**Project Two**

Justin Starr

Department of STEM

CS 319 – UI/UX Design and Development

Professor Erin Tirrell

August 13, 2023

**Project Two**

A wireframe has been created for the entry page of an embedded system as well as two secondary pages that address the priorities and goals of borrowers who utilize Kiva services. The wireframe includes appropriate features for the digital wireframe that addresses the goals of the project as well as clear navigation and actions for users of the wireframe. The following is an analysis of the features and elements of the wireframe as well as a recommendation of how the design could be adapted for a cloud-based system.

The digital wireframe contains three pages; the “Entry” page, the “Home” page, and the “Track Loan Payback” screen. The “Entry” page is the first screen that the user will encounter each time the user is not logged in. If the user is already logged in, the user will bypass the “Entry” screen and automatically navigate to the “Home” screen. On the “Entry” screen, the user is presented with the title bar at the top that displays the application name, and below is the application logo. Beneath the logo, is a clickable text box so that the user can enter their username, as well as another clickable text box for entering their password. Below these fields are three clickable buttons. The first is a “Login” button that when pressed checks the credentials the user enters and if found, logs the user into the system and navigates the user to the “Home” screen. If not found, a message will be displayed letting the user know that their username or password was incorrect. The next clickable button is a button for users to “Create New Account” where when pressed the user is taken to another page where they can create a borrower account. The last clickable button on the “Entry” page is the “About Kiva” button where when pressed users are taken to a screen where they can access information about Kiva, what they do, and their lending process. At the bottom of the screen is a non-clickable text field that signals to the user that the application is for borrowers. Because the application is designed for an embedded device (flip phone) every screen contains a navigational scroll bar with clickable up and down buttons so that the user can navigate through the screen when there is more information than can be displayed on the screen simultaneously. Lastly, the username text field is highlighted in a dark blue color. This indicates to the user where the current navigational focus is situated. For each screen, the navigational focus begins where the user is first able to interact with the system.

The next two screens of the wireframe (“Home” and “Track Loan Payback”) begin with a title bar displaying a welcome message and the user's name. It also contains a clickable button with the user’s profile picture where when pressed, the user is taken to a screen where they can make profile and/or preference changes. The navigational focus for both these screens always begins on the user profile picture as it is the first element that the user can interact with. The title bar also contains a clickable button “Log out” that when pressed will log the user out and take them back to the “Entry” page.

The second screen is the “Home” screen which displays to the user their current loan activity. This includes information that the user is able to identify which loan it is such as the loan id, the sector, the purpose of the loan, and how much the loan is for. There is a clickable button that when pressed allows the user to see a full description of the loan, as well as a clickable button, “Track Loan Payback”, that when pressed navigates users to the “Track Loan Payback” screen where they can see information regarding loan repayment as well as have the ability to make a loan payment. Below the description button, we see the amount of the loan, and below that is a non-clickable status bar that shows the percentage of the loan that has been funded for the user. Each loan the user has will be separated with a bolded box around all of the loan information as well as the status bar and the two associated buttons to ensure the loans stay separated for organizational purposes. On the screen, after the loan(s) have been displayed, the user is presented with another clickable button, “Request New Loan”, that when pressed takes the user to a screen where they can complete the required steps for requesting a new loan. Below this button is one more button, “About Kiva”, that when pressed, navigates the user to the “About Kiva” page. Lastly, at the bottom of the screen is a non-clickable title bar for the name of the application.

The third screen in the wireframe is the “Track Loan Payback” screen. This screen is similar in the way it presents data to the user in that it keeps a box around all of the relevant loan information, status bars, and clickable buttons (only the buttons that the user utilizes to perform actions regarding the loan). Within the box, the user can see information such as identifiable loan details, the length of the loan term, how many payments the user has made, when the last payment was processed, and when the next payment is due. Under the number of payments completed is a non-clickable status bar that shows the user a graphical representation of how many payments have been made and how many remain. This helps give the user a sense of accomplishment as they make payments. Below the last payment posted date is a clickable button, “See Payment History”, that when pressed takes the user to a screen where they can see a complete history of all the payments made in a list view. Below the next payment due date is a clickable button, “Make A Payment”, that when pressed takes the user to a screen where they can make/schedule a payment for their loan. At the bottom of the screen is a “Back to Home” button that when pressed, takes the user back to the “Home” screen. Again, this page also contains the same navigational elements and title bar elements as the previously mentioned screen.

