Title layer with the *Chart Title Content Object* by selecting the layer and double clicking the Content Object name.
- d. Also tag Chart Replacement Layer with *Chart replacement Content Object*.

For help, see task [19 on page 40](#)

J. Adjust Content to Handle Blank Lines and Extra Spaces

In some cases, empty or missing Content Object values may cause extra spaces and blank lines. This section shows how to handle such cases.

30. Suppressing Trailing Spaces on Empty Content

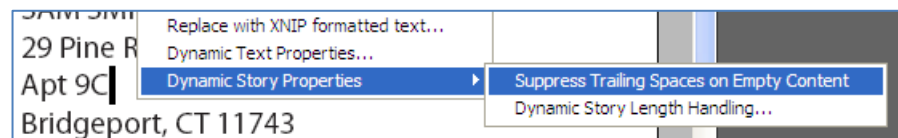
This procedure addresses the problem you came across in task [27 on page 59](#): The *Address2* Content Object had no value for some of the records, resulting in a blank line in the **Address** box, between the Recipient's Address1 line, and the City-State-ZIP line.

The option to **Suppress Trailing Spaces on Empty Content** removes the empty space left by a Content Object and either the carriage return or space that follows it. This option is most often used for blank address lines. However, it can be used to help with wording in a paragraph or even to suppress extra spaces where a middle initial would be.

Proceed as follows:

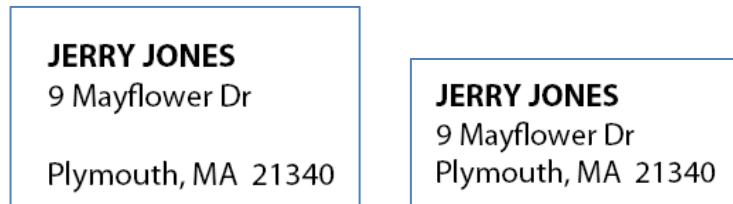
- a. Click to select the “Address” text box and right-click it, or Cmd-click on a Mac. From the menu, select “Dynamic Story Properties” > “Suppress Trailing Spaces on Empty Content” (see [Figure 57](#)).

Figure 57: Dynamic Story Length Menu



This option removes the space from left by the empty Address2 value and the following carriage return.

Figure 58: Dynamic Story Length – Before and after (record 2)



K. Print The Postcard


Dynamic Documents can only be printed from the **uCreate Print Panel Menu** (not via InDesign Print options). For the purpose of this exercise, you will print the uDirect Studio Tutorial postcards in a PDF output format, for the first twenty Recipients in the Data Source.



Note: the free trial version of uDirect does not permit Dynamic Printing. If you need to evaluate the output from uDirect before purchasing, please contact your XMPie or Xerox sales representative and request a 30-day trial license.

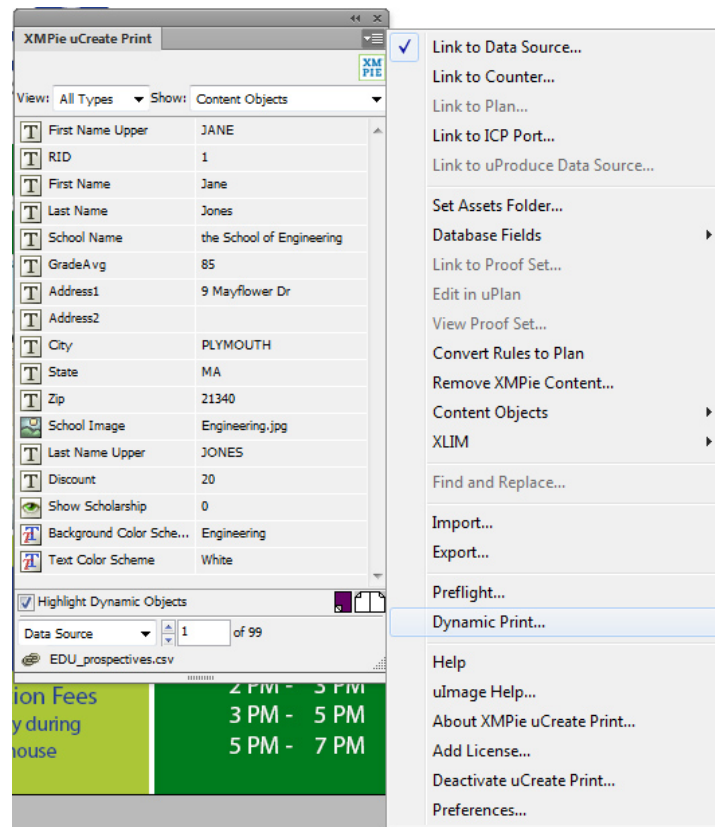
For a full list of the available **Dynamic Print** options, please refer to the *uCreate Print User Guide* by clicking **Help** on the **uCreate Print Panel** menu.

Proceed as follows:

- a. Show the uCreate Print Panel menu by clicking the button at the top right corner of the uCreate Print Panel (), and select the “Dynamic Print” option (see [Figure 59](#)).

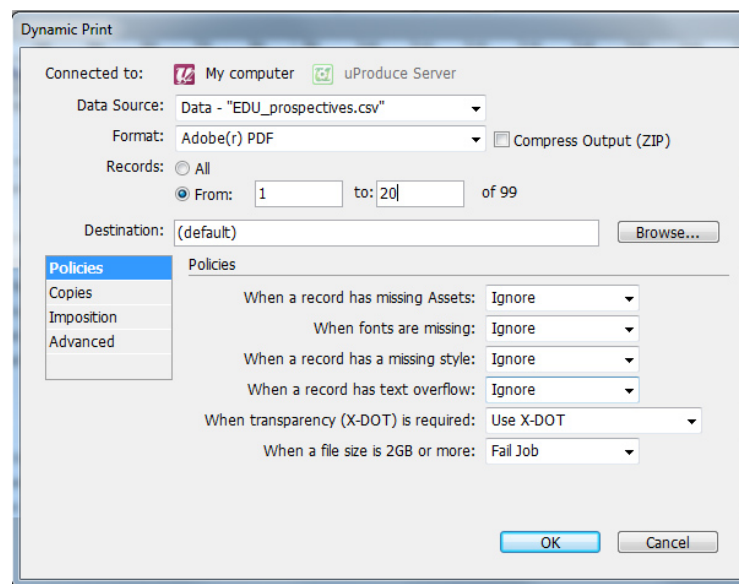
If you have unsaved changes, you are prompted to save the Design.

