Venmo Redesign

ISE 164 Final Report

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Project:

Redesign: Venmo

Product:

Venmo

A mobile payment application used to transfer money between people

Team Name:

Venmo

Quarter:

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Professor:

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Presentation Comments	
Report	
Total Score 50:	
Overall rating	1. Exceptional 2. Very Good Work 3. Good 4. Acceptable 5. Need Improvement

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Introduction

Venmo is a mobile payment application which was acquired by Braintree and then PayPal in 2012 and 2013, respectively. Venmo users can send money to other Venmo users within the United States without any fees. People can access Venmo service either on their iOS and Android devices or their computers by visiting their website. Users can send and receive money from their Venmo balance, card, or linked bank account. Our focus is on Venmo's mobile applications for both iOS and Android devices and how Venmo can improve the app's interface and user experience.

There is still room for improvement as a user's requirements evolve over time. An increasing number of people are utilizing the service to pay for rent, buy goods and services, or even pay for their Uber ride. It is essential that Venmo revamps their application according to people's latest trends and requirements. There are some features that can be added to the application to increase usability and security.

Product Description

We will evaluate and redesign the way users send payments, transfer money to other accounts, integrate with third-party apps, interact with the menu, and confirm high-amount transactions.

Recurring Payment

Currently, Venmo allows users to pay another user on a one-time basis. However, we realized many millennials, especially students, are using Venmo to pay for monthly rents or even monthly subscription fees. There is a requirement for a user to schedule a recurring payment to an individual user. This feature can only be used assuming the Venmo user has a sufficient Venmo balance and a valid account.

Virtual Card to Apple/Google Wallet

Recently, Venmo decided to allow its users to transfer any Venmo balance to a physical debit card. However, it would have been more beneficial to give users the option to transfer Venmo balance into a virtual card and stored in either Apple Wallet or Google Wallet. This feature would make it more convenient for users who do not want to carry another physical card but still have the ability to use their Venmo balance freely.

Menu

Venmo's main feature is the ability to send a payment to another user. The current menu for Venmo contains quite a few different tabs, however, it does not contain a tab for the main feature, sending money, of the app. As part of the redesign, we will improve the tabs to provide a more user-friendly experience.

Lyft Integration

Over Summer 2018, Venmo and Uber announced a partnership to allow Uber users to pay for their rides with Venmo. We consider it necessary to have our redesign include an option to also let Lyft passengers pay for their rides through their Venmo balance.

Confirmation

We believe it is vital to have a feature that prompts the sender a confirmation message before transferring more than $20. It is much harder to recover sent money on the Venmo app. Authorizing each transaction over $20 through two-factor authentication can significantly help frauds and unwanted transactions.

