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CSE490F Assignment 1

## Medium-Fidelity Prototype #2

### Tasks:

Easy – The user will use the by-the-door touchscreen interface to verify that they have all the items they need for the day.

Medium – The user identifies a new item that may be associated with events in the future.

Hard – The user needs to add an activity to their schedule. This activity requires that several items are associated with it.

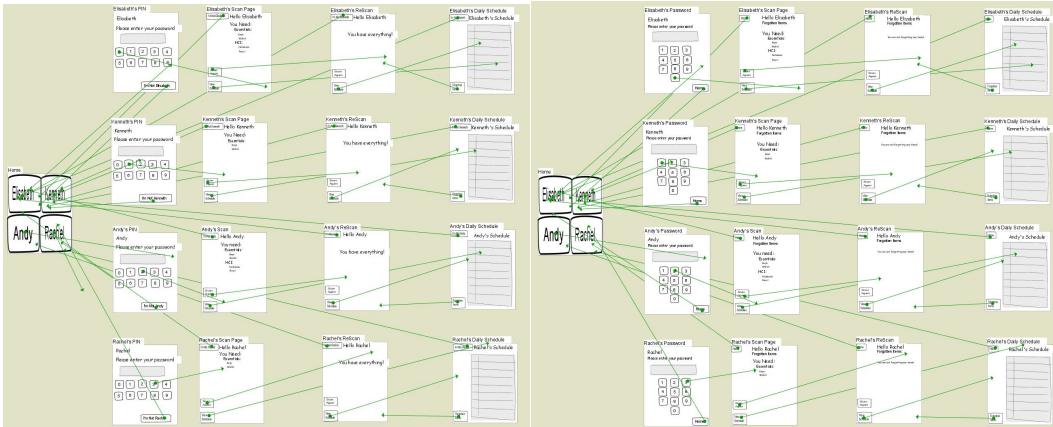
### Design Changes:

Most of the problems found with the prototype in the usability testing were cosmetic, so most of our changes for this round were cosmetic as well.

In the by-the-door touchscreen interface:

Most of the problems that were found in the touchscreen interface had to do with confusing wording. We fixed these problems by using text that is more consistent with the actual functionality of our project. The old wording for the back button was “I'm Not \_\_\_\_”; we replaced it with the much simpler “Home”. The text on the Scan page when a user has everything has been changed from “You Have Everything!” to “You are not forgetting any items!” Previously, there was no title text for the pages that list a user's forgotten items; we added the text “Forgotten Items”.

The other problems mainly had to do with limitations in Denim. As pointed out by our testers, the password page was severely lacking in functionality. However, we felt that implementing a good password page in Denim would be too cumbersome, so we kept it the same for our prototype, other than a slight change in the layout of the keypad. Our users also complained about what some pages are called in Denim. We didn't feel this was a critical problem because the Denim page names should have been transparent to users. In the end, we renamed some pages to reflect what users thought they should be (such as renaming “PIN” to “Password”), even though the text does not appear on the actual page.



Touchscreen Overview – old

Touchscreen Overview – new

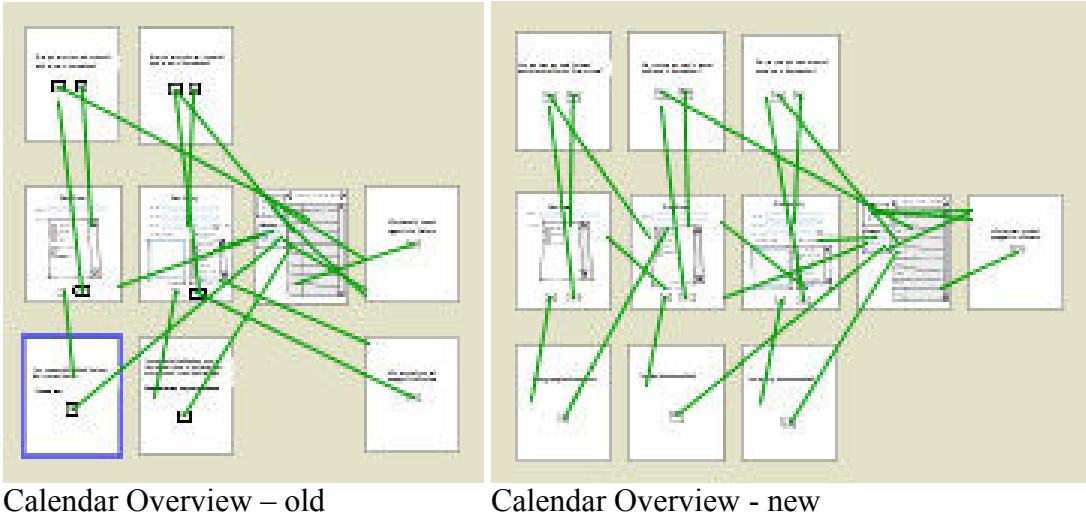
As you can see from our overview screenshots, we kept the number of screens and the navigation between them the same. Please refer to the Usability Problems Addressed section below for the screenshots detailing each interface design change.

