Moo-la Manager: Phase 2

Group 5: Lauren Meanor, Nikki Boomgarden, Connor Gasper, Matt Wittau

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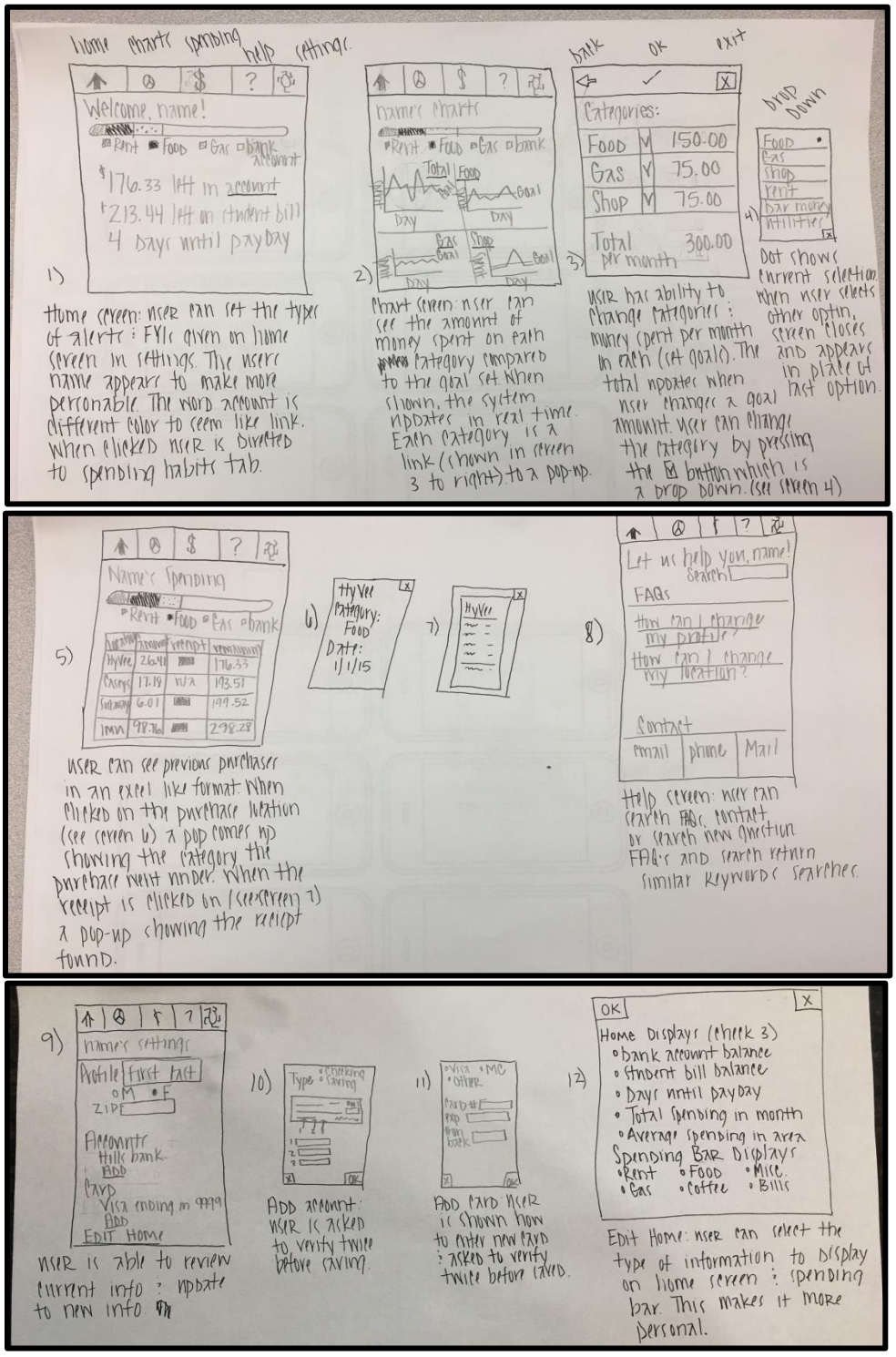
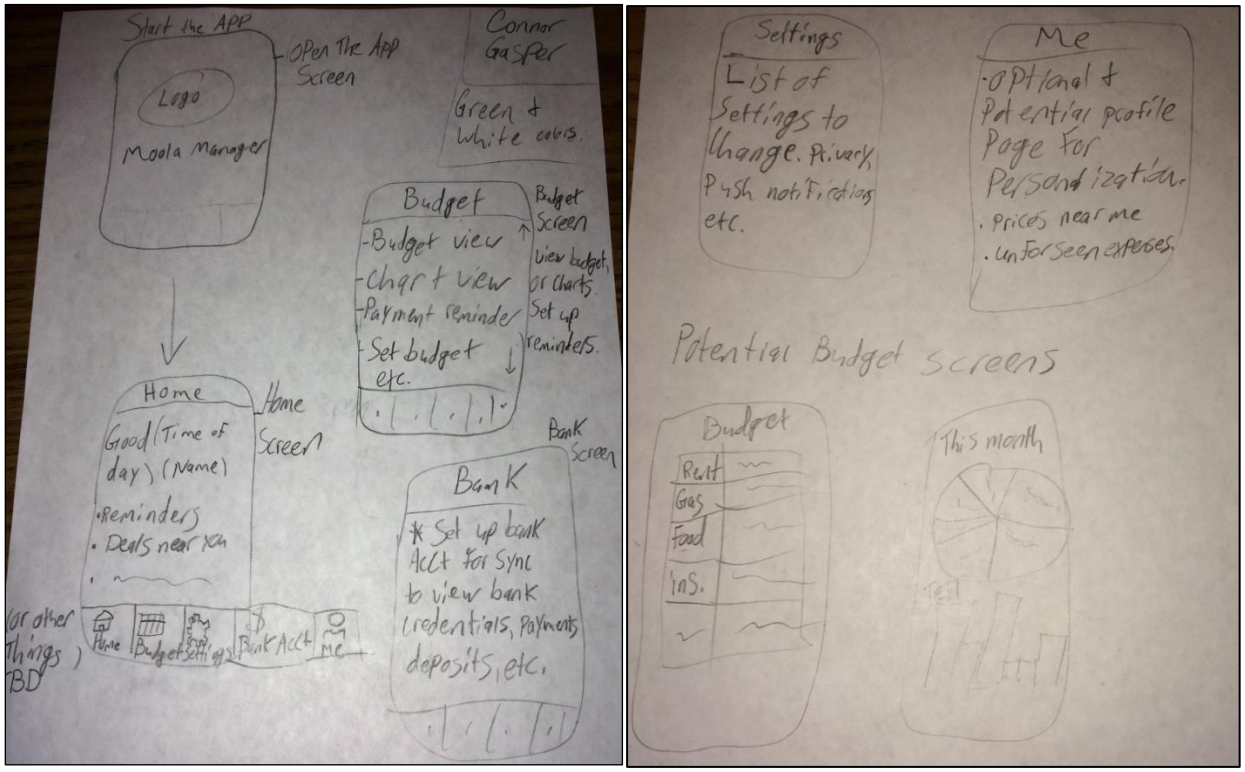