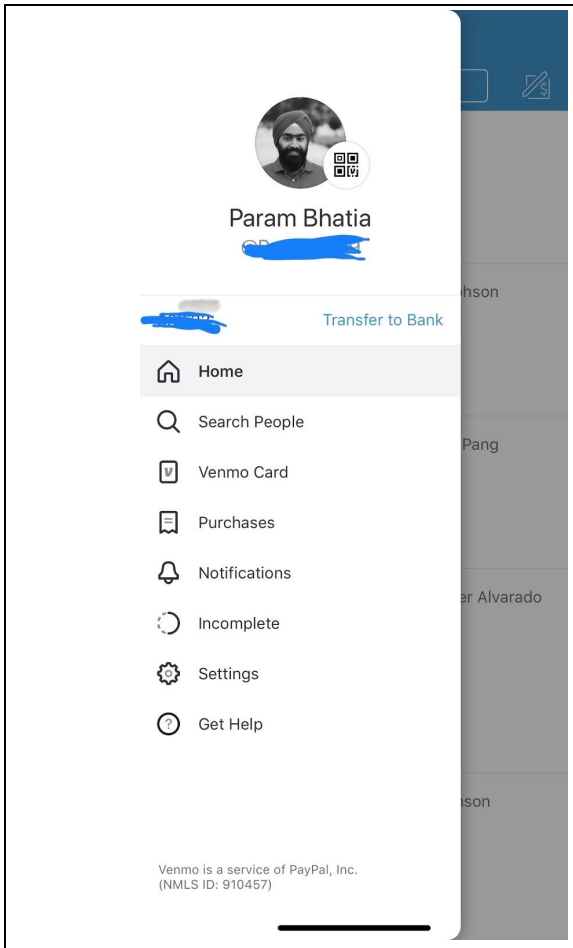

Figure 1. Original Venmo Menu

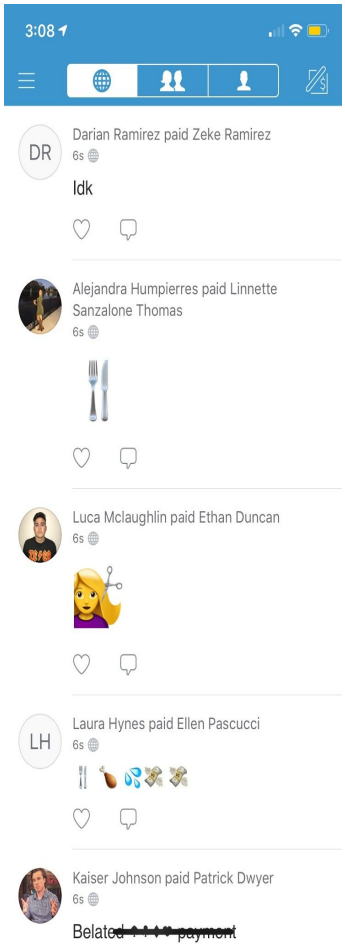

Figure 2. Venmo's Main View - Social Feed

Interface Evaluation

Features Evaluated

- Venmo's use of Third-Party Integrations
    - Venmo supports paying for third-party apps such as Uber but is only limited to Uber and not other popular ride-sharing apps. It is convenient for some users to pay for their ride-sharing bills through their Venmo balance, but the feature does not allow a wide variety of companies which a user can integrate their venmo balance with
- Venmo Pay Feature
    - Venmo main function allows a single one-time payment to another Venmo user. However, the app lacks sending a payment at a later time. For example, Venmo does not allow a user to schedule a payment to another user. Also, the app does not allow the user to set up a recurring payment to another user.
- Confirmation and Authorization
    - Venmo's interface does not warn the user for large amounts of money transfer. Lately, many users have been scammed and it is important for the user to be well-informed if one is transferring another user large amounts. It is important to authenticate to make sure the user is authorizing the transaction.
- Venmo's Debit Card
    - Venmo allows a user to immediately spend their Venmo balance through a physical debit card. However, many users think it is hassle to order a physical debit card. Therefore, an option to save it to a user's virtual wallet should be an option.

Features to Design

- Integration with Lyft for paying and splitting Lyft fares
    - Venmo currently only supports Uber as a third-party integration for payments. With the integration of Lyft, users will be able to sign in to their Lyft accounts on Venmo to pay for their Lyft rides.

Features to Redesign

- Menu
    - Venmo's menu does not resemble the main functions of the app. Specifically, the menu is lacking controls to sending money to another user, one of the core functions of Venmo is missing from the menu screen. The menu needs brighter icons to increase visibility to the user.
- Pay or Request screen
    - It is hard for a user to notice if a user is paying or requesting another Venmo user. This is a big issue as a user may be paying instead of requesting money from another user.

Features to Create

- Virtual Venmo Card to use Venmo balance
    - Allows a user to add a virtual card to an Apple Wallet (iPhone) and spend a user's Venmo balance immediately.
- Confirmation for transactions over $20
    - Allow a user to be prompted if a user enters in an amount over $20. This will help to increase credible transactions and reduce the number of scams.
- Recurring Payments
    - Venmo does not support recurring payments to other Venmo users. Recurring payments will allow a venmo user to send a specific amount to another Venmo user on a specific date of every month. For example, on the 23rd of every month.

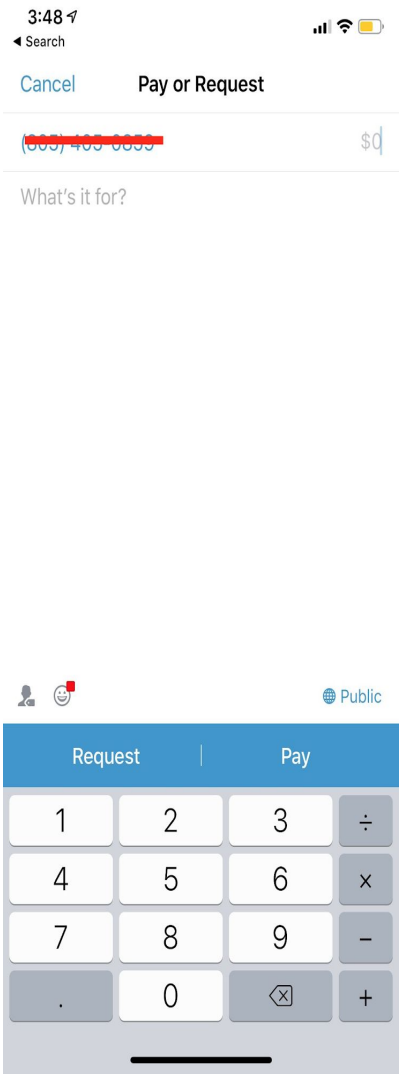

Figure 3. Pay or Request screen interface is not explicit if a user is paying or requesting. It is hard to differentiate.