The design benefits the borrower because it is simple to use and accessible. They can do everything they need to do as far as learning about Kiva, requesting loans, and managing their existing loans, all when and where it is convenient for the user so long as they have the ability to connect. The design benefits the customer (Kiva) because Kiva is able to offer its services, fulfill its mission, and engage with users who do not have easy access to lenders. The design also eliminates the need for users to be present with both Kiva staff and/or lenders and empowers users to manage their loans. This reduces costs drastically by not needing a significantly large workforce to help manage loans for both borrowers and lenders. An innovative solution that was developed to adapt to challenges was designing the application to display data to the user in an easy-to-understand format and to keep this information organized in a manner that was consistent with how the user would likely navigate the application. Especially, if the user were to have multiple loans, not having each loan grouped separately could make it confusing for the user to know what loan information they were looking at or what loan they were about to take action with. Also, separating key application functions and assigning screens with priorities and goals helps eliminate confusion and allows the user to remember what they are doing throughout the application.

The next steps I recommend for planning and building the lender cloud application are similar to how I designed the borrower's application, however, modifications would have to be made to address the different platform the design is intended to be used for. I first would want to determine each priority of lenders and what the application needs to be able to do for them. Once the priorities and various functions have been identified, I would then need to design each screen first according to the order or flow of how the user would encounter information all while ensuring the application is easy to use/navigate and that it is accessible. I would ensure that data is displayed in a well-organized and consistent manner according to lender priorities as well as keeping in mind that the Kiva business vision and mission, which for lenders, is to make it easy for lenders to lend money to people who cannot easily access money to fund their projects all over the world, especially in places that are not as economically established. Best practices would still be implemented to ensure functionality and to keep users engaged. The design would take into consideration that the application must be accessible anywhere the user has an internet connection and from a wide range of mobile devices, as well as desktop and personal computers. Additionally, it can be ensured that the design will align with the Kiva vision and mission by making certain lenders have the capability to lend to borrowers they choose, analyze their and others’ lending data, and follow borrower loan payments so that they are able to forecast how they will loan funds and reuse previously paid funds.

The application will depend on a number of data sources that must be accessible to and between application components. Data connections must be reliable and secure all while ensuring that it does not excessively request Kiva’s data/resources. There must be a method for Kiva lenders to be able to traverse information as it relates to all borrowers, especially when deciding which loans they want to fund, data that is related to the loans they have already funded, then have the ability to take this information and have the ability to forecast. The kind of communication between application components that is necessary is one that is secure. The best method for this type of communication would be to implement or make use of a RESTful API, which helps to ensure the secure transmission of data from component to component. The best way to optimize communication among the different components is to cache data that can later be compared with up-to-date data, and exchange only the data that is not up-to-date. This too, helps aligns with the Kiva Code of Conduct by limiting the usage of their resources to only when they are needed. Properly using and integrating Kiva APIs into the design will ultimately help to best optimize application components.

The varied goals that different kinds of lenders might have are first to be able to help people gain access to funds they might not otherwise be able to gain access to without the kelp of crowdsource funders such as those that Kiva attracts. Kiva lenders may have specific types of projects they wish to fund so it is important to implement search filters so that lenders can easily and quickly find the information they are looking for. Also, lenders may want to be able to keep track of how many people they have helped to see what kind of impact they are making on others and the world. Some lenders may wish to help fund people only one time or many times. Having a system for lenders that enables them to browse various borrowers and their purposes or goals, keep track of lending data and follow borrower loan payments helps them to achieve their desired goals.