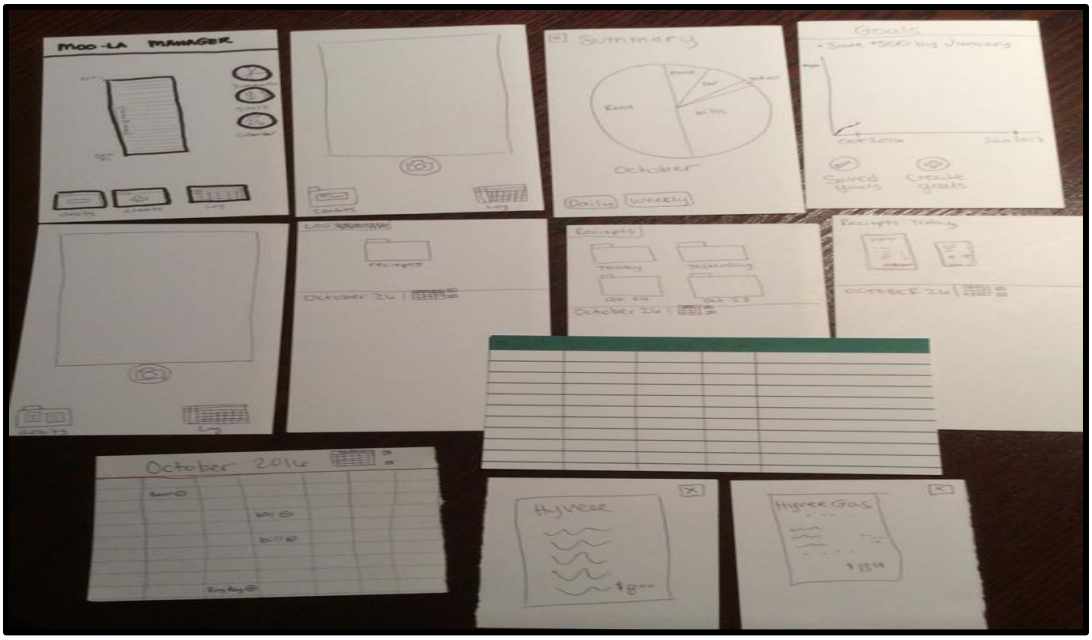
Prototype 1: Nikki Boomgarden's Prototype