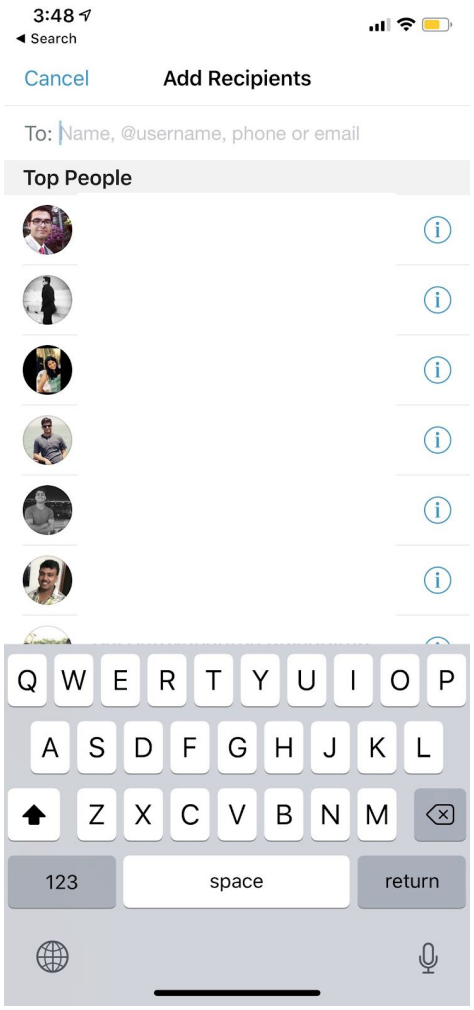

Figure 4. User is unable to choose a recipient from address book.

Comparative Study

In today's world of technology, software development needs to have a variety. People like to have options, and pick the one that suits their needs the best. Money transfer is a major market since it has so many purposes in the life of millennials, especially college students in particular and makes the entire process of transferring the money just a few taps away. There are other payment products similar to Venmo which allow money transfer easy which are discussed in this section. All these are Peer-to-Peer (P2P) payments and they do not require NFC technology. The three P2P payment apps that are included in this comparative study are Zelle, Square Cash and Paypal.

Zelle

Zelle is a service that enables people to send and receive money. It is a very trustable application. One major difference between Zelle and Venmo is that most major banks offer this service through their own mobile bank applications which makes the customers trust this service a lot more than the other alternatives. It is really easy to sign up using just an email or phones number. It is not necessary to have Zelle's individual app if your bank offers this service in their own application. If the bank doesn't offer Zelle payment, then it is very easy to get the Zelle app to access the services. Venmo takes about 2 business days to transfer the money from the app to the user's bank account. On the other hand, Zelle users receive the money within minutes of the transfer which is another great advantage that Zelle has over its competitors.

Square Cash

Square Cash is a mobile payment service which allows users to transfer money to each other. It provides in-app security by providing features to confirm identity. The unique feature of Square Cash is that it does not require users to make an account before making transfers which can be considered as unsafe by some customers. It can be used by anyone with a debit card on them. This makes it very easy for the sender of the money since there are no sign ups required as such. It makes handling currencies easier. Out of all the money transfer apps, Square Cash is the simplest when it comes to transferring the money to other users. Next comes Venmo, but there is still a need to add a bank account and download the app. With Square Cash the user doesn't need to create account, add bank account or add friends. According to Brian Grassadonia, the product manager of Square Cash, "people don't want their money in a secondary holding account. I want it where I use it: in my debit account. That was one of the principles of the product" (Hamburger). It can be used with the app or by just emailing the amount to someone with "Cash@square.com" copied in the message.

PayPal

PayPal is an online payment service which allows individuals and businesses to transfer money electronically. It uses encryption software to allow people to make transfers. The recipient must have a PayPal account linked with that email address to receive the funds. The feature that differentiates PayPal from the other payment apps is that the daily transfer limit is much higher than its competitors. The transfer limit for PayPal is $10,000 compared to $2500 limit for Zelle and Square Cash and $3000 for Venmo. A unique withdrawal method for PayPal is that cash can be received from an ATM and even a check can be requested in the mail. Loyal PayPal customers who shop online via PayPal are given special discounts. However, signing up for PayPal requires more work compared to other apps. PayPal also freezes accounts without prior warning if it detects a suspicious behavior, but it can be a big disadvantage for businesses since they can no longer send or receive any money which affects the reliability of the businesses. PayPal also requires an additional fee when transferring from PayPal account to bank account.