In the computer interface:

There were three main changes we made to this interface. The first was to remove the “humorous” confirmation dialog boxes we used to show that, while we wanted the system to show somehow that the user has successfully performed an action, we didn’t have the ability in Denim to actually confirm what they had done. However, our testers were not amused by our attempt at humor, and we’ve replaced the text with much more serious dialog.

The second change was to clarify the relationship between activities, items, and groups. Our testers indicated that they wanted to know the hierarchy of the items, but we believe that this is more because they are all CS majors and are thinking of the code behind the objects. Instead of exposing the hierarchy, we want the system to be flexible enough to support different use patterns: some users will use a strict activities→groups→items hierarchy where all items are in a group and all groups are attached to activities, while others will use a more holistic approach to associating items with activities (or even using the program to remind them to take items without associating the items with an activity at all). Still, we did try to make the use of these objects clear, and especially tried to clarify the difference between items and groups.

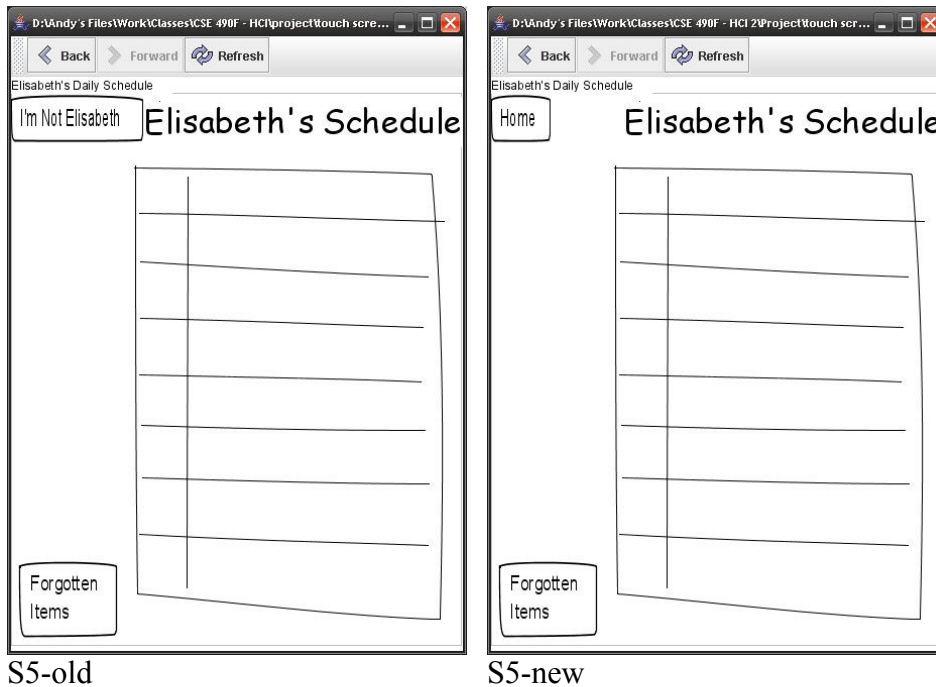
The third change, related to the second, was to add/connect links between adding items, groups, and activities. As in the banking example, users wanted to be able to engage in various actions from whichever screen they were currently on.