Throughout this prototype, it was determined that there should be icons that are familiar to the typical user. These icons were used so that the user would have recognition over recall prior to the first use. Throughout the screens, the user is shown a “progress bar” that shows how much he or she has spent in the current month. Also, the user has the freedom to see his or her progress without leaving the main page and the ability to make the application more personable while tracking finances. This way, the user will more than likely continue to use the application over a long period of time.



Prototype 2: Connor Gasper's Prototype

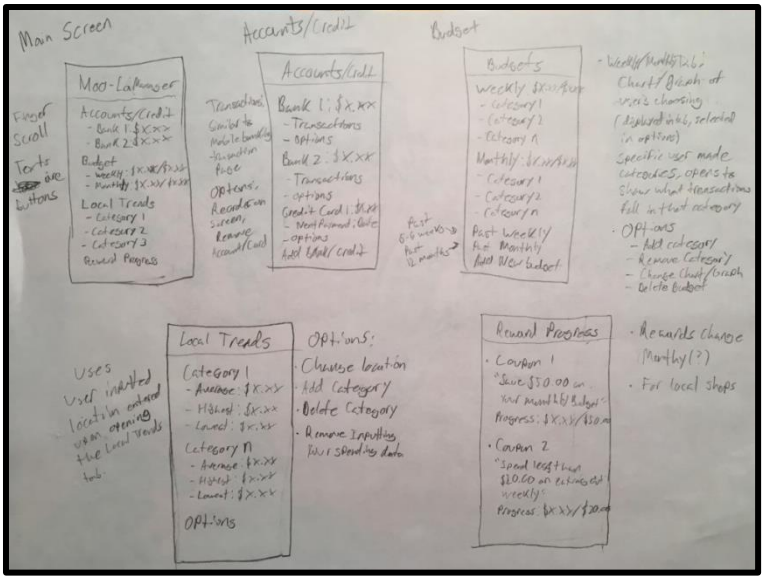
This prototype was made fairly bare-bones so that when we met up as a group, it would have hit on a lot of the key points we discussed while leaving room for improvement in the final prototype. The prototype consisted of what our software would look like upon launching it, using it, and what a few of the screens would look like. The prototype has a home screen, a budget screen, a bank screen, a settings screen, and a profile screen, all with potential features that could be implemented in the final version.



Prototype 3: Lauren Meanor's Prototype

This prototype features a progress bar, shown as a stack of money, on the home screen to reflects the user's remaining budget for the month. This prototype includes all high level screens, each of which represent a feature whose functionality fulfills our top requirements. Low level screens were created for tasks that users would want to complete most often. From the home screen, users can navigate to a screen that shows the users' spending summaries via a pie chart displaying the amounts spent in different categories, and to a screen that allows them to create and view their progress towards goals. A built in calendar provides the means for users to create one time and reoccurring events for which they would like to receive push notifications.

This prototype attempted to fulfill requirements without linking to the users' bank accounts. To complete this requirement, a user's spending would need to be tracked to create and help maintain their budgets. A built-in camera functionality enables users to track spending by taking pictures of their receipts which are then stored in dated folders until they and dragged and dropped into the proper category in the log's built-in spreadsheet. The assumption is that the interface has image recognition capabilities and can find the total on the receipt, record that number, remove the receipt and adjust the progress bar on the home screen to reflect the debit.



Prototype 4: Matt Wittau's Prototype

The main screen of the mobile app prototype simply displays the main categories that the user would user the app for: Accounts/Credit, Budgets, Local Trends, and Reward Progress. Under each category are useful hotlinks to features that are accessed in each respective category. For instance, under Accounts/Credit would be the bank accounts the user has connected to the app, as well as immediately useful information linked to that subcategory (i.e. total funds in a bank account). All text on the main screen is clickable: category titles would lead the user to a new screen listing general, but more in depth, information pertaining to that category, and subcategories are a shortcut to specific information that would also be accessed by navigating the screen after clicking its respective category title.