Table 2. Comparison of different money transfer services

Application	Advantages	Disadvantages	User Interface features
Zelle	No debit fee, Tie up with major banks, fast transfers	Not enough in-app features	Simple and direct User Interface. Not too many options. There is a stop payment option. No loyalty card integration.
Square Cash	No debit fee, simple usage - without sign up	Only basic transfers are enabled	Lack of error messages. Hard to navigate. Activity icon is unclear - not easy to comprehend in first look. Too minimal look - sacrifices explanation
PayPal	High daily transfer limit. Choose currency - global Shareable link	Has a debit fee about 3%	Updated UI is complicated and harder to navigate. Payment screen has too much information which confuses the user
Venmo	No debit fee(up to 1%)	Some operational features missing	Feed is too cluttered - irrelevant information shown - no value in seeing transactions between strangers

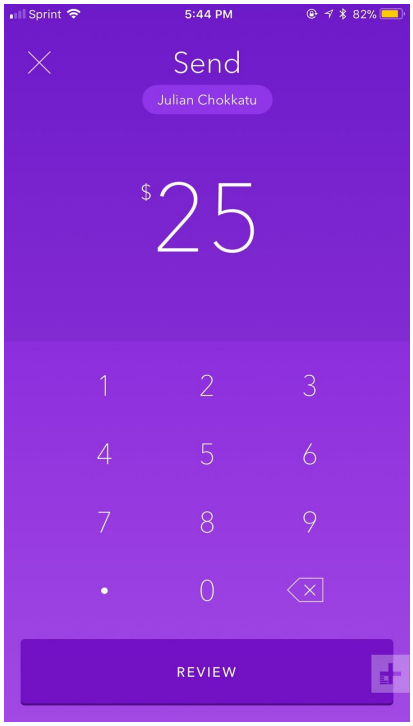

Figure 5. Zelle does not allow user to easily specify a note with the payment

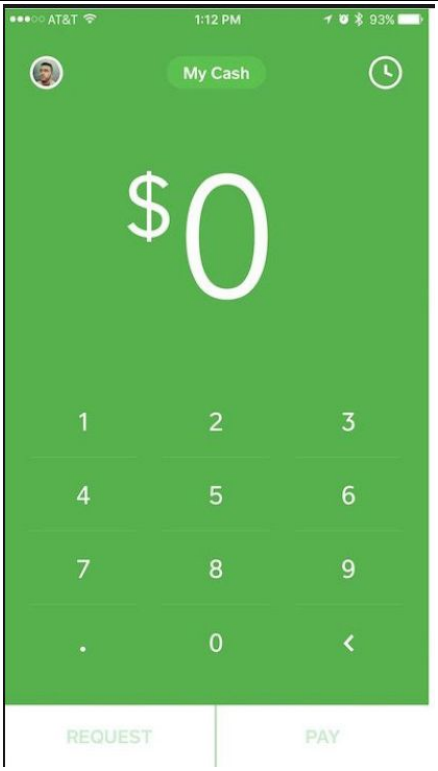

Figure 6. Square Cash does not let the user type a memo along with the payment

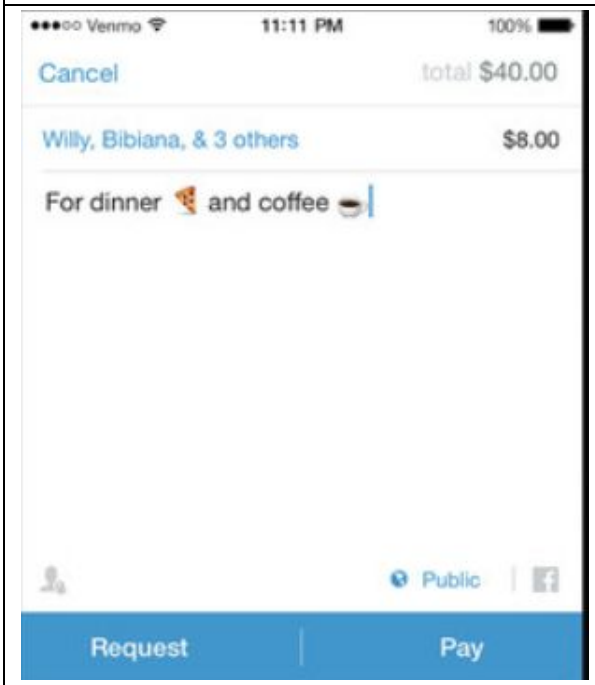

Figure 7. Venmo does allow users to input text along the payment

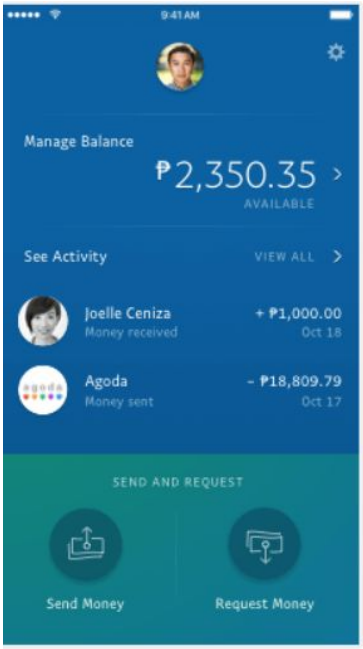

Figure 8. PayPal does not allow users to easily send a memo along with the payment

User Profiling:

The target audience are users who wants to quickly make payment to their friends or family.

User Persona 1:

<table>
<tr>
<td>  </td>
<td>Sam, College Student

22 years old

● Senior at SJSU, majoring in Kinesiology
○ Takes 16 units/semester
● Works part-time at Starbucks
● Wants to become a physical therapist to help people return to normal life</td>
</tr>
<tr>
<td>Activities/ Traits

● Goes out to eat 2-3x/week with friends
○ Sometimes splits cost of meal
● Shares room with roommate who pays the rent
● Doesn’t like carrying cash</td>
<td>Goals

● Wants a simple, easy way to pay friends when eating out
● Would like to be able to schedule automatic rent payments</td>
</tr>
</table>

Scenario 1:

Sam goes out with his friends to eat lunch at a pizza parlor. The bill comes and they need to figure out how much they owe. Some of them have enough cash to pay their portion of the bill. Sam dislikes carrying cash though and his friends don’t want to have to remember that Sam owes them money for pizza. Fortunately, Sam and his friends use Venmo. Sam uses Venmo to pay his friends for his portion of the pizza. He even includes a pizza emoji in the Venmo memo so that they all know what this payment is for.