Figure 59: uCreate Print panel – Dynamic Print



The **Dynamic Print** dialog is displayed.

Figure 60: uCreate Print panel Dialog



b. From the “Format” drop-down list, select “Adobe(r) PDF.”

The **Format** setting defines the Variable Information (VI) output format in which the files are printed. uDirect Studio version 6.0 provides all print output formats by default, including JPEG, Adobe PDF, Adobe PostScript, Creo VPS, PPML/PS (v1.5 & v2.1), Xerox VIPP, and PPML/VDX. .

c. In the “Records” text boxes, set the “To:” box to 20, to print only records 1-20 from the Data Source.

By default, the range includes all records in the Data Source. You may also print a single record by entering its number in both **From:** and **To:** text boxes.

d. Use the default “Destination” setting.

uCreate Print automatically creates a folder named **Output** next to the InDesign document.

The **Output** folder includes a sub-folder named using the current date and time, which contains all output files. To set a different destination, click **Browse** to open the **Browse for Folder** window and select to the desired folder.

e. Click “OK” to close the window and begin printing your uDirect Studio Tutorial postcards.

The **Dynamic Print Progress** window is displayed, allowing you to monitor the progress of the output files’ production.

f. When printing completes, check the output files.

In your **Tutorial** folder, open the **Output** folder and the sub-folder it contains, and review the personalized uDirect Studio Tutorial postcards.

This is a two-sided postcard, so the output will be two pages per Recipient (one 40-page PDF).

Congratulations!

You have produced the uDirect Studio Tutorial VDP postcard, and have successfully completed the uDirect Studio Tutorial.

Quick Task List

Below is the list of tasks that appear in this tutorial. This list is intended to serve as a checklist you can refer to as you follow the procedures and progress through the tutorial.

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Appendix A: Hardware and Software Requirements

uCreate Print v7.1 can run either on Windows or Mac.

The minimal system requirements are as follows:

Windows

- Processor: Intel® Core 2 Duo or better
 - Operating System:
 - Microsoft® Windows 7 Pro with Service Pack 1 or higher (works with Adobe CS6, CC or CC-2014 (10.x))
- OR
- Microsoft Windows 8 Pro or Windows 8.1 Pro (works with Adobe CS6, CC or CC-2014 (10.x))

Macintosh

- Processor: MacIntel 2GHz or better.
- Operating System:

Mac OS X 10.7, 10.8 or 10.9 General Requirements (example)

- 4 GB RAM or more
- 250 GB Hard Disk (recommended 320 GB)
- CD/DVD-ROM Drive
- 10/100/1000 Mbps Ethernet Adapter
- Adobe InDesign CS6, CC or CC-2014 (10.x)
- Adobe Photoshop and Illustrator CS6, CC or CC-2014 (10.x)
- The **uDirect Studio EDU Tutorial** folder placed on your hard drive.
- The tutorial materials are described in detail in the [Quick Reference to Campaign Content Objects](#) section on page 6.

Appendix B: uDirect Studio Tutorial Materials Specifications

The following list defines all files required for a variable data Campaign (Data, Design, Assets, etc.), and describes the specific example files used in this tutorial.

- **Data-** the Data Source file containing the Recipients' personal details.

EDU_prospectives.csv - 99 records, CSV file (20 records that repeat themselves). To examine this Data Source, open it with Microsoft Excel, Windows, Notepad or Mac OSX TextEdit.

EDU_Scores.csv - 13 records, for a Chart use uChart. To examine this Data Source, open it with Microsoft Excel, Windows, Notepad or Mac OSX TextEdit.



Note: *This type of file is a flat database table that many Contact or Address Book programs can generate.*

- **Design-** The static InDesign document to be edited with uCreate Print.

EDU_static.indd - this is the InDesign document created by the designer for a specific Recipient, before adding variable rules to it. All objects appear as the Recipient should see them in the completed postcard.

- **Resources** - Graphic files that remain fixed for all Recipients.

The graphics in the “**Resources**” folder are:

1. **EDU_Mary.jpg**- the girl writing on a Board image on page 1 (front).
2. **StudentsFront.jpg**- the students image on page 1(front)
3. **StudentsBack.jpg**- the students image on page 2 (back)
4. **XMPieLogo.eps**- the XMPie logo on page 2 (back)

- **Assets** - Graphic files that change per-Recipient.

The graphics in the “**Assets**” folder are:

1. **Medicine.jpg**- the School of Medicine Academic School image
2. **Engineering.jpg**- the School of Engineering Academic School image
3. **General.jpg**- the general Academic School Image- appears when there is no data in the Data Source about a requested school.
4. **Output Folder**- A folder where the generated personalized images files, created by ulmage, are saved.

- In the **uDirect Studio EDU Tutorial** folder you will also find the **EDU_Completed.indd** file.

This is the above Static Document, after it has been transformed into a Dynamic Document using uDirect Studio. It is provided so you can appreciate

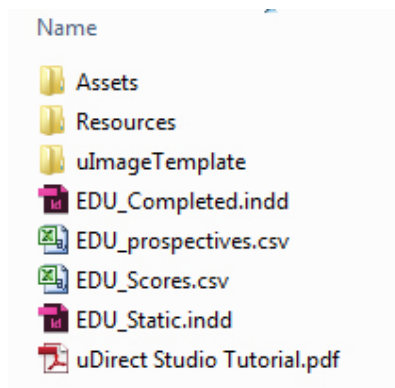
the end result of the tutorial. Note: The required document size is 5.6" x 4.25" with a built-in 0.125" (9pt) bleed (Approximately 142x108mm with 3mm bleed.)

ulImage Template- a folder containing files used for the ulimage template:

1. **EDU.psd**- the Marketplace SimpleMath Photoshop file
2. **EDUTutorial.atn**- The action used for the EDU.psd

The uDirect Studio Tutorial Campaign materials (described above) are available in the uDirect Studio Tutorial folder (along with this PDF).