Further screens that are accessed by clicking text display more specific information to their category, such as transactions for Accounts/Credit, or average budgets for user specified categories in Local Trends. Each screen would also have an Options category that would allow the user to customize certain features of each category (i.e. adding or deleting budgets for Budgets, opting in or out of submitting data for Local Trends, etc.).

Generating the Group Prototype

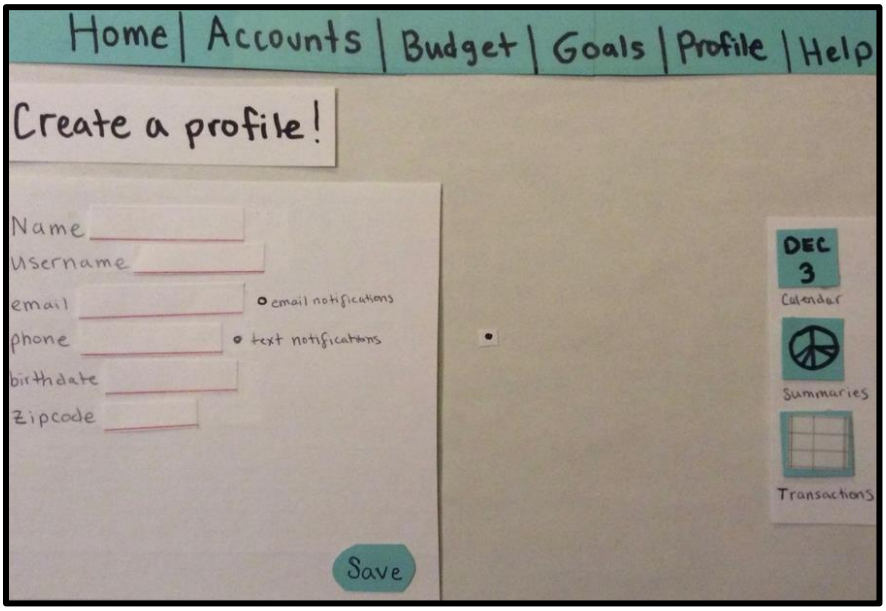
First, the group came together and went around the table to share his or her prototype that he or she came up before the meeting, while the other wrote down key tasks to discuss later. Each group member had different views in the way tasks that were discussed during brainstorming should be displayed. One group member wanted to focus on the way a user could display receipts, another was keener on displaying charts, while the other two wanted users to have great navigation and flow. Tasks like charts, user freedom and control, the use of a calendar, and displaying bank records were mentioned and portrayed in more than one prototype; the group compared these tasks to the original requirements and competing technologies and focused on implementing in the new prototype.

Originally, the group was determined to make a mobile application; however, after rereading the original project requirements of it having to be displayed in webpage format, the group rethought certain aspects of layout, including the menu bar location. It was due to the end requirements that one group member's idea of taking photos of receipts to place in the application was discarded, as this task is much less simplistic on a laptop or desktop than with a smartphone or tablet.