Scenario 2:

Its the end of the month and the rent is due. Sam needs to give his roommate $200 for rent. Sam doesn’t like to carry cash and he doesn’t have checks either. Sam also doesn’t want to have to

repeat this process every month. Sam opens the Venmo app and schedules a repeating monthly payment for the rent.

Scenario 3:

It's the release date for Super Smash Bros, a game that Sam is super psyched to play. However, he was scheduled to work that day and didn't have time to go to the store to buy it. He had his friend Kevin buy it for him, promising to pay Kevin back. After work, Kevin comes over to Sam's apartment so they can play the game. Sam opens up Venmo and prepares to pay his friend $60 for the game. Sam is so excited to play the game that he accidentally types an extra 0, making his $60 payment turn into $600. Fortunately, Venmo sees that this payment amount is greater than $20, and asks Sam to confirm this payment. Sam realizes his mistake, deletes the extra zero, and completes the payment.

User Persona 2:

<table>
<tr>
<td>  </td>
<td>Kim, Account Manager

30 years old

● Account manager at Deloitte
● Has 2-year-old daughter Alexa
● Aspiring professional
● Does modeling as side job</td>
</tr>
<tr>
<td>Activities/ Traits

● Travels for work often
○ Transportation includes planes, taxis, Uber/Lyft
● Eats out almost every day
● Has a business credit card for business expenses
● Existing Venmo user
○ Receives Venmo payments for modeling gig
● Shares Netflix subscription with best friend Carol</td>
<td>Goals

● Wants to use Venmo balance to make both Uber and Lyft payments
● Would like to be able automatically request Netflix payment from Carol each month</td>
</tr>
</table>

Scenario 1:

Kim is on a business trip to New Orleans. She needs to meet a client at an upscale restaurant located in the countryside. She orders a Lyft and realizes that her allowance for travel on her corporate credit card has been maxed out. Kim opens Venmo and makes a payment for Lyft using her Venmo account balance.

Scenario 2:

It's the end of the month and Kim already has auto-pay set up for her Netflix subscription. She can't wait for the next season of Game of Bones. She shares her Netflix with her best friend Carol, but Carol hasn't paid her share yet. In fact, Carol has been late with her payments and only seems to pay when Kim reminds her. To avoid having to deal with this every month, Kim opens Venmo and sets up a repeating request for Netflix payment to Carol.