Figure 61: The XMPie Tutorial Folder.



Appendix C: Learn to Use the uCreate Print Panel

As explained in the [Appendix B: uDirect Studio Tutorial Materials Specifications](#) on page 69, the Data Source your Design is now linked to is a database table.

The table's columns contain different types of Recipient data: ID, First Name, Last Name, School, etc.

The table's column headers are known as fields and each row contains the data for a record, the first three records are shown in [Figure 62](#).

Figure 62: Data Source Sample—EDU_Prospectives.csv (First Three Records)

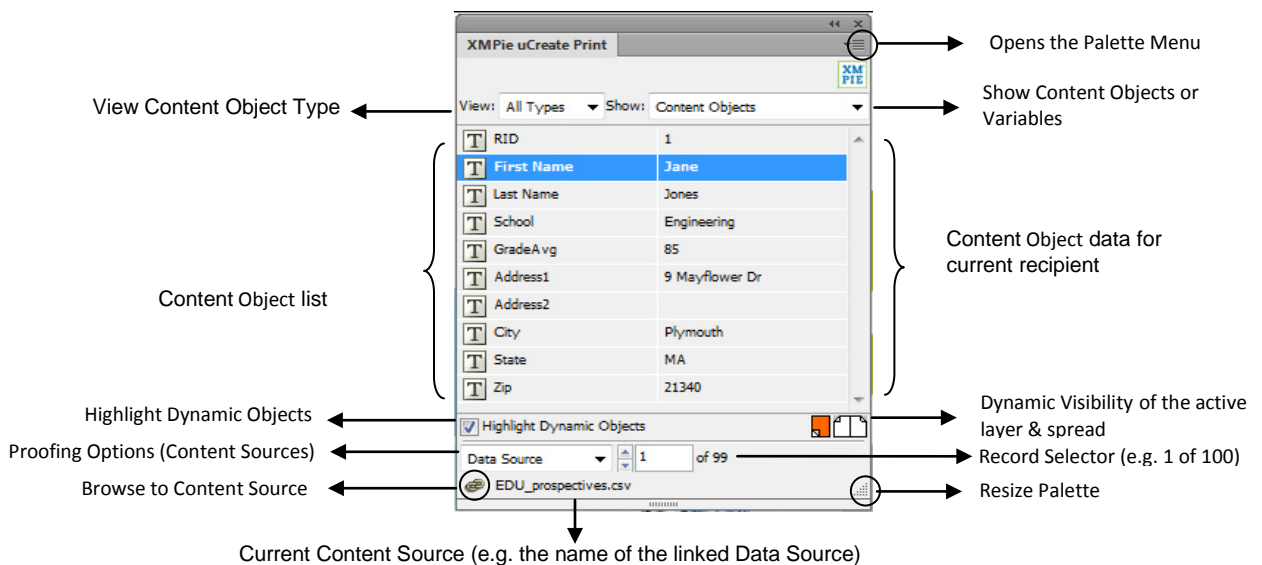
	A	B	C	D	E	F	G	H	I	J
1	RID	First Name	Last Name	School	GradeAvg	Address1	Address2	City	State	Zip
2	1	Jane	Jones	Medicine	85	9 Mayflower Dr		Plymouth	MA	21340
3	2	Jerry	Jones	Engineering	87	9 Mayflower Dr		Plymouth	MA	21340
4	3	Jennifer	Jones	Engineering	65	9 Mayflower Dr		Plymouth	MA	21340

Once you link to a Data Source table, uCreate Print automatically creates an object for each of the table's column headers. These objects are known as Content Objects.






When you edit your design with uCreate Print, you use simple point-and-click operations to tag different design objects, such as a text frame or graphic frame, with the desired type of Content Object; for example the *First Name* Text Content Object or the *School Image* Graphic Content Object. Such a tagged design object becomes a Dynamic Object: a design object that derives its content and/or appearance from the Content Object's value.

The uCreate Print panel lists the Content Objects created for the column headers of the linked Data Source ([Figure 63](#)):

Figure 63: uCreate Print Panel with Content Objects



The populated **uCreate Print Panel** shows the following details and options:

- **Content Object Type**—Use the **View** drop-down list to show **All Types** of Content Objects, or to filter the list to show a specific type (e.g., Text, Graphic, Visibility etc.).
- **Show Content Objects or Variables**—While Content Objects are available to place into the document design, Variables are used behind the scenes. Variables use the same kind of business rules or logic that we used for Content Objects in this tutorial. Variables are useful to calculate a value once – you can then use that variable in several Content Objects instead of having to calculate the value each time.
- **Content Object list**—lists the names and types of the Content Objects included in the Data Source you are currently linked to.
- **Highlight Dynamic Objects**—when InDesign's Screen Mode is Normal, this check box provides a visual indication of the Dynamic Objects included in your Document, by highlighting them in the Document window and displaying the names of the Content Objects they are tagged with.
- **Proofing Options**—uCreate Print offers you a number of ways to check what your Dynamic Document will look like when actual values are used in place of the Dynamic Objects. These actual values can come from various types of **content sources**, including your Data Source, a Proof Set file or Content Samples.
- **Dynamic Visibility**— Opens the **Dynamic Visibility** dialog, so you can assign a Visibility Content Object to the active spread () or active layer ( Note that the icon is the color of the active layer). When Dynamic Visibility is assigned, an eye symbol is added to the respective icon (e.g.  ).
- **Record Selector** ()- used to proof your Dynamic Document: browse through the records of your content source (the linked Proof Set, a Content Sample or the linked Data Source), and see how the Dynamic Objects' content changes when you scroll from Recipient to Recipient.
- **Resize Panel**—to see the complete list of Content Objects, resize the panel by dragging its bottom right corner. Alternatively, use the horizontal scroll bar to scroll down the list.