**Usability Problems Addressed:**

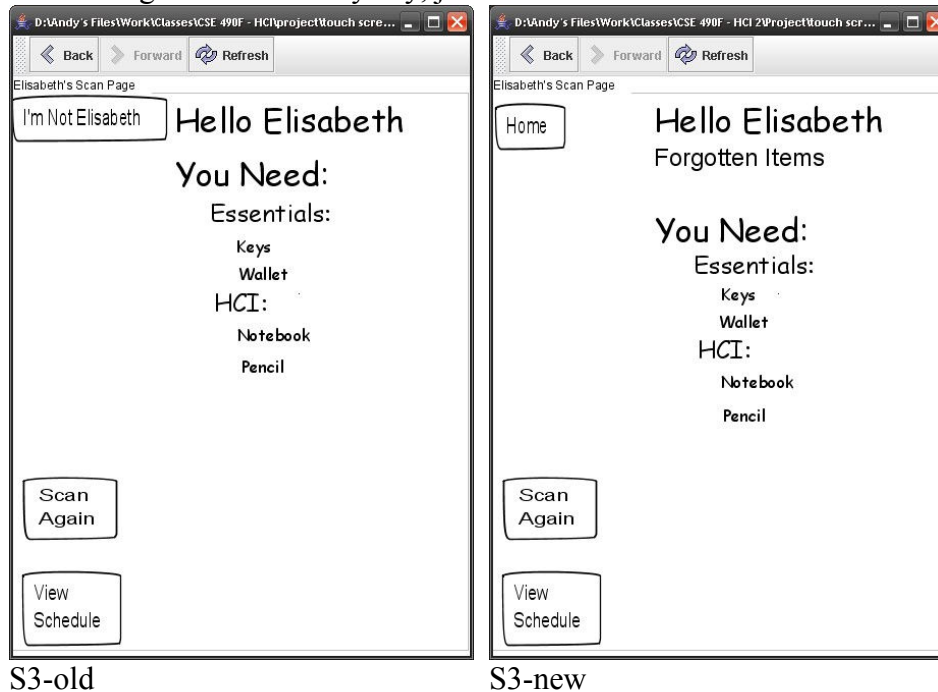
Because most of the issues our testers raised were cosmetic or problems we couldn't address in Denim, we chose to fix every problem that we could, and provide a rationale for the ones we either couldn't fix or think shouldn't be fixed.

1. **Problem:** No back button on scanner interface.  
**Solution:** The “back” button was implemented as “I’m Not \_\_\_”. We renamed the button “Home” to make it clearer where the button directed the user.



2. **Problem:** No help button or descriptions of buttons on interface.  
**No Change:** We think the buttons “Home” “View Schedule” “Forgotten Items” and “Scan Again” are self explanatory enough that help is unnecessary, but will think of adding it in the future if this problem is raised again.

3. **Problem:** “Scan” and “Rescan” Denim titles refer to the same screens in the interface, which is titled “Forgotten Items”.
- Solution:** Although the Denim titles should be invisible to the users, we renamed them “Forgotten Items” anyway, just in case.



4. **Problem:** No indication of incorrect passwords.
- No Change:** Implementing this functionality in Denim does not have enough payoff for the effort required, and is therefore being ignored until we are in a different development environment.
5. **Problem:** No system status indicating what has been remembered, and “You Have Everything!” is inconsistent with theme of project.
- Solution:** While we think listing remembered items along with forgotten items would be too visually confusing to users, we are keeping it in mind for future iterations. We changed the text when there are no forgotten items to say “You are not forgetting any items!” which is more in line with our theme.

