kibisis

CSE 440 Spring 2011
Interactive Prototype

Joy Kim	**Nadine Tabing**	**Charlie Regan**	**Eric Wu**
Group Manager	Writer	Tester	Designer

Problem and Solution Overview

Money is stored and spent in a variety of ways. However, when individuals pay each other, they are limited to using cash (which many people do not carry in exact amounts) or checks (which must be deposited at a bank before the money can be accessed), often resulting in tedious bookkeeping of debts. We propose a smart phone application called Kibisis, which addresses these problems by allowing users to 1) access all their methods of payment in one place and 2) make immediate and direct payments to other people. Additionally, Kibisis helps users keep track of their monetary transactions with others, so that they can make informed decisions about who to exchange money with.

Tasks

Task 1 - Add debt records

Kibisis allows a user to track money that they have exchanged with others. Enter a record of a debt that you owe or that someone owes you in Kibisis.

Task 2 - Settle the debt between you and a friend

Make a single payment that settles any past debts between you and your friend.

Task 3 - Pay for a bill with friends

Another of Kibisis' purposes is to allow users to easily pay as a group for a single good or service. Pool the money from your group to make a single payment for something.

Interface Revision Sketches

Based on the above findings, we made several changes to the design of our interface.

Renamed Main Menu buttons

Users had a hard time understanding that they were supposed to use the "Contacts" menu to complete the debt recording task (Task 1). Therefore, we decided to relabel the "Contacts" button as "Manage Debts." We also renamed the "Accounts" button to "Your Accounts" to be consistent with the wording on sites with financial data, such as Mint. Furthermore, we renamed "Single Pay" as "Quick Transfer," and renamed "Money Pool" as "Pool Money." The button labels should now better reflect the actual tasks users might want to do.
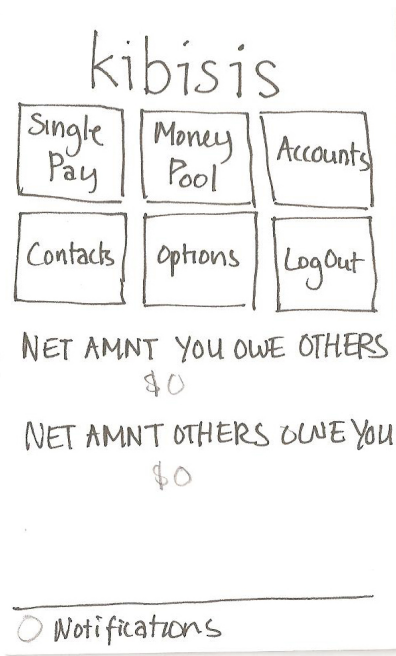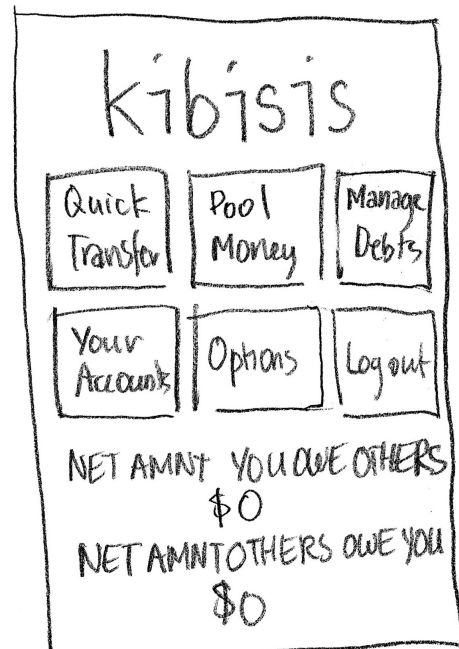

Old Main Menu   New Main Menu

Reorganized Contacts screen (now called Manage Debts)