The complete list of Content Objects used in this tutorial is shown in [Figure 63](#).

Appendix D: Learn to use the Rule Editor

In the tutorial, you defined Content Objects based on two attributes: their Name and their Type.

In addition, Content Objects are defined by their Business Rule (Rule, in short): an expression that is part of the Campaign Logic, and determines how to calculate the Content Object's value for each Recipient.

When you connect your Design to a Data Source, uCreate Print automatically creates a Content Object for each column header in that Data Source. You may wish to edit these Content Objects or create new ones, to tag your Design with dynamic formatting, conditional Rules or arithmetic operations.

Content Objects are both edited and created using a Rule Editor.

The Rule Editor is a simple graphic user interface, consisting of basic drop-down lists and text boxes. It is specifically designed to allow non-technical users to easily define or modify Content Object Rules.

In the [Task List - Rule Editor](#) part, you edit the Rules of some of our Content Objects, to reflect EDU University's Business Rules for Variability in the Design (page X).

Here are some of the "Rule Editing basics" you should be aware of:

1. Launching the Rule Editor

You can launch the Rule Editor in one of the following ways:

- **To add a new Content Object**— in the Content Object list, right-click, or Cmd-click on a Mac, anywhere, and select **New Content Object...** from the menu. The Rule Editor's **New Content Object** window is displayed (see task [17 on page 32](#)).
- **To edit an existing Content Object**— in the Content Object list, right-click, or Cmd-click on a Mac, select the Content Object you wish to edit and then select **Edit Rule...** from the menu (see task [18 on page 36](#)).

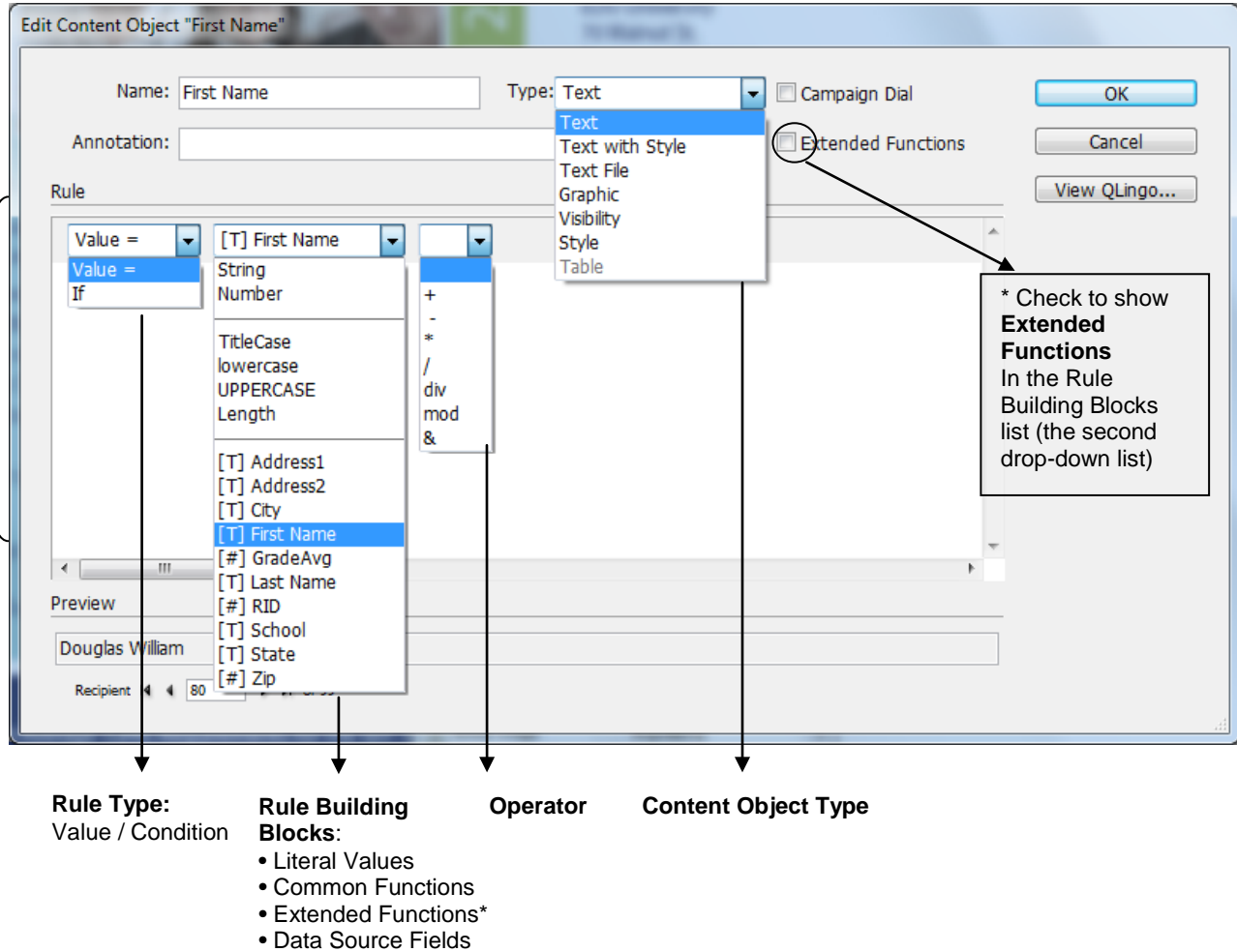
The following description applies to both the **New Content Object** and the **Edit Content Object** windows of the Rule Editor.

2. Using the Rule Editor's Building Blocks

[Figure 64](#) below shows an example Rule Editor window, used to edit a Text Content Object (*First Name*). The drop-down lists have been collapsed to reveal the available options.