Scenario 3:

Kim has received several payments through Venmo for her modeling work. She wants to buy a pair of earrings with this money. She adds her Venmo balance to a virtual card in Apple Wallet on her iPhone via the Venmo app. She then purchases the earrings using the virtual card.

New Design User Requirements

New Functional Requirements

- App shall provide user with ability to schedule recurring payments.
    - Rationale: Many users use Venmo to pay for recurring expenses like rent, and subscription services like Netflix and Spotify. Having this function would make it easier for them to do so without having to repeat the same process every month.

- App shall allow user to transfer their balance to a virtual card, such as Apple/Google Wallet.
    - Rationale: Users can already transfer their balance to a physical debit card. In keeping with Venmo's of virtually carrying cash, users should be able to transfer their balance onto a virtual card as well.

- App shall provide user with the ability to pay for Lyft.
    - Rationale: Venmo already allows users to pay for Uber car rides. This would expand Venmo's payment capability to the next largest ride-sharing company and its customers.

- App shall present user with confirmation dialogue when user attempts to transfer amounts greater than $20.
    - Rationale: It is a major concern of users that they might mistype the amount of money that they want to send and there is no way to undo this process on the sender's behalf. A confirmation screen for amounts greater than $20 would reduce this issue.

- App menu shall feature the ability to send a payment to another user more prominently.
    - Rationale: Sending payments to another user is a key functionality to Venmo. However, there is no tab on the menu that displays this.

New Non-functional Requirements

- App shall maintain a consistent scheme in its look and feel across all visual components.
    - Rationale: Since there will be visual interfaces that need to be created or redesigned in order to accommodate new or redesigned features, they should maintain a coherent look with the rest of the application.

- App sidebar menu should be better organized and less cluttered.
    - Rationale: In the sidebar, there are more than 9 functional options presented to the user. This is greater than the Miller magic number; In addition, these are not grouped in any fashion, and should be reorganized with respect to Gestalt principles.

Data Requirements:

- Application shall only accept payments that are nonzero, positive values with up to two decimal points.
- Phone number search entry shall be chunked and grouped by area code, three-digit-code, and four digit line number.
- Bank account number and credit card number shall be chunked as appropriate.

Usability Metrics

We will be focusing on the following usability metrics in our design:

Effectiveness, Efficiency, Accuracy, and Satisfaction.

Effectiveness

Our design will be effective if it allows the user to accomplish their goals.

This will be measured in terms of:

How many goals the user is able to complete (%)
Percentage of errors corrected successfully

Primary User Goals:

Making Payment
Paying for Uber/Lyft
Scheduling Recurring Payment

Find friend on app

Efficiency
Our design will be considered efficient if it allows the user to complete tasks in an efficient and timely manner.

This will be measured in terms of:
- How long it takes for the user to complete their tasks.
- How long it takes for a novice user to complete a task, compared with an advanced user.

Accuracy
Our design will be considered as supporting accuracy if it allows the user to complete tasks with minimal errors and misunderstanding.

This will be measured in terms of:
- How many errors occur when the user tries to accomplish a goal.
- How many critical errors occur that do not permit a user to accomplish a goal.
- How many non-critical errors occur that still permit a user to accomplish a goal.
- The percentage of users who accomplish a task without having any errors.

Satisfaction
Our design will be considered satisfactory if the user is satisfied with the performance and feel of the app.

This will be measured in terms of:
- How many users rate the app as 4 stars or better on a 5 star scale regarding performance.
- How many users rate the app as 4 stars or better on a 5 star scale regarding aesthetics.
- The difficulty rating that users give regarding doing a task.

Conceptual Prototype [Paper Prototyping]

Attached to report

Conceptual Design Evaluation and Modification

Lyft Integration

Venmo allowed an integration with the ride-sharing company, Uber. However, Venmo lacked in allowing users to pay for their Lyft rides. Adding Lyft integration allows Venmo users to pay for their Lyft rides through their venmo balance and account. After clicking on Lyft Integration in the menu, a Venmo user will have the option to sign in to their Lyft account.

Recurring Payment

Venmo's main function relies on sending and receiving one-time payments between users. Venmo does not realize that one of the main functions college students are using the app is to pay for rent or split monthly electricity and internet bills. Thus, having a recurring payment option is very useful for college students and millennials. A recurring payment can be schedule for a specific date each month. For example, on the 23rd of every month, a recurring payment can be sent to a specific Venmo user. This feature will allow users to pay a fixed amount on a specific date every month.