Final Low-Fidelity Prototype

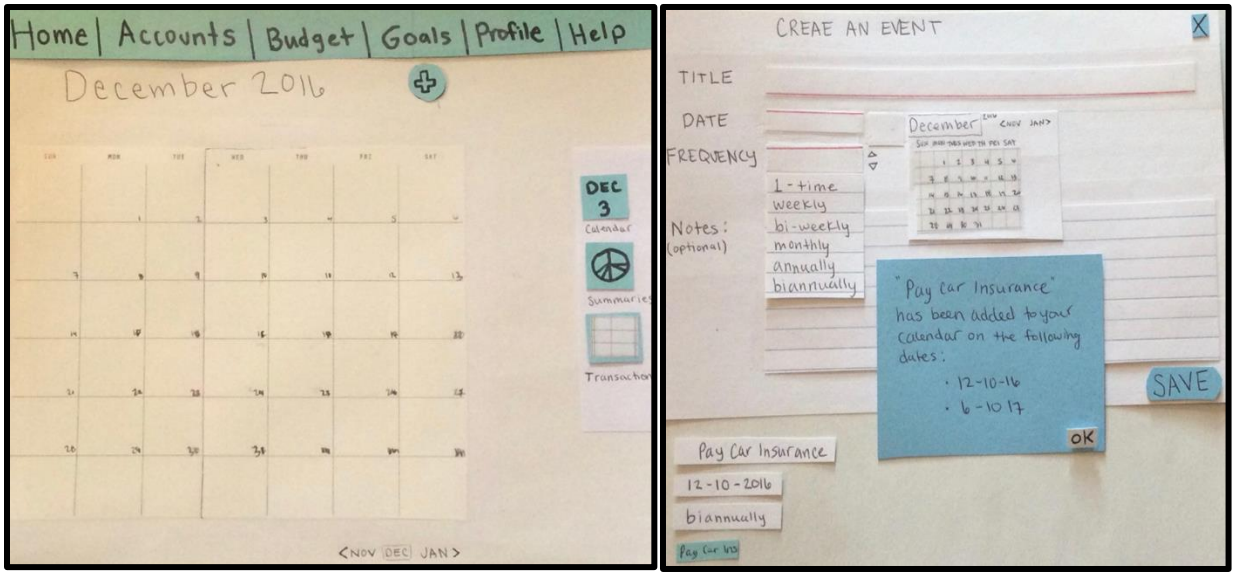
Group Prototype Homepage 1

The “home” page of Moo-la Manager is to be personable for the user. For instance, the greeting is “Good (insert time of day), (user’s name)!”. The user is also shown information that typically they would like to see so that they do not have to go to multiple screens to view the quick information that they might want to see. Like on all other screens, the user is given more in-depth categories across the top of the screen and shown more visual type of information across the right hand side.



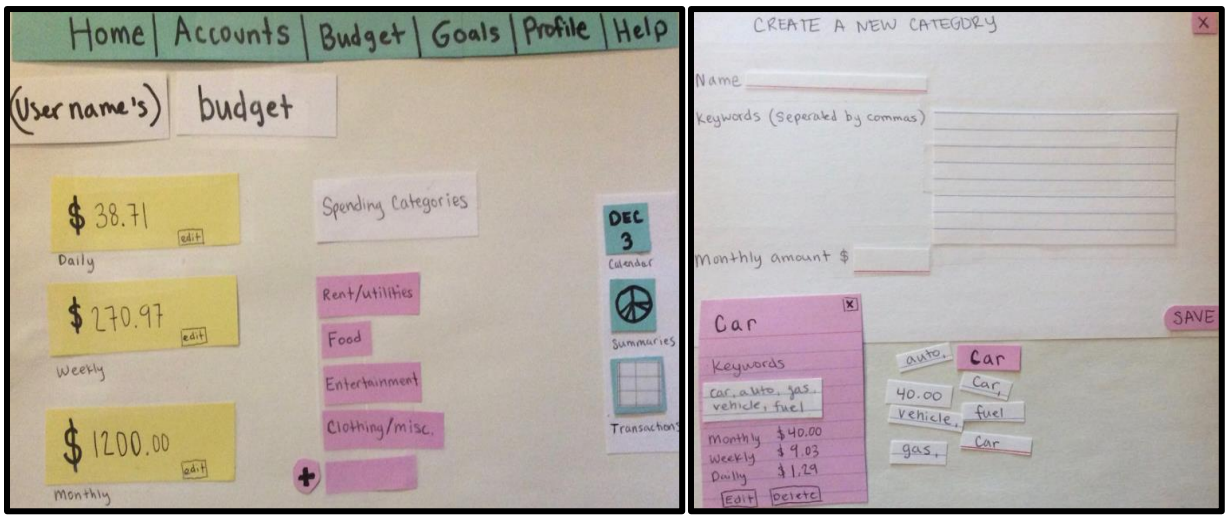
Group Prototype 1: Profile Screen

The “profile” screen allows the user to edit information about themselves and the privacy of their finances. The user has the option to not be compared to other users in the area and can easily uncheck this option on this screen.



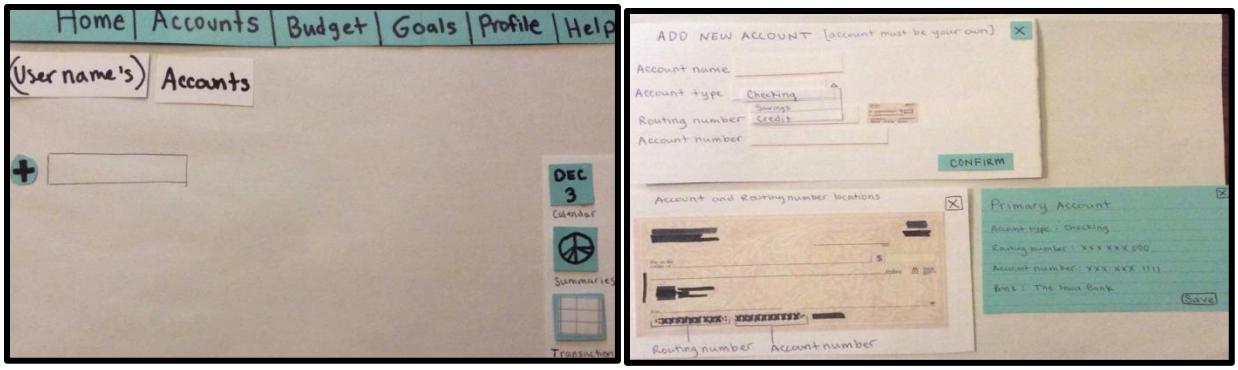
Group Prototype 2: Calendar Screen (left), Calendar Pop-Up Screen (right)