The Rule Editor options vary, depending on the type of Content Object you are currently editing or defining (Text, Graphic etc.).

Figure 64: Rule Editor—Edit Content Object "First Name"



The top section of the Rule Editor defines Content Object properties such as its **Name** (for example, *First Name*) and **Type** (for example, Text).

The bottom section defines the Content Object's **Rule**, in the form of an expression.

- The first drop-down list determines whether this Rule sets a value or a condition.
- The second drop-down list contains building blocks for defining the Content Object's value or condition: literal values (string or number), functions (common and extended), and an alphabetical list of the Data Source columns.
- The third drop-down list includes operations, such as "+", "-" etc. When you define a condition (by setting the first drop-down list to "If"), the operations list is enhanced with comparison operators, such as "AND", "OR" etc.

3. Creating various types of rules

a. Value Rules

To define a Rule as a value, set the first drop-down list to “**Value=**” for Text Content Objects, “**Graphic=**” for Graphic Content Objects etc. Value expressions are used in the following cases:

i. The Content Object is a Data Source Column Header:

A Content Object created for a Data Source Column Header is fed with the value of the appropriate Data Source field, and this value changes dynamically per-Recipient. For example, the *First Name* Content Object receives the value of each Recipient's First Name field (for example, Jane).

(See task [10 on page 16](#))

You can use Value Rules to recreate Content Objects that were deleted from the Design.

ii. The Content Object has a literal value (a number or a string of text):

You can set a Content Object to use a fixed value, which will be common to all Recipients. For example, to set the value of a school of Medicine image Graphic Content Object, specify the image's filename, for example, “Medicine”.

(See task [14 on page 21](#)).

b. Conditional Rules

Conditional rules allow you to determine a Content Object's value using “If-Then-Else” statements. In this case, you will use a Conditional rule to determine the value of the *Discount* Content Object, depending on the value of the *School* Data Source field:

If the value of *School* is **Engineering** then the value of the Discount is 20%. Otherwise (Else), the value of the Discount is 15%.

(See task [17 on page 32](#)).

c. Functions

Functions are displayed in the second drop-down list. Functions give you tasks convert and manipulate incoming data values so that it fits your specific needs.

By default, the drop-down list shows only common functions, used to format Content Objects: TitleCase, lowercase, UPPERCASE or Length.

To display more advanced functions (such as “FindAndReplace”, “FormatDate” etc.), check the Extended Functions checkbox.

For a detailed description of all uCreate Print functions, refer to the uDirect User Guide. (See task [18 on page 36](#)).

Note that a Rule may consist of one or more “Value Rule” and “Conditional rule” lines. To add more Rule lines, use the **AND/OR** options of the operations drop-down list.

Appendix E: Prepare a Photoshop file to work with ulmage, and pack it as a ulmage package

Adding dynamic content to an image is done using a ulmage file in InDesign.

The dynamic content is taken from the Data Source used in uCreate Print for the document that contains the image.

When working on the image in Photoshop, the data (the name of the column header in the Data Source) should appear in the image itself.

After you finish designing the Photoshop file- you need to export it as a package to be used in InDesign.

Adding the data to the image in Photoshop is done as follows:

1. Paste the data column header within <> brackets in the Photoshop image file.

Create a new text layer for the dynamic content.

The relevant Data column header (for example *FirstName*) should appear in the text layer within <> brackets (for example, <**FirstName**>).

These brackets are used to define copy fitting to the text: overflow, underflow or both.

To enlarge the text placeholder (for example, for longer names in the Data Source), add as many dots as you wish, before the Data column header (for example: <.....**FirstName**>).

2. Set the text layer name to be different from its text content.

When the image is used in InDesign ulmage, an image is created for every record in the Data Source and includes its dynamic content. If the layer's name is the text it includes, the name of the layer changes in every image production and recorded actions (see task 3 below) may not be able to be performed on that layer.

3. Record an action to include the changes you wish to make to the dynamic text layer.

In Photoshop, you may want to change the text display using Photoshop tools.

These changes should be recorded using the Action Panel, in order to be performed in the same manner on each record, when attached to dynamic data in InDesign.

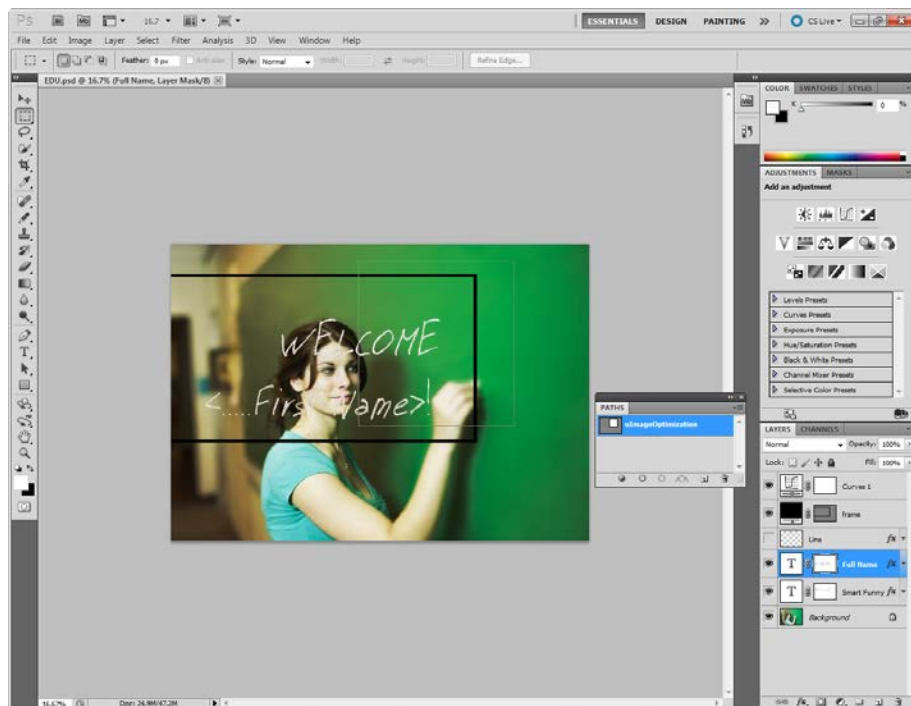
Note that the action name and the folder name that contains the action are used when creating the ulmage package. (See [Figure 67](#)).