Virtual Venmo Card

Venmo recently launched a new feature which allows Venmo users to immediately use their Venmo balance through a physical debit card. However, ordering another debit card and carrying one more card is more of a hassle. There needed to be a more electronic method to immediately use a Venmo balance. Adding a virtual venmo card allows users to store their balance for immediate use in Apple Wallet to be used with Apple Pay. The goal of implementing this feature was to keep simplicity in mind.

Menu Screen

The current Venmo menu is not updated in accordance with the new features. The team decided to incorporate the new features of a virtual venmo card and lyft integration to the menu. Oftentimes, the larger features go unnoticed because they are buried deep into an app. Thus, by including them on the menu helps to bring out attention to the new features.

Confirmation over $20

Venmo's current user interface makes it very easy for a user to send another user money. However, most users did not realize how easy it is for a stranger to simply login to a user's mobile device and access a Venmo account to immediately transfer large amounts of money. Thus, Venmo needed to include an option where a user is required to enter a one-time generated passcode confirming transactions over $20. This verification process makes each user aware of large amount transactions.

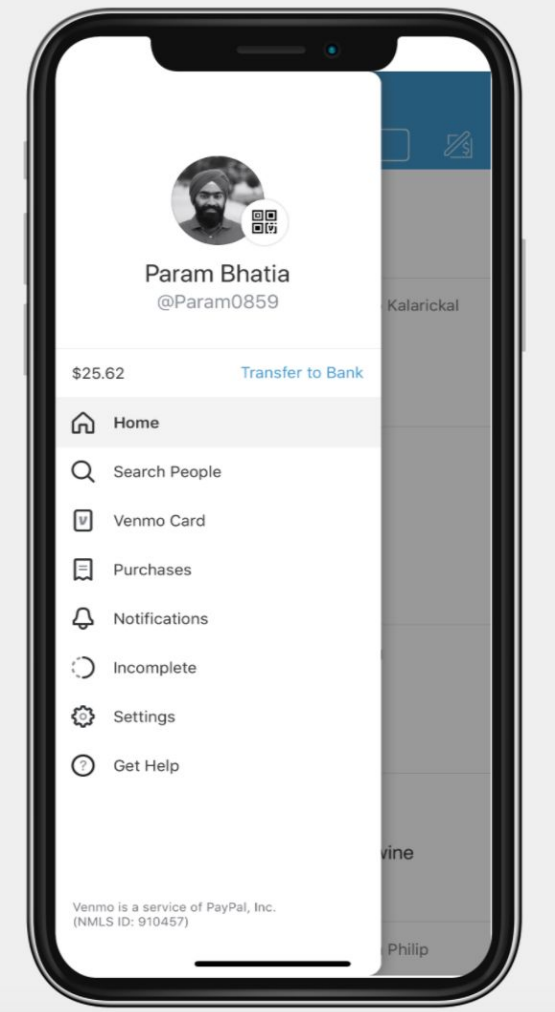

Figure 1. Original Venmo Menu before Re-design

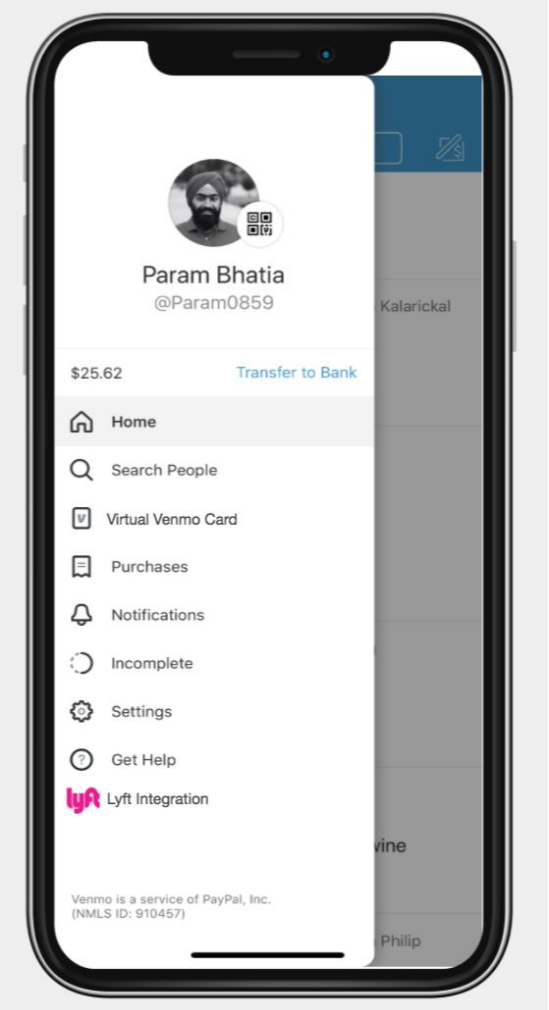

Figure 2. Improved Venmo's Menu after Re-design allows to easily use the main functions of Venmo

Conceptual Prototype Evaluation

It is important to validate the design using usability testing. Testing allows to evaluate the design based on the requirements and ease of use. Moreover, our design followed the heuristic evaluations that were proposed by Nielsen and Molich. Relying on heuristic evaluation allows us to identify and debug many of the issues. However, the heuristic evaluation relies on analysis as compared to testing from the user. Thus, it is necessary to evaluate the design using both user-testing and an heuristic evaluation.