The “calendar” screen allows the user to see upcoming bills and pay dates and navigate from month to month by using the arrows found below the calendar. After a user selects the blue “+” in the corner of the screen, the “Create an Event” pop-up allows the user to insert a new upcoming date. Here, the user can enter the title, data and notes with the keyboard, while the frequency option gives the user freedom to select a reoccurring status.



Group Prototype 3: Budget Screen (left), Budget Pop-Up Screen (right)

The “budget” screen allows users to see their daily, weekly, and monthly budgets that they have set. This gives users a better idea of their budgets and also gives them the freedom to edit and create new budgets based on categories and with free text.



Group Prototype 4: Accounts Screen (left), Add Account Pop-Ups (right)

The “account” screen is for the user to update and create new bank accounts to link to the application. Here, the user is shown the layout of a standard check, indicating where each number on the check needs to be entered in the menu. After the user clicks the “Continue and review” button, a new pop-up menu appears to have the user review the information before submitting. This helps the user prevent unwanted errors.

Conceptual Model

Moo-la Manager is a great example for the conversing conceptual model. For instance, when the user enters Moo-la Manager, they are greeted with a welcome message depending on the time of day accessed and their name. Also, the user has the ability to receive notifications indicating how his or her spending habits are doing based on goals and other users in the area. These features allow Moo-la Manager to feel a bit more human to the user and make the user feel more comfortable with something as stressful as finances. Lastly, Moo-la Manager grants users undo capabilities, feedback on selections and allows them to see their progress throughout the budget period by offering a customizable spending bar across the top of the home page for easy and quick reference.