4. Create an optimization path

Adding an "optimization path" improves the performance of ulmage personalized images. An optimization path is a rectangular path added to the ulmage template that surrounds the expected variable area.

Note that the area is not where the variable text was initially, but rather where the text is after the action is performed as shown in [Figure 65](#):

Figure 65: Optimization Path



- Use the "Rectangular Marquee Tool" and create a selection rectangle encompassing the potential variable area.
- Right click the image, select "Make Work Path" and click OK in the dialog box that opens.

This converts the selection into a work path.

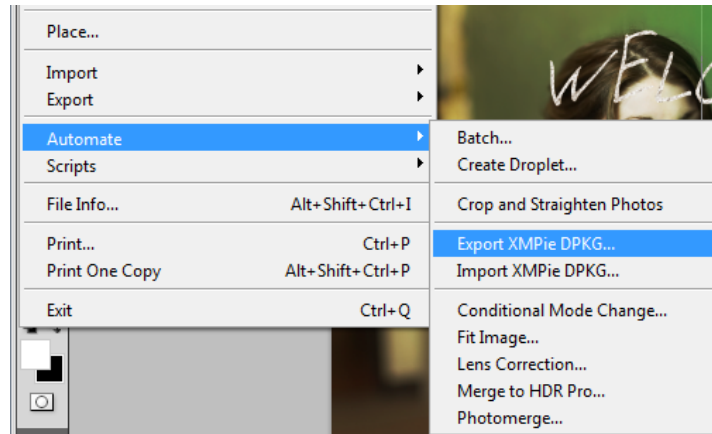
- In the "Paths" panel, select "Save Path" from the menu and save the work path (which should be currently selected). Name the new path. In the example shown in [Figure 64](#), the name used was "ulmageOptimization".

5. Export the template as a package

After you finish designing the document template, you should export it as a package (*.dpg). This process is done as follows:

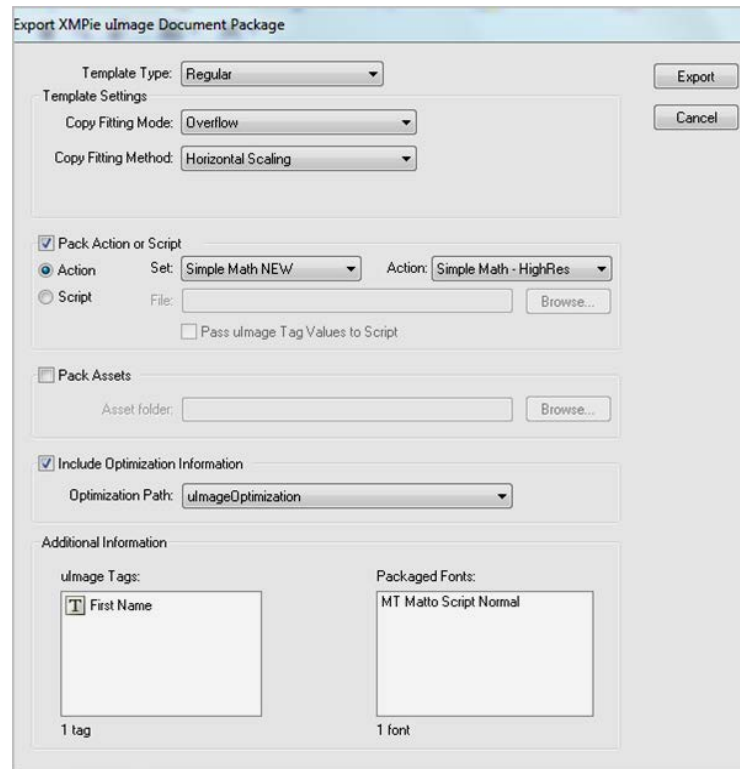
- a. In Photoshop, under the “File” menu, select the “Automate” function and open the sub menu. In the submenu select “Export XMPie DPKG”. The Export window is displayed (See [Figure 66](#)).

Figure 66: Export a ulmage package



- b. In the opened dialog box, select the location where you want to save the ulmage package. In the EDU sample, you used the ulmageTemplate folder. Click Save. The “Export XMPie ulmage Document Package” settings dialog is displayed (See [Figure 67](#)).

Figure 67: The “Export ulmage Package Document Template” Settings dialog



c. Select the “Template Type” from the drop-down options:

Regular – for generic ulmage template.

Image Font- for Image font used in the ulmage template

Separated Letters - for separated letters used in the ulmage template

d. Select the desired copy fitting mode and method.

As you can see, the action used in the Photoshop file is already set in the Pack Action or Script section. You may change it to something else if necessary.

You can also see that the ulmage Tags, which are the Data field used in the template, are mentioned in the Additional information, together with the fonts used.

e. Select an optimization path

Including an optimization path with a Photoshop template can significantly improve the performance of image generation.

In our example, the template contains a rectangular path named "ulmageOptimization" that can be used for the optimization. In the export dialog check "Include Optimization Information" and select the optimization path - "ulmageOptimization".

f. Click Export. The export process may take a few seconds.

g. The document is ready for use in InDesign.

You can open a Photoshop document package in Photoshop by clicking Automate (under the File menu) > Import XMPie DPKG.

Appendix F: XMPie Terminology

The following is a glossary of XMPie terminology relevant to this tutorial. For the complete uCreate Print glossary, refer to the *uCreate Print User Guide*.

Asset Source—in the XMPie context, this term refers to a collection of Campaign Assets (e.g., images, formatted text files, etc.) and its location. You can define one or more Asset Sources for a single Campaign.