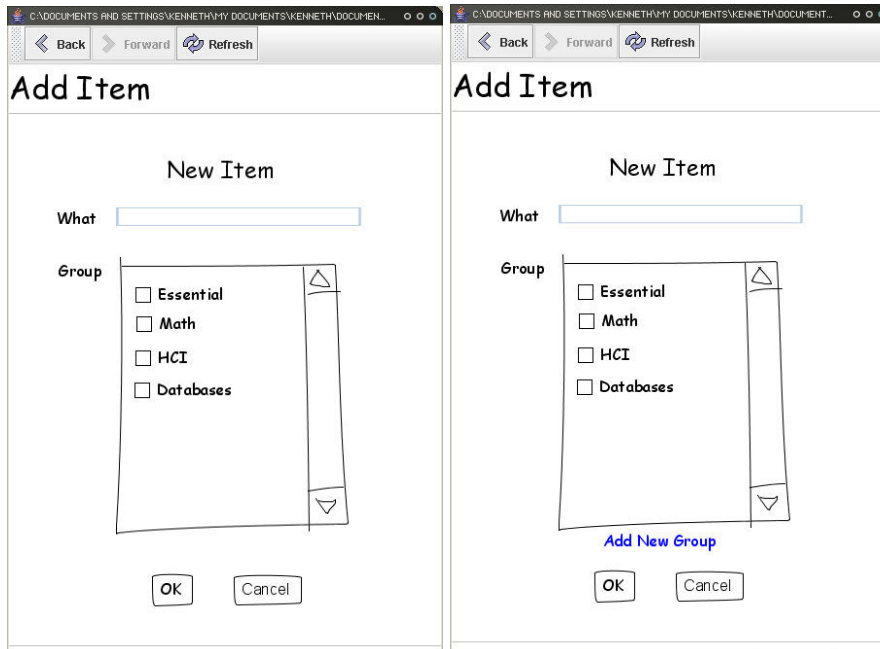


S4-old



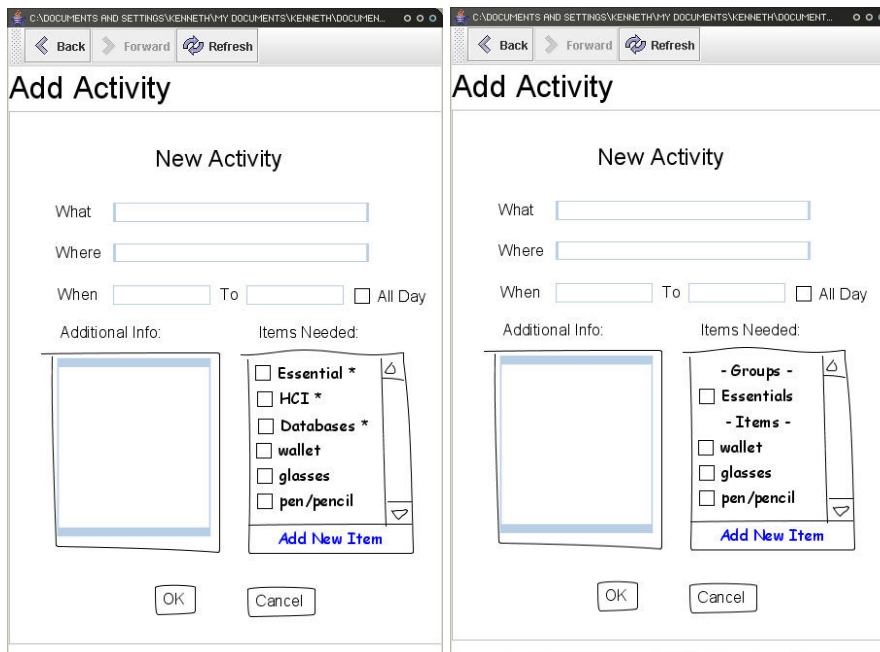
S4-new

6. **Problem:** “Scan Again” button is unnecessary when the user is told they have everything.  
**No Change:** We think the button should stay for two reasons: first, false positives are possible and we want the user to be able to verify the result if they think it’s in error (useful in those cases where a person walks around muttering, “I know I’m forgetting *something*...”, for example). Second, we think removing the button would change the look of the page and thus possibly confuse the user.
7. **Problem:** Calendar interface “Add Item” screen should have ability to add a group linked.  
**Solution:** We added “Add New Group” option to the “Add Item” screen. Also connected “Add New Item” on the “Add Activity” screen, which previously pointed to a “Feature Unavailable” screen.



C3-old

C3-new



C6-old

C6-new

8. **Problem:** Testers wanted to know hierarchy/standard of groups, activities, and items.  
**Solution:** While we tried to clarify with text in the appropriate windows and plan to add text in help in the future, we also think that this is a uniquely CS perspective, and are trying to design the program such that it doesn't matter if the user thinks that groups are attached to activities or activities are attached to items.
9. **Problem:** Humorous dialog boxes are confusing.

