Initial Results and Analysis From iBank User Study Interface #1
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This is the start of the Results and Analysis section the data collected in class on 11-20-14. The ellipses “…” represent places in which the video could be further analyzed and commented-on.

Participants #1 and #2 / Interface #1 / Tasks 1 through 5

Results

Task #1. Select the “iBank” icon on the screen in front of you.

This was done for the participants, so no data were collected for this task.

Task #2. Enter a cash expense of $25 on groceries at Albertson’s. Confirm that the expense was entered correctly by looking for it in the list alongside other expenses.

Time 0:09 - Participant #1 (P1) presses the big blue plus sign on the first screen, sees the following, and says ‘We press this but that doesn’t really look like what we’re looking for because we’re supposed to enter a cash expense of $25.’. P1 leaves the screen by pressing “Cancel”. Figure 1 shows this command being executed.

0:22 - P1: ‘Are we supposed to do it with our bank account.’ Touches on the little right arrow at the right end of the “cash” account.

0:27 - P1: ‘Okay, this shows us the account....’ She seems to have concluded that they have made progress in that they can now see transactions in the account.

1:07 - P1 “We entered it.” P1 appears to declare success, and P2 appears to concur, even though the team did not include the category of “groceries”, and hence technically the task was not yet completed. Figure 2 shows the display at this point in time.

Task #3. Imagine that you remember, after entering the previous expense, that you are trying to track your beer expenses separately from other groceries. Go back and split the first expense into two expenses, with $9 going towards beer, and $16 going towards other groceries.

Figure 1. P1 clicks on the blue word “Cancel” in order to leave a screen. (0:16)

Figure 2. Note “Uncategorized Expense” at the bottom of the screenshot. (1:20)
Figure 3 shows how, around 1:30, in an attempt to add split categories to the uncategorized Albertson’s expense, P1 touches four times on the blue word “Uncategorized”, evidently trying to issue a command by “clicking on” that word after which she concludes ‘but that doesn’t appear to be working’. P2 then points out the “Edit” blue word at the top of the screen. P1 touches it, the screen changes, and P1 gives an “Oh” of recognition, evidently that progress appears to being made towards a goal....

**Task #4.** Enter another cash expense of $30 for groceries for Albertson’s. This time it was all groceries, and no beer....

**Task #5.** Delete the two expenses that you just added.

The two participants started the subtask at 3:53, with P2 announcing “Now we need to delete both of them.”.... At 8:55, P1 states “I give up” and P2 concurs with “ya”. They continued trying to figure out how to delete the transactions until 10:33 which point they really stopped trying.

**Analysis**

*Flattened screens appear to reduce “affordances”.*

An affordance is a perceivable characteristic of an object that helps a user to understand how to use that object to accomplish a task. The “flattened” screen design (in which “clickable” screen buttons have evolved to look less like physical buttons) appears to create some confusion with regards to which screen objects present the user with, or afford, control and input opportunities. P1 appeared to be drawn quickly and directly to a big blue plus sign in the circle (at 0:07), and seemed to connect it to “adding” an expense. The circle flashed when the user touched it, which arguably helped to communicate to the user that a command registered with the device. Around 0:22 she clicks on the right arrow for the “Cash” account (though perhaps anywhere on the line would have worked); but the video does not clearly show visual feedback that reinforced that pressing this screen object constituted a command (such as by flashing). The screen did change, but this is arguably the result of the command being processed, and does not as directly relate to the concept of the command simply being entered (such as by feeling a button depress). Arguably, the first of the two buttons offers a more clear affordance for being a clickable control option.

The user pressed the blue word “Cancel” word button at 0:16 (Figure 1) with little hesitation. This word appears to invite clicking, perhaps in part because the user may have learned to expect “Cancel” buttons throughout interfaces, perhaps because of its position on the display. But the same user clicking four times on the blue word “Uncategorized” at 1:35 (in Figure 3)
suggests that the user, when using this interface, came to conclude that blue words are clickable command opportunities, and yet that this is not at all a convention with this interface. It appears as if the new controversial minimalist “flattened” design of Apple’s iOS (see Maeda, 2013, for a discussion) has its shortcomings, and that there is some value in spending the extra pixels to make clickable screen objects look a little more like physical buttons that invite, or afford, pushing.

The concept of “categorizing” expenses is not necessarily obvious to new users.

In order for users to successfully use an application such as this to figure out how they are spending their money on different categories (or different kinds of expenses), it is important that the user has in mind that it is important if not critical to assign a “category” to every single expense that is entered. P1 and P2 did not evidently feel compelled to enter a “groceries” category for Task #2 and around 1:22 even both declared “done” even as “Uncategorized Expense” appeared next to the transaction that they just entered.

Here are two thoughts on this issue, that the Ps did not select the category of “groceries” for Task #2: First, note that the only instructions that the Ps were given were the typewritten steps that are shown in italics in the Results section—no additional instructions or assistance was provided—and the instructions for Task #2 do not include the word “category” but only allude to the concept by saying “on groceries,” and so it might be considered a shortcoming of the instructions and hence experimental design. Second, note that the initial setup for the tasks asks the Ps to imagine themselves wanting to better understand the categories in which they are spending their money. It might be that in general Ps cannot just drop themselves into a realistic imagining of themselves being in that situation. This could possibly be addressed by spending more time getting Ps into a frame of mind in which they want to know the categories, such as by starting them off with a budget, letting them “shop” for items to spend all their money on, and then asking them to report on how much they spend on each category. Of course, the extent to which real users of the software feel compelled to enter a category with each transaction would be better addressed with a longitudinal real-world study. But it is clearly important for users to have the concept of and motivation to use “categories”

What was learned in terms of running a user observation study

• For running a touchscreen experiment, if your Ps are right handed, try to put the camera on the left hand side of the display.
• It is important to have your system loaded up with good realistic sample data. Around 0:25 P1 scrolls through the list of prior transactions and concludes that they are now ‘in’ the account.

References