Our original interface design divided the "Contacts" list into two tabs: a tab containing the list of people that owed you money, and a tab containing the list of people that you owe money to. However, we realized that this would make it hard for users to find certain contacts because contact listings would move back and forth between the tabs; furthermore, it was not clear where contacts that had zero debt would be listed. So, we decided to list all contacts on one screen.
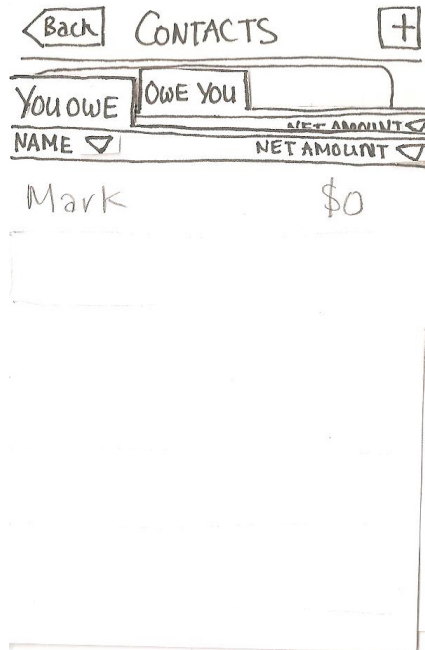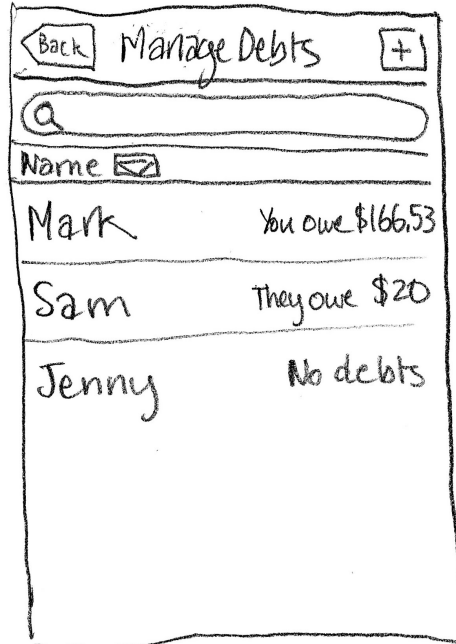
Old Contact List   New Manage Debts screen

Used tabs to organize contact details