Assets—in the XMPie context, this term refers to content (such as graphic files and text files) that feeds the Dynamic Objects in a Design (as opposed to Resources, which are static content)...

Business rule—see Rule.

Campaign—a representation of a set of Dynamic Documents, possibly of different types, all sharing the same Plan file, Data Source(s) and Asset Source(s).

Content Object (also known as ADOR Object)—an object of the Plan that is visible to a Design (via the "Link to Plan" operation of uCreate Print). When linking directly to a Data Source, the Plan is not explicit; it is "behind the scenes" and is automatically created and maintained to reflect linking to Data Sources, adding Content Objects or specifying Rules. Hence, in uCreate Print Content Objects are visible only through the uCreate Print Panel.

Content Objects can be of various design-centric types, e.g., text, graphic, etc. The designer uses simple point-and-click operations to tag a design object (say, a text frame or graphic frame) with the desired Content Object. Such a tagged design object becomes a Dynamic Object: a design object that derives its content and/or appearance from the Content Object's value. Content Object values are calculated by the Plan's Rules, using the given Data Source(s). These calculations are performed iteratively, once for each Recipient, resulting in a set of Recipient-specific values for each Content Object. In a way, one can think of Content Objects as the intermediaries between the Logic (i.e., Plan) and Data (i.e., Data Source) and the Design (i.e., XMPie tagged document).

Content Samples—a set of possible values, defined by the user, for a given Content Object; different Content Objects can have different sets of values associated with them. There are no constraints on these values; except that they need to adhere to the type of Content Object with which they are associated (e.g., the Content Samples associated with a Graphic Content Object should be a set of images). For example, one can define three images—"CarA", "CarB", and "CarC"—as the possible values of a "CarPicture" Graphic Content Object. It is then possible to flip through these Content Samples, to see how the different images appear in the Design, without being forced to rely on a complete Plan or on Proof Sets that may not necessarily be available at the early stages of the design process.

Content source— the source that provides values that feed the Content Objects (via Rules or directly), which in turn change the content (or format) of the Dynamic Objects in your design. There are different types of content sources, including Data Sources, Proof Sets and Content Samples.

Copy Fit—adjustment of the type size to make text fit in a given amount of space.

Data— one of the Dynamic Document's basic components. In the XMPie context, the Data component is represented by Data Sources and Asset Sources.

Data Schema— a description of the Data Source structure that is expected by the Logic. The Data Schema specifies the following: the required tables; each table's column headers (e.g., "First Name", "Customer ID", etc.) and the type of data they represent (e.g., a string, an integer etc.); and the relationship between these tables (e.g., a common field).

Data Source— represents the Dynamic Document's Data component, which is common to all Dynamic Documents in a given Campaign. The schema of the Data Source must adhere to the Data Schema defined by the Campaign's Plan file. Each Campaign may have multiple Data Sources, in any ODBC compliant format (including Oracle, MS-SQL, MySQL, IBM-DB2, CVS, XML and MS Access).

Design (also known as Tagged Documents, Dynamic Document Templates and uProduce Documents)—a document (such as an Adobe InDesign document) that includes regular and tagged design objects. Tagging is performed using the uCreate Print plug-in of the relevant host application (Adobe InDesign, Adobe GoLive, and Adobe Dreamweaver are currently supported).

Document instance— a copy of the Design that was instantiated for a given Recipient. A production run of a given Dynamic Document for a batch of, say, 1000 Recipients results in 1000 Document instances.

Dynamic Document—a modular binding of three components: Logic, Data and Design. Practically speaking, these components are represented by a Plan file, a Data Source and a Design (respectively). When linking directly to a Data Source, the Plan file is not an object that is visible to the user; however, it is created as the user works with Data Sources and Rules, and is represented internally, as part of the Dynamic Document.

Dynamic Document Template (also known as a Tagged Document)—see Design.

Dynamic Object— a design object (e.g., a text frame or a graphic frame) that is tagged by a Content Object. This tagging transforms the design object from static to dynamic. A Dynamic Object derives its content and/or appearance from the Content Object's Recipient-specific value (as opposed to showing a pre-set, static value).

Dynamic Publishing— a discipline of Publishing that aims to produce any customizable document, in any media, on-demand. Dynamic Publishing extends Variable Data Printing (VDP) into digital print and electronic media, focusing not

only on final output media but also on creating documents with dynamic content, from Design to Production.

Expression—the Rule that drives the information for a Content Object. Use the rule editor to modify the expression for a given Content Object.

Graphic (Content Object)—the textual name of a graphic asset file. Graphic files can be .jpg, .gif, .eps, .tif, and so on depending on the desired output.

Logic— the set of Content Objects; the QLingo expressions that compute their values for a given Recipient; and the interface to Data. When linking directly to a Data Source, the terms "Logic" and "Rules" are interchangeable.

PersonalEffect—the high-level version of XMPie's revolutionary solution for cross-media direct marketing. Makes personalized publishing across multiple channels simple and cost-effective. Personal Effect consists of three modules: a web-based production server, uProduce, and two desktop tools, uPlan and uCreate, for campaign creation.

Plan—the encoding of Logic in the Campaign; it is encoded in XML, and stored in files with a ".plan" extension. When linking directly to a Data Source, the Plan is encoded internally, as part of the document, thus it is not visible as a separate object.

Print file (also known as Print Stream)—an output file in one of the print or Variable Information (VI, in short) data printing formats (PDF, VPS, PPML, VIPP, PPML/VDX or PostScript), which is further processed by a print controller (i.e., RIP). The processing of a print file by a print controller produces a series of hard-copy printed Document Instances, each representing the variations made for a specific individual.

Proof Set—an XML-encoded table where columns represent Content Objects and rows represent a set of values—one for each Content Object—for a given Recipient. Proof Sets are generated by uPlan or uProduce. They are typically generated for a subset of the Recipients list, with possibly a few more filtering criteria, by executing the Plan for each such selected Recipient and storing the resulting Content Object values in that Recipient's row. Sometimes Proof Sets may represent the whole set for which a specific production run is going to be executed. In such cases they may be referred to as Production Sets.