**Solution:** Our bad. We were attempting to inject humor into the intermediate design process. Apparently we failed. We've since erased the humor with much drier (but no more meaningful) messages. The messages will become meaningful when we start developing in an environment that can remember state.

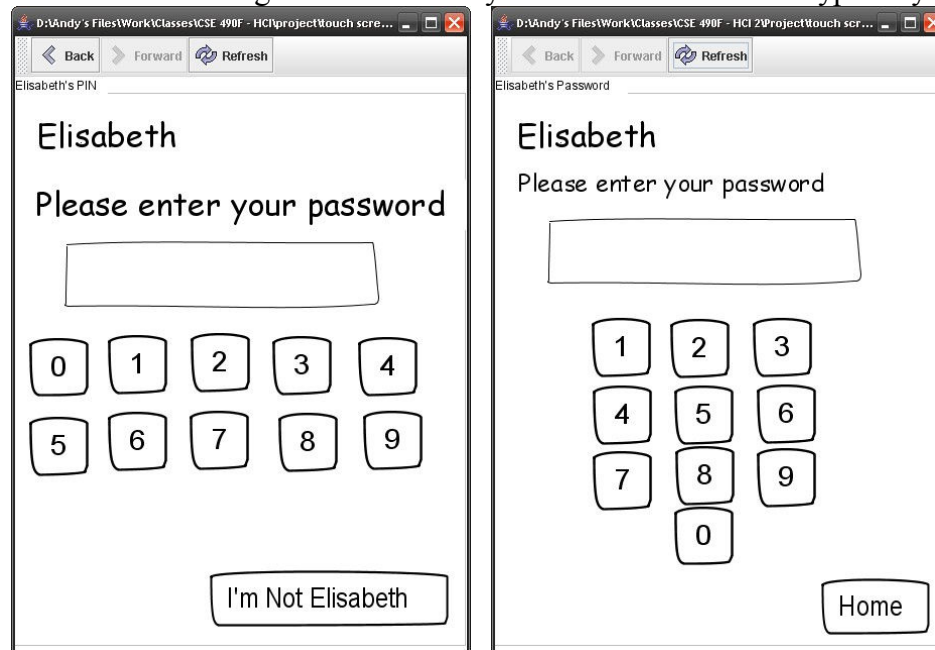
10. **Problem:** Use of "PIN" to title Denim page is confusing. There is no password to calendar interface.

**Solution:** Although the "PIN" title was supposed to be an internal Denim name that users would never see, we renamed the page "Password" anyway.

**No Change:** As the calendar interface is intended to run on the user's personal computer, we don't think there should be a default password to use it. We may add the possibility to use the calendar for multiple users, in which case the password would become necessary again, but at the point we were starting users in the program (looking at the calendar page), the user would have cleared any possible password prompts anyway.

11. **Problem:** Arrangement of numbers on Password page is non-standard.

**Solution:** We changed the number layout to a more familiar keypad layout.



S2-old

S2-new

12. **Problem:** No way to clear an incorrect password.

**No Change:** This is something we'll deal with when we are using a development environment that allows us to actually check if a user has entered the correct password.

13. **Problem:** Stars on items in "Add Activity" are confusing.

**Solution:** The stars were meant to convey that those were groups of items rather than individual items. We've separated and clarified groups versus items to fix this problem.

C:\DOCUMENTS AND SETTINGS\KENNETH\MY DOCUMENTS\KENNETH\DOCUMENT...

Back Forward Refresh

## Add Activity

**New Activity**

What

Where

When  To   All Day

Additional Info:

Items Needed:

- Essential \*
- HCI \*
- Databases \*
- wallet
- glasses
- pen/pencil

[Add New Item](#)

OK Cancel

C6-old

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Back Forward Refresh

## Add Activity

**New Activity**

What

Where

When  To   All Day

Additional Info:

Items Needed:

- Groups -
- Essentials
- Items -
- wallet
- glasses
- pen/pencil

[Add New Item](#)

OK Cancel

C6-new