To manage debts in our original design, the user first had to click on a name in the contact list and then, from the summary page that appears, click the "See Details" button to get to a screen where they can add entries about new debts related to that contact. For the new design, we combined the summary screen with the details screen to reduce the number of clicks needed to get to the debt managing function, thus increasing its visibility.
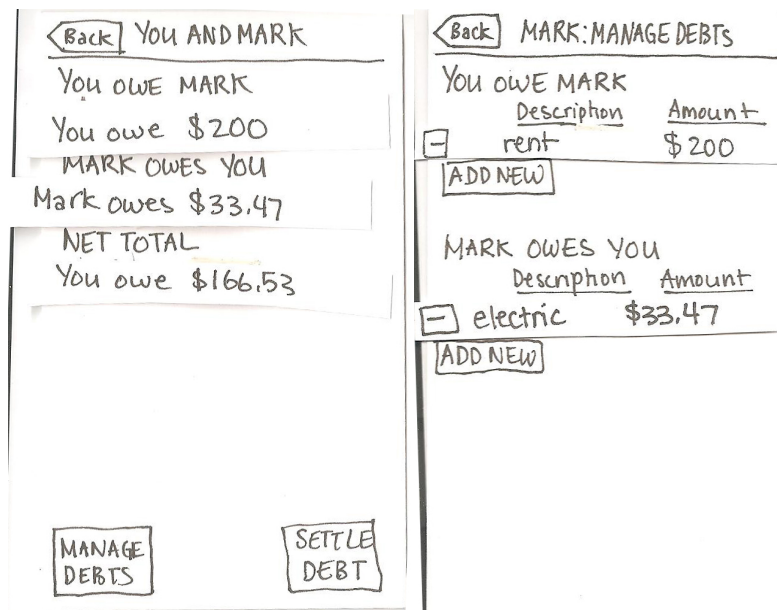
Old contact details and debt managing screens
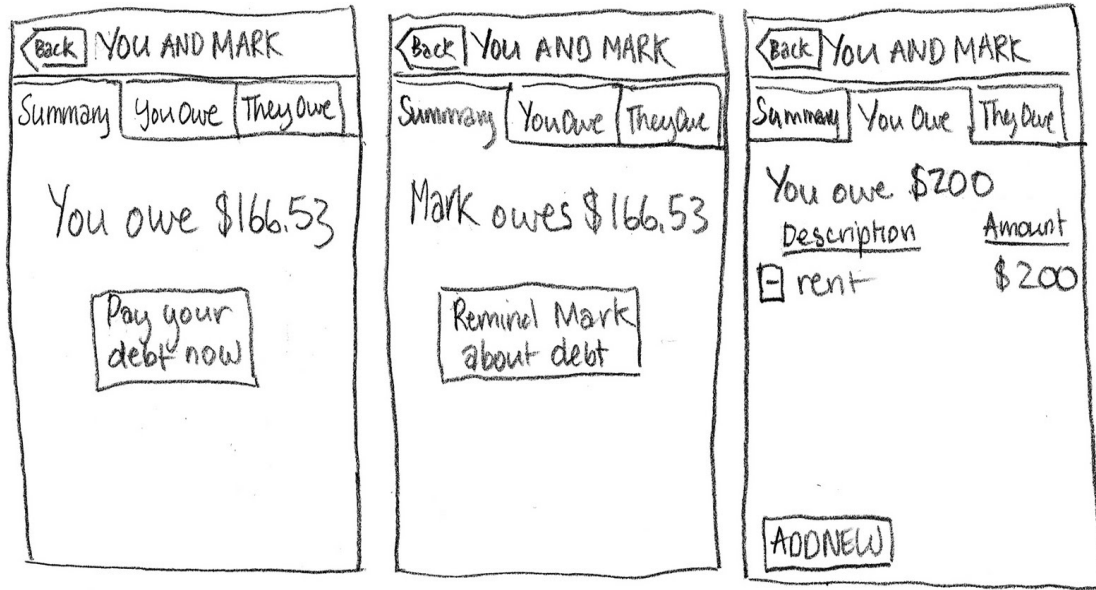
New contact details and debt managing screens

