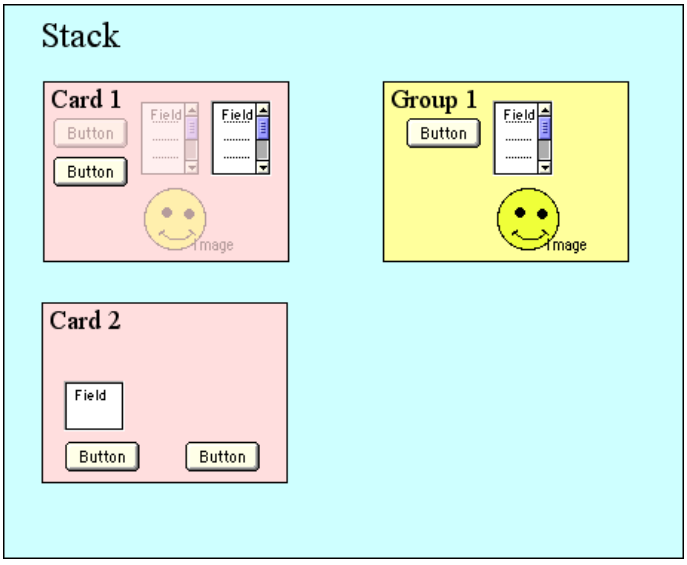
Computers & the Humanities 281

Groups in Revolution

As mentioned before, a group is any object type that doesn't fit easily into one category as a result of its apparent duality. Much like light that behaves like a wave and a particle, a group has properties that make it behave like a card at times and like a control object at others.

Creating a Group

You can put objects in a group by selecting one or more objects already existing on the card and by choosing **Group Selected** from the **Object** menu (there is a button on the toolbar for this as well). This creates a new object within the stack called a group. When objects are grouped, ownership is taken away from the card they were on originally and is transferred to the new group. The group now "owns" the objects, though the group's objects remain visible and accessible on the card.

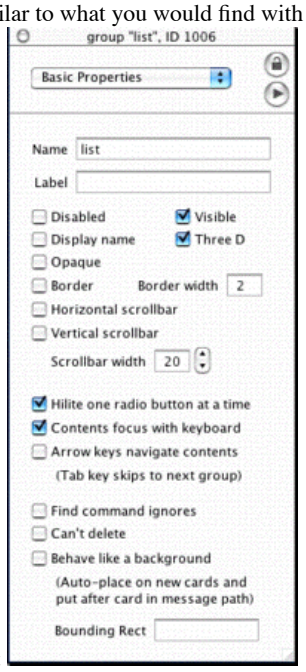


In terms of inheritance, the new group exists as a "sibling" of the existing cards as shown in the graphic above. In other words, it is owned by the stack, at the same level as the card, hence its ability to contain control objects. It is subject to all the nuances of inheritance: inheriting properties from the stack and passing on properties to the objects it owns. In explicit terms, all inheritable properties (e.g., text and color) a group receives from the stack through the card, then passes those on to the objects it contains. Changes made on the group level will be reflected in the objects that it owns.

However, in biological terms the group is the younger sibling of the card, born twenty years later, which means that it is so different in many respects, you would expect it to be adopted. Since groups are objects, they can even be placed inside other groups (unlike cards). You can create a nested group simply by selecting the group and other objects you want and then group them as described above. This group is now part of another group. While this may be somewhat nifty, it does create a level of complexity that we don't wish to explore right now.

Group Properties

Just like all other objects in Revolution, groups have properties. The basic properties are similar to what you would find with fields and buttons. The group properties tab shows us properties specific to groups. The most relevant properties are:



- **Hiliting one radio button at a time:** For radio style buttons that are in a group, checking this box makes it so that only one button in the group can be highlighted at the same time. This option is only available if at least one radio button is contained within the group.
- **Can't delete:** Prevents the group from being deleted from the stack. (This is a good safeguard against accidentally deleting a group.)
- **Behave like a background:** This allows the group to behave like a background in that it will be copied to a new card created after the card on which the group is located. This is not the default setting for a group, so this must be selected in order for a group to placed automatically when a new card is created (per conditions explained above).

Placing a Group

A group object is unique among all object types in at least one respect: a group is the only object type that can be on more than one card at a time. You can make a group accessible to more than one card in one of two ways:

1. Go to the card you want the group to be on and choose the group from the **Place Group** menu item on the **Object** menu.
2. Navigate to a card with the group already on it. Make sure the group's **backgroundBehavior** property is checked. Now create a new card by choosing **New Card** from the **Object** menu. Any groups on the current card will automatically be placed on the new card.

Once you have created a group, the objects in the group can be placed on multiple cards (as discussed above). If the properties of the group are changed on one card, they are changed on all cards on which that group is found. There are two exceptions to this rule:

1. The text in the fields of a group can be different on each card that is associated with that group. You can also make the text of a field the same on each card. This behavior is determined by the **Share Text on Each Card** property in the Field tab of the field properties.
2. The hilite state of buttons can be unique or common to all cards associated with that group. This behavior is determined by the **Share Hilite on Each Card** property in the Button tab of the button properties.

This is arguably the most powerful function of groups: its ability to enable objects to exist simultaneously on several different cards. Not only does it same time in the creation process, but it engenders a sharp and consistent layout for your stack. It is a principal part of intelligent stack design.

Editing a Group Vs. Editing Objects in the Group

Despite being part of a group, the component parts of a group can be edited separately. To edit the components of a group, select the group and choose **Edit Group** from the **Object** menu. Now that you are in edit mode, you can click on individual objects in the group and edit them individually. The changes you make will be shown on all cards containing that group. Choose **Stop Editing Group** from the **Object** menu to return to the group selection. There are also buttons on the toolbar to accomplish the same ends.

You can also edit items in a group without entering Edit Group mode. This can be important, for example, when you want to see the relationship of objects in the group with objects not in the group. By default, when you click on an object in a group in the Revolution development environment, the whole group is selected. However, you can change this behavior by choosing the **Select Grouped Controls** in the **Edit** menu or by clicking the **Select Grouped** icon on the button bar. In this mode, clicking on an object in the group will only select the item clicked on, not the group. This allows you to edit each component of a group separately. You can turn the **Selected Grouped Controls** property on or off momentarily by holding down the Command key (Mac) or the Control key (Windows) and clicking on an item within a group.

Ungrouping Items

If you have created a group and decide that you no longer want the objects to be together in this group, you can ungroup them. Simply select the group, go up to the **Object** menu and choose **Ungroup Selected**. This will delete the group from the stack and will place on the current card all the objects formerly within the group. (**Note:** Re-grouping the objects immediately, before moving from that card will restore the former group to all the cards on which it was placed.)

Removing or Deleting a Group

Sometimes you want a group to show up on multiple cards in the stack, but not ALL the cards you create. Removing a group from a single card is simple. Choose **Remove Group** from the **Object** menu and the group will be removed from the current card only. Removing a group from every card in the stack does not remove it from the stack. It is still part of the stack and can be placed on a card by choosing the **Place Group** command in the **Object** menu.

To completely delete a group from the stack, select the group and hit the Delete key. You may also select the group and choose **Cut Objects** or **Clear Objects** from the **Edit** menu. A dialog box will appear asking you to confirm that you really want to delete the group. Clicking "Yes" will delete the group from all cards on which it is found and delete it from the stack as well.

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