QLingo—a scripting language developed by XMPie, to allow the use of classical conditional logic—such as 'if-then-else' or 'switch' constructs—in expressions that compute values for Content Objects or Variables in a Plan file. QLingo also supports many domain-specific constructs for formatting, process control, and other data manipulation functions. Together with SQL and the ability to call upon external functions, QLingo makes the Plan file expressions (e.g., Rules) extremely powerful, yet not overly complex.

Recipient—the person who receives an individual instance of the Dynamic Document. If the Document is static, all Recipients receive identical copies; if the

Document is dynamic, each Recipient receives a unique Document instance, which has been personalized based on this Recipient's specific data.

Recipient List—a table whose records represent the Recipients of a particular Dynamic Document. At production time, a personalized Dynamic Document instance is generated for each Recipient (i.e., record) in this Recipient List.

Resources— static graphic files, which are used in the design and are fixed throughout production (as opposed to Assets, which change per-Recipient). An example may be the company logo.

Rule (also known as business rule)—part of the Logic defined in the Campaign's Plan file. Rules are expressions that calculate Content Objects' values for each Recipient. Rules can also be added or edited using uDirect's Rule Editor. When linking directly to a Data Source, the terms "Logic" and "Rules" are interchangeable.

Static Document—a regular desktop publishing document, such as an InDesign document.

Tagged Document—see Design.

Text (Content Object)—Characters which can be letters, numbers and symbols. Note: This is the default Content Object type, in other words all Content Objects, when first created are Text.

Text file (Content Object)—the textual name of an asset file containing text formatted in a specific style: a preformatted tagged-text file for use with InDesign templates

Variable—an internal object of the Plan, which can be assigned values of expressions (QLingo, SQL, etc.).

Visibility (Content Object) —A Content Object that has true/false value which acts an ON / OFF switch to show or hide a layer or page spread.

X-DOT—an acronym that stands for XMPie Dynamic Object Transparency (X-DOT).

X-DOT accurately reproduces, by using opaque objects, the visual effect of transparency in print output file formats that do not support live transparency. It creates one 'mega object' out of several 'atomic objects' that need to be combined to preserve the transparency effects between them. Transparency may be created when special effects (such as shadow, feathering or opacity) are used, or in an image file that contains transparency.

XLIM—an acronym that stands for XMPie "Less is More". This composition technology from XMPie increases significantly the speed of generating print output streams for graphically simple (print) Designs. Such Designs are exported by uCreate Print as ".xlim" files and can be uploaded as such to a uProduce Campaign. uProduce includes the algorithms that process XLIM Dynamic Documents for generating print streams in an extremely speedy and efficient way.

Appendix G: Database Terminology

A Flat database is one table, often stored in a text file, a Comma-Separated Values (CSV) file, or Microsoft Excel worksheet.

CSV files are a special type of text file ([Figure 68](#)):

Figure 68: Example CSV File

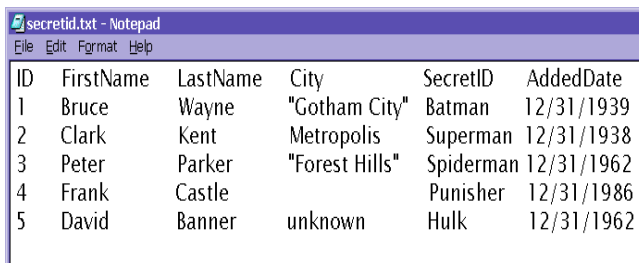


```
secretid.csv - Notepad
File Edit Format Help
ID,FirstName,LastName,City,SecretID,AddedDate
1,Bruce,Wayne,Gotham City,Batman,12/31/1939
2,Clark,Kent,Metropolis,Superman,12/31/1938
3,Peter,Parker,Forest Hills,Spiderman,12/31/1962
4,Frank,Castle,,Punisher,12/31/1986
5,David,Banner,unknown,Hulk,12/31/1962
```

- The first line is usually called a “header” or “header row”, because it contains the names of the fields.
- Each line in this text file is a record.
- Each record consists of one or more fields, which are separated by commas. Sometimes the text between the commas is placed inside quotes, to identify that the information is to be treated as if it were one piece of information. This is especially useful for hidden characters, such as carriage returns.

Text files resemble CSV files ([Figure 69](#)):

Figure 69: Example Text File



```
secretid.txt - Notepad
File Edit Format Help
ID  FirstName  LastName  City      SecretID  AddedDate
1   Bruce      Wayne    "Gotham City"  Batman    12/31/1939
2   Clark      Kent      Metropolis    Superman  12/31/1938
3   Peter      Parker    "Forest Hills" Spiderman  12/31/1962
4   Frank      Castle    Punisher      12/31/1986
5   David      Banner    unknown       Hulk       12/31/1962
```

- The first line is usually called a “header” or “header row” because it contains the names of the fields.
- Each line in this text file is a record.
- Each record consists of one or more fields which are separated by tabs or other kind of special character (for example: a pipe “|” symbol)

- Text/String fields are often placed inside quotes if there are spaces between the text.

Microsoft Excel worksheets:

Figure 70: Example Excel Sheet

	A	B	C	D	E	F	G
1	ID	FirstName	LastName	City	SecretID	AddedDate	
2	1	Bruce	Wayne	Gotham City	Batman	12/31/1939	
3	2	Clark	Kent	Metropolis	Superman	12/31/1938	
4	3	Peter	Parker	Forest Hills	Spiderman	12/31/1962	
5	4	Frank	Castle		Punisher	12/31/1986	
6	5	David	Banner	unknown	Hulk	12/31/1962	
7							

- The first line is usually called a “header” or “header row”, because it contains the names of the fields.
 - Each row is a record.
 - Each column is a field.
 - The first column is usually the key field.
- While it is not required, it is **HIGHLY** recommended that you always include a key field in your Excel sheets, even if you have to add it manually.