Prototype Overview

Implementation Overview

Our prototype is arranged with the actual prototype on the left side of the screen and a set of tasks divided by tabs on the right. This way, a user will be able to reference the tasks and interact with the prototype at the same time.


Task 1 | Task 2 | Task 3

Add debt record

Your roommate Mark just paid rent for the both of you. The total amount of rent was $400, and you and Mark split rent evenly. However, Mark owes you $33.47 for the electricity bill that you paid. Add two separate notes in Kibisis to record how much money Mark owes you, and how much money you owe Mark.

1. Click Manage Debts.
2. Select the contact related to the debt. In this scenario, you would select Mark.
3. Click the You Owe tab.
4. Click Add Debt.
5. Type in the amount you owe Mark ($200) and a description ("rent"). In our interactive prototype, clicking on the text fields will fill this in for you.
6. Click Add.
7. Click the They Owe tab.
8. Click Add Debt.
9. Type in the amount Mark owes you ($33.47) and a description ("electricity"). In our interactive prototype, clicking on the text fields will fill this in for you.
10. Return to the Summary Tab to see the net total debt between you and Mark.

The prototype uses an iPhone-based interface. For example, Kibisis makes use of large, curved buttons well-suited for touch interaction and many of its screens have the iPhone-style title bar at the top that contains a back button.
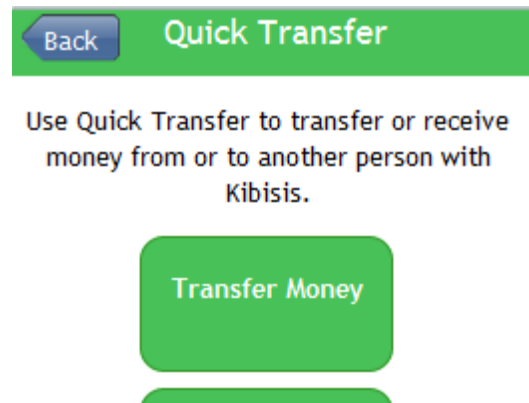
The "Quick Transfer," "Pool Money," and "Manage Debts" features were implemented in this prototype. They are fully functional except for a few details. For example, the action of tapping to another Kibisis phone, which may be done when transferring money to another Kibisis user, was made automatic: if the phone is at a screen where it would normally receive or give a tap, the results of the tap will just automatically appear after a few seconds. Additionally, the implemented features sometimes make use of dummy data that cannot be changed by the user, such as the contacts that appear in the list of people to send money to -- obviously, these are not actual users. Also, since features use dummy data, search bars are not functional. Lastly, if a button that leads to an unimplemented feature is clicked, an alert informing the user that the feature is not available appears.
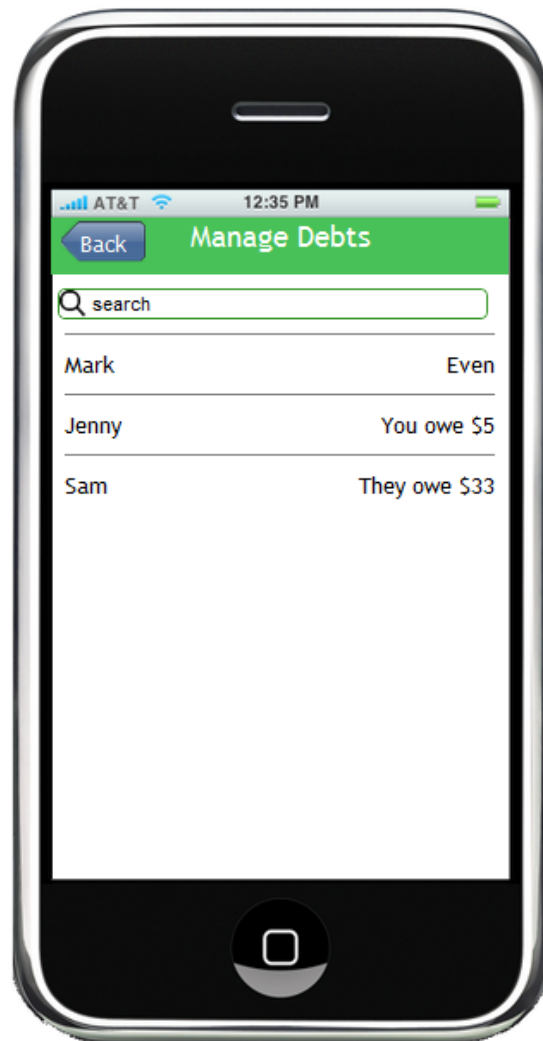
Scenarios
Scenario 1
Your roommate Mark just paid rent for the both of you. The total amount of rent was $400, and you and Mark split rent evenly. However, Mark owes you $33.47 for the electricity bill that you paid. Add two separate notes in Kibisis to record how much money Mark owes you, and how much money you owe Mark.

1. Click "Manage Debts."
2. Select the contact related to the debt. In this scenario, you would select Mark.
3. Click the "You Owe" tab.
4. Click "Add Debt."
5. Type in the amount you owe Mark ($200) and a description ("rent"). In our interactive prototype, clicking on the text fields will fill this in for you.
6. Click "Add."
7. Click the "They Owe" tab.
8. Click "Add Debt."
9. Type in the amount Mark owes you ($33.47) and a description ("electricity"). In our interactive prototype, clicking on the text fields will fill this in for you.

10. Return to the "Summary" tab to see the net total debt between you and Mark.

Scenario 2

Mark is at school, but you want to send him the money you owe him before you forget. Make a single payment that settles any past debts between you and Mark.