Section 2 – Cognitive Walkthrough

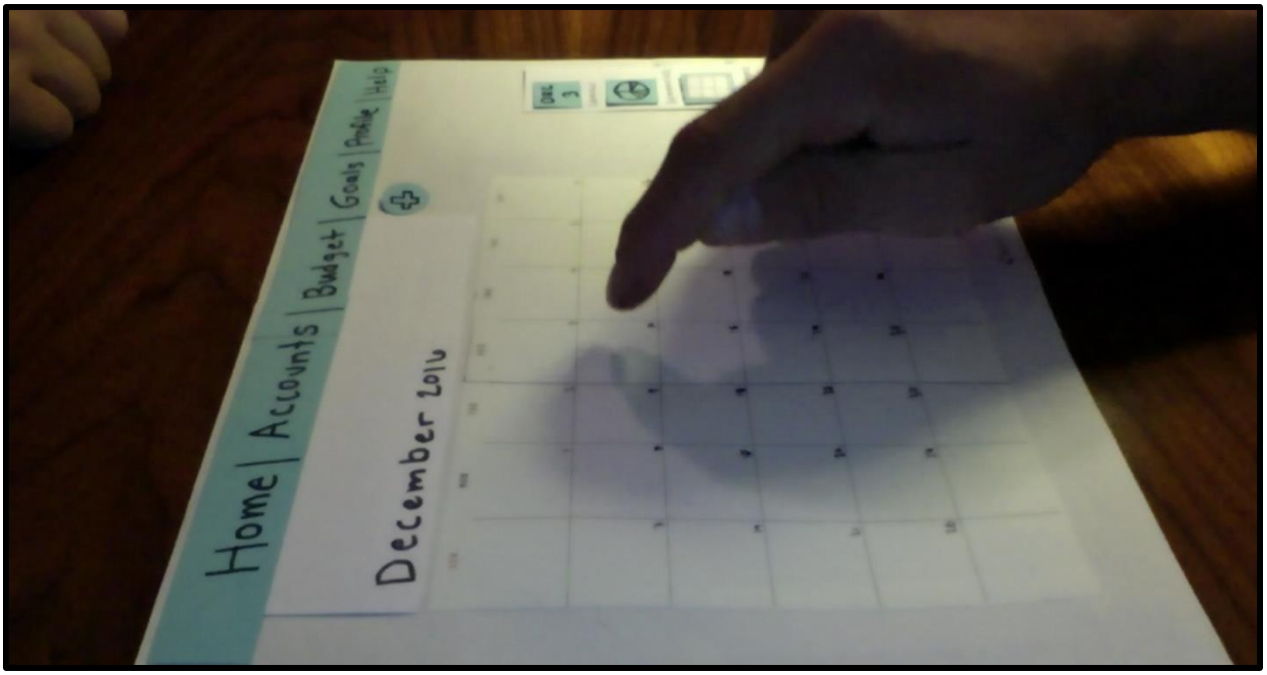
Methodology

The participants that took part in the cognitive walkthroughs were between the ages of 20 and 30, circumstantially all were male, and all had a relatively high degree of experience using technology and tracking their finances. Before conducting the walkthroughs, we prepared the interactive elements and set up a laptop in order to record the walkthrough. We explained to the participants that we were not testing them, we were testing our prototype and we encouraged them to think aloud to help us improve our product. Finally, we asked permission to record them and explained that the “computer” we were using for our interface was very old and that they should expect lags between their actions and the computers reactions but requested that they ask questions if they were unsure of the system’s current state.

To conduct the cognitive walkthrough for our prototype, we first gave participants a notecard with instructions for completing four key tasks. The first task was to create a profile, as this step is required to begin using the application. The second task was for the user to create an account. The user had to create a checking account for their profile, by using fake account information from an instructional sample check that we provided. The third task was to add an event to their calendar. The user had to enter a biannual car insurance payment reminder to their calendar with the first payment due on December 10th. Our final task was to create a new spending category for car related expenses. We then presented our interviewees with a low-fidelity prototype to try to complete these tasks one at a time. During each task, we asked the users what they would do next after completing a step, how they could find the action they are looking for, how they expected the system to react after they performed their actions, and how they interpreted the system’s response. Each group member took turns being the computer, by moving the various cut outs of the prototype and inserting pop-up screens according to the participants’ actions. While the participants were completing tasks and answering questions, we documented their responses and actions, taking note of how efficient and confident they were.

Results

During all four of our cognitive walkthroughs, each member took turns recording how the participant progressed through each task, as well as any observations the group noticed during the walkthrough. Additionally, the group members also recorded any comments that participant had both during and after the cognitive walkthrough. After the final walkthrough concluded, the notes were analyzed.



Walkthrough 1: Creating an event

Immediately, we noticed that none of the four participants failed to complete all of the given tasks we had asked them to complete. This 100% success rate of each task completed by each participant seems to indicate that layout of our final prototype allowed each participant to easily locate and identify where they needed to go, and had all the needed tools to complete their assignments. Overall, the participants largely felt comfortable with the interface.

However, this does not mean that the final prototype used to conduct the cognitive walkthroughs was without any flaws. During the second task (inserting a calendar event), participants noticeably took a longer time to locate where they needed to go from the main page to complete the task. While no comments about this were made from the participants themselves, nor was the time taken to finally locate the

appropriate button substantial, it was a somewhat frequent, yet minor, issue we as a group noticed. Additionally, one of the participants felt that our side bar felt awkward and out of place when present and some locations, mostly notably in the profile section. Given that the calendar appears on the side bar as well, this seems to indicate that the side bar as a whole has an issue with visibility.

