Computers & the Humanities 281

Revolution Objects

One of the purposes of this course is to teach you how to program and create applications in Revolution in order to supplement classroom instruction. The basic building blocks in this high-tech Lego set are called objects. In Revolution there are several basic objects as well as variations within object types. We will cover each of these in turn.

Stacks

The fundamental building block in Revolution is the stack. Every window you see in the authoring environment (including all those fancy palettes) is a stack. No other object can exist independent of a stack. Consequently, the first step to creating an application is to create a stack. This is accomplished by selecting **New Mainstack** in the **File** menu. With a stack present, it is now possible to add other objects.

Cards

The next fundamental building block in Revolution is the card. Every stack displays the information it contains on one or more cards. By definition, a stack must contain at least one card (preserving the metaphor). Consequently, every time a stack is created, a card is created as well, so you never have to expressly create the first card. To add cards to the stack, one needs to select **New Card** under the **Object** menu (or use the keyboard shortcut indicated in the menu: apple (command) - N).

As stated earlier, cards are the means whereby a stack displays the information it contains. The user can place different types of information on different cards, which would consequently cause the appearance of those cards to differ. A stack can theoretically have an infinite number of cards, but practically speaking such a stack would be unwieldly. Even though a stack may have several cards, only one card in that stack (and its information) may be visible at a time.

Groups

Groups are another type of object in Revolution. They are somewhat like cards in that they can contain all other types of objects, creating what are called "grouped controls." Groups and their grouped controls can be placed on cards. In this way groups behave much like control objects. The important implications of this will be discussed in a later lecture.

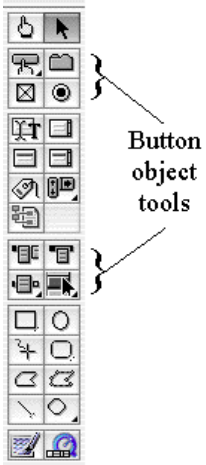
Control Objects

All other objects (known as "controls") are contained by and displayed on cards in one fashion or another. The control objects we will utilize in this course are buttons, fields, images, graphics, and players. While there technically other control objects, we will not introduce those at this time.

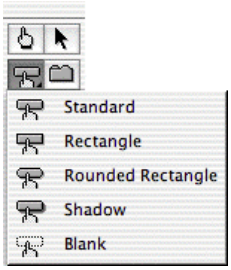
Buttons

One of the controls that can exist on a card is the button. A button usually receives a mouse click from a user and then performs a specific action or series of actions. They are the controls that give a stack much of its functionality and allow users to control to some degree the stack and the information they view.

You may create a new button on a card by selecting one of the button icons in the Tools palette (the second and fourth series, as indicated below) and then using the cursor to click and drag on the card to create a button. If you just click without dragging, a button of standard size is created and placed on the card where you clicked.



You may also create a button by choosing a button type under **New Control** from the **Object** menu. A new button will be created and placed automatically in the center of the card.



As you may have noted by now, there are several types of buttons available for use in applications. Their appearance and behavior differ according to their function and purpose. The tool palette provides access to all buttons. In the second series you have access to all the standard buttons (clicking and holding will produce a drop-down list, as illustrated above), tabbed buttons, checkbox buttons, and radio buttons. The fourth series provides access to menu buttons. While all of these buttons are quite useful, we will focus on only a few of them for this course.

Fields

A field in Revolution is a container for holding and displaying text. In a typical instructional stack, fields are usually used to present text for the user to read, but may also provide a place where the user can type, e.g., to fill in information, answer a quiz question, etc. In an unlocked text field you have all the basic text editing capabilities. When you move the cursor into an unlocked text field, it changes to the familiar I-beam shape; clicking then gives you a blinking insertion point marker typical of most WYSIWYG text editors.

- Type text, including all option-combination characters
- Word wrap
- Insert/Delete
- Select (drag select or double-click to select a word)
- Cut, copy, paste
- Margin width, first line indent, tab stops

Still, Revolution is not a full-featured word processor by any means:

- No fancy features like spell checking, footnotes, tables, etc.
- No fine control of margins, hanging indents, etc.
- Arrow keys by default move cursor within the text, but this behavior can be turned off.

You may create a field on a card by selecting one of the field tools in the tools palette (as indicated below). The cursor changes to cross hatch. Click on the card and drag to create a field with the desired size. As with buttons, if you just click without dragging, a field of standard size is placed on the card where you clicked.

You may also create a field by choosing a field type under **New Control** under the **Object** menu. This creates and places a new field in the center of the card. As with buttons, there are several different types of fields. We will cover the most essential during the course.

Images

Another type of control in Revolution that appear on cards are images. As can be inferred from its name, an image contains bitmapped data that is usually resolves to some sort of picture. Several picture formats are usable in Revolution. We will discuss more closely the details of adding images to a stack in a later lecture.

Graphics

Another control object in Revolution are graphics. A graphic is a resizable vector shape that appears on a card. Since it is a defined shape (and not bitmapped data as with images), it may be altered and transformed without becoming distorted or "blocky" as can happen with images.

Graphics can be created by selecting the appropriate tool from the tools palette (the fifth series, as shown below). As with the other objects, you click and drag to create the object, or simply create to have a standard sized object created for you.

You may also create a graphic by choosing a graphic type under **New Control** in the **Object** menu. This creates and places a new graphic in the center of the card. As with other control objects, there are several different types of graphics.

Players

Another type of control object in Revolution are players. These objects allow us to add sound and video to cards. We will discuss players in a later lecture.

Working with Control Objects

In experimenting with control objects, you may have noticed that each time a new control is created, it comes surrounded by eight little black boxes. These are called "handles." When an object's handles are visible, this means that the object has been "selected" with the pointer tool and can be edited. These handles allow you to resize the object according to your needs. Also, the object may be repositioned on the card by clicking within the area contained by the handles, holding the mouse button down, and dragging the object to a new location on the card. The arrow keys will also allow you to "nudge" a selected object in the desired direction.

Objects can also be duplicated in a couple of fashions. After selecting an object, you may choose **Copy Object** from the **Edit** menu, then **Paste Object**, and the new button appears (**Note:** When you copy/paste a button, it is created in the same position but *on top* of the original. This can cause confusion by creating extra "layers" that you do not realize are there). **Duplicate** and **Replicate...** in the same menu effect the same results (the latter providing more options). The corresponding command keys and icons on the button bar accomplish the same ends. Also, holding down the **Option** key (Mac) or the **Control** key (PC) while dragging a selected object will create a duplicate of that object.

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