1. Click "Manage Debts."
2. Select the contact related to the debt. In this scenario, you would select Mark.
3. On this "Summary" tab, click "Pay Your Debt".
4. Verify the amount that you're paying is correct; then click "Next."
5. Pick the source of your payment.
6. Enter a PIN # to authorize your transaction to Mark. In our interactive prototype, clicking on the text field will fill in the PIN # for you.
7. Since Mark is not home, you need to send money to him remotely, so click "Send Money."
8. Verify that your payment information is correct; then click "Yes, Continue."
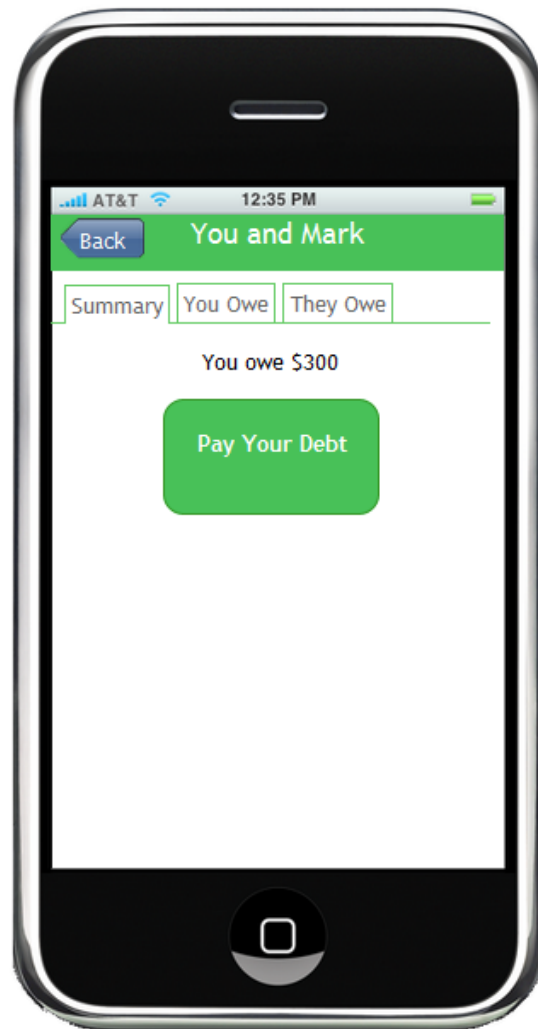
Scenario 3

You are at a restaurant with a few friends. When you finish your dinner, the waiter informs you that they do not split the tab; only one person can make a payment. Use Kibisis to pay for the bill together under one tab.

1. Click "Pool Money."
2. Click "Create New Money Pool."
3. Wait for a few seconds while your friends tap their Kibisis phones with yours. Their names and amount they're contributing to the pool will appear.
4. Click "Receive Money."
5. Verify that the amount of money you're receiving is correct and click "Finish."
6. With the money in your account, you can now use the payment method of your choice to pay for your group's bill.
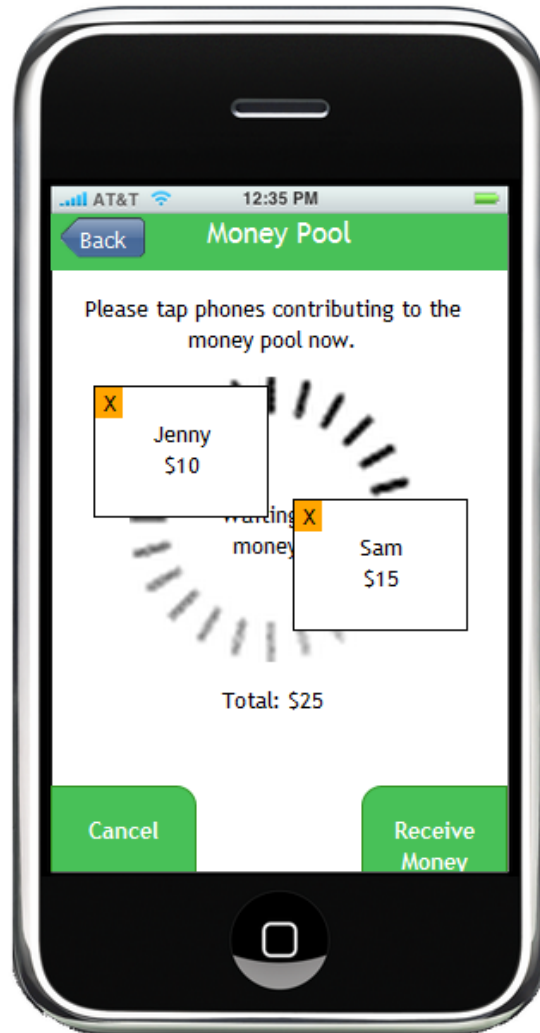
Description of Tools

The prototype was implemented in HTML and styled in CSS, with minimal use of actual images. Because of this, it was very easy to try out different colors and layouts without having to create new images every time something changed, though it was sometimes difficult to figure out how to achieve the exact appearance we wanted just with code.

Functionality was implemented using Javascript with the Prototype and Sessvars libraries. With Javascript and Prototype, we were able to easily simulate interactions such as being able to delete an row in a table of items by clicking on its Delete icon. The Sessvars library was used to help the prototype remember and share information across all its screens. For example, Sessvars could remember the list of debts between you and a contact, so that it would still appear if the user returned to the debts screen. Other screens, like the main menu, could access this list to do something like calculate and display the user's net total debt.