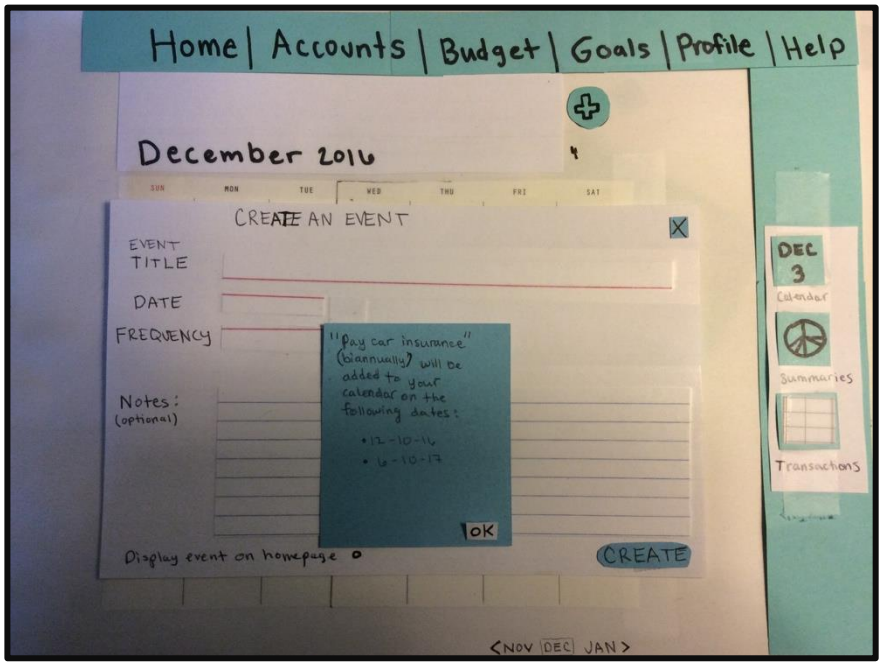
Furthermore, some issues with terms we use, specifically "bi-annual", momentarily caused some confusion during the “create an event” task. While this is believed to be a rather minor and infrequent issue, our group should take into consideration the terms and phrases used for key features. Another issue appeared within the “create an event” pop-up screen which caused confusion and uncertainty, though did not prevent the completion of the task. A participant was uncertain about the system-state after choosing the biannual option in the drop-down menu; participant was momentarily stuck, waiting for the system to allow them to choose the second payment date, unaware that the system would automatically record the second date in the calendar when the biannual option was chosen.

Although the visibility of the calendar was a minor issue, fixing it was simple. In order to make the sidebar visible as a menu, a green background was applied to the sidebar, connecting it to the top menu and creating a framing effect which would be consistent on all screens. This revision improves visibility and makes it clear to users that the sidebar is part of the main menu and not just specific to the current screen.

The issue with confusing terms could be ignored as it was an infrequent issue that did not prevent participants from completing the task. Definitions for the frequency terms could appear on the pop-up screen but not without cluttering it. However, we do not want users to have to go perform a google search in the middle of a task.

Update 1: Sidebar menu visibility

The solution for defining the confusing terms came from determining how to communicate the system state when users choose different frequencies. When the biannual frequency option is chosen, the system automatically determines the second payment as the date six months from the initial date that the user chooses, however users cannot know this implicitly. Our first prototype featured a confirmation pop-up screen to show users what actions will take place once they press the create button. By making this screen appear sooner, as a preview pop-up when users hover over the different frequency options, confusing terms will be clarified and the user will be made aware of the system state and feel confident that their intended dates will appear on the calendar (and as notifications if the user chooses) once they press the create button.



Update 2: Change confirmation pop-up to preview pop-up

Section 3 – Group Work Distribution

Group Distribution

Each group member created a competing prototype and was responsible for describing how it worked in section 1 of the report. The group compared these prototypes and sketched a composite version. As a group, members took turns performing different roles during the cognitive walkthroughs with participants and each group member shared their findings in order to aid in the writing of the final report.

Nikki Boomgarden

Nikki helped the group schedule rooms throughout phase two, so that prototypes could be drawn in an orderly fashion without distractions. Nikki also took notes throughout the first group low-fidelity prototype so the “Generation Group Prototype” section of the assignment was easier to describe. She was responsible for writing the “Generating the Group Prototype” section.

Lauren Meanor

After the group sketch was created, Lauren constructed an interactive version and this low-fidelity paper prototype was used for the cognitive walkthroughs. After the group conducted the walkthroughs and determined revisions to made based off the severity and frequency of the issues, Lauren updated elements of the prototype. Finally, Lauren was responsible for writing about the revisions made in order to update the final prototype in the *results* section.

Connor Gasper

Connor was responsible for recording the participants’ characteristics as well as the taking notes during the preparation and conduction of cognitive walkthroughs, after which he was tasked with writing up the Methodology section of the report.

Matthew Wittau

In addition to the regular tasks that all the group members shared, Matt was given the task analyze the notes taken during each of the cognitive walkthroughs and synthesize the information from them. This includes identifying each of the notable observations and writing about them in the *results* section of the report.

Citations

Cow Image:
Digital image. *Clkr*. N.p., n.d. Web. 1 Nov. 2016.
<http://www.clker.com/cliparts/3/g/A/4/V/d/cow-eating-grass-hi.png>.

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Digital image. *Clip Art Panda*. N.p., n.d. Web. 1 Nov. 2016.
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