The prototype was developed in Textpad, a plain-text editor.

Omitted Features

For the sake of completing our interactive prototype on time, we decided to omit less important features that did not immediately pertain to our tasks. The features that are not included are:

Your Accounts

In the "Your Accounts" section, the user can connect their bank accounts or credit cards with Kibisis. Though this is important to Kibisis' utility, the task of connecting accounts with Kibisis will only ever happen a few times and is similar to the process of linking accounts on already-existing tools like Mint.com, so we decided that implementing this section was of low priority.

Options

We decided that letting the user set any preferences and options was secondary to the main functionality of Kibisis.

Log Out

Logging in and out of an application is a process that most users are familiar with, so we felt this feature was self-explanatory and did not need to be implemented.

Notifications

Notifications are an important part of how Kibisis users communicate with each other; for example, you can send a reminder about a debt to a friend, and this reminder will show up in that friend's notification list. However, since the main purpose of notifications is simply to guide the user in what tasks they should do next, we also decided this was a secondary feature.
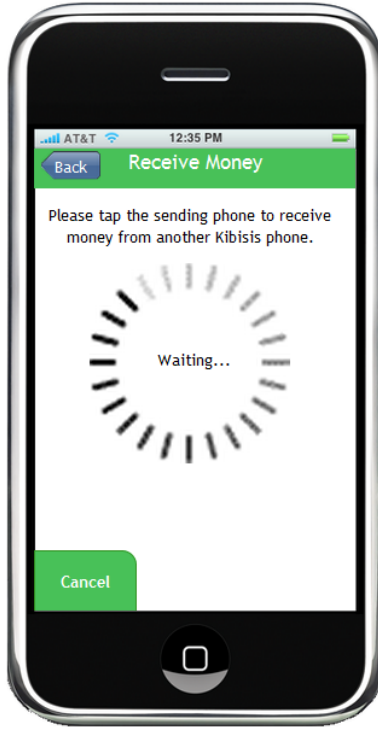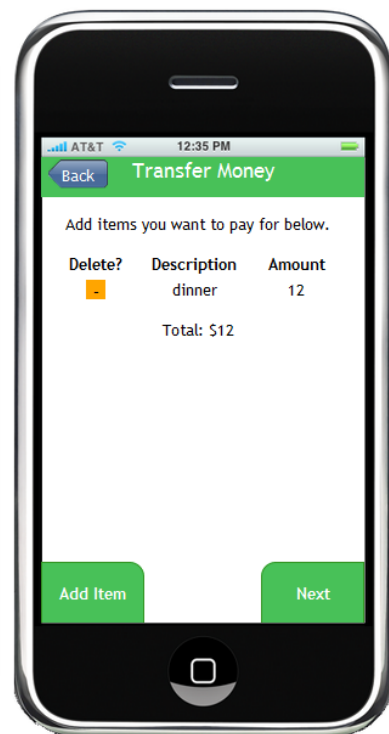
Additional Prototype Screenshots

The following are some screenshots from the "Quick Transfer" feature of Kibisis. Though "Quick Transfer" is the main feature of Kibisis, we did not create and test a task surrounding it because most users are already familiar with the process of making a payment, such as when checking out an online shopping cart.
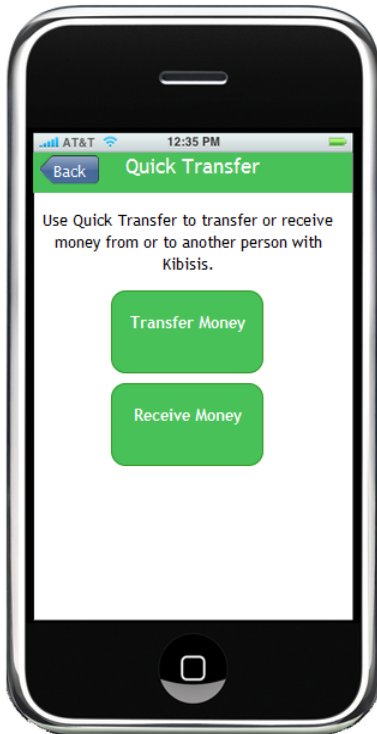
Main Quick Transfer Screen   Receive Money Screen   Transfer Money Screen