Interactive Prototype

Tools

In order to develop the interactive prototype, we looked at tools such as Adobe XD and Justinmind, ultimately choosing Justinmind due to its greater capability to handle interactions with specific conditions. We were able to add the new prototype as well as interactions very easily.

Techniques

The first techniques that we used for the interactive prototype were go back to the conceptual prototype and continue with combination of storyboarding and Wizard of Oz techniques using a whiteboard and Justinmind. The conceptual prototype was replicated on a whiteboard with a higher granularity to the placement and detail of the user interface. We then implemented our initial interactive prototype using Justinmind. At this point, our interactive prototype was primarily composed of the existing functionality and look of the original Venmo app. We then iterated over the changes that our design would have over the original app. We started with the UI changes first, followed by the feature/functionality changes.

Tasks

Task 1 : Keep the original Venmo layout when making changes

To keep venmo original as possible we need to keep the layout as close as possible when iterating changes over the orginal app. Color, buttons, font size, etc needs to be consistent throughout the app.

Task 2: Implementing the Recurring Payment Method

We want the user to easily find the recurring payment method when making paying for monthly rents or even monthly subscription fees. To keep design simple and easy to use for the user, we added the recurring payment method option into the payment/request payment capability of the app.

Task 3: Implementing the Virtual Card

Many business now support venmo payment as the feature would make it more convenient for users who do not want to carry another physical card but still have the ability to use their Venmo balance freely. The virtual card should be easily accessible when opening the app so user can quickly scan to make purchases in stores. We decided to add the virtual card into the menu bar in order to minimize the clutter in the homescreen. The virtual card is only clicks away from the homescreen. To make things even simpler for user, user can store venmo payment into their apple pay wallet.

Task 4: Implementing Lyft

As we have stated before, Venmo already has a partnership with Uber which allows Uber users to pay using Venmo. In adding the new functionality of being able to also pay for Lyft, we have decided to place this prominently on the menu in order to highlight this new capability. We have used the Lyft logo in order to help this new feature pop out to our users. This is highlighted by how it is differentiated from our other features on the home page with color and font, both of which correspond to Lyft's brand typography and association. Additionally, it brings a sense of familiarity for Lyft users who are used to and expect to see Lyft associated with a certain font and color scheme. By placing our Lyft payment/integration feature on our menu, it makes our new functionality very quick and easy to navigate to. Tapping on the Lyft button brings the user to a login screen for their Lyft information, after which they will be able to make their Lyft payment via Venmo.

Task 5: Implementing Confirmation when transfering money that is over 20 dollars

We want design a feature to help protect user from accidentally sending unwanted transaction, but we also don't want to annoy the user everytime they send money to friends or family. Transaction on venmo is instantaneous and hard to recover once it it sent. We have decided to implement an authentication alert pop out screen whenever the user types in an amount that is over 20 dollars. User will be able to double check the transaction before proceeding.

Usability Evaluation based on your usability Metrics Next item

Our new design has newly added features such as Lyft Integration, setting a warning/pop-up for payments over a certain value, and adding a Virtual Card. These features will enhance the user experience. Our usability metrics focuses on Effectiveness, Efficiency, Accuracy, and Satisfaction. The newly added features aim to achieve this criteria. The virtual card implementation makes it easier for the user to make payments. It reduces any bank related issues and errors since it removes that link and hence improves satisfaction. The Lyft integration within the app makes it easier for the users to pay using the venmo app which gives them another method of payment. This improves the effectiveness and efficiency of the app. The confirmation implementation for transferring money over $20 also leaves no window for erroneous transfers of large amounts. This feature successfully aims to achieve accuracy.

Usability Enhancement from Previous Design

Our newly design venmo application has new features added while keeping the usability enhancement throughout the app, reducing the need for training and support for previous user. We kept the same layout when iterating changes over the orginal app. Newly added function have consistent color, font size, and buttons throughout the app to provide ease of use for previous users. The Menu was redesign in order in order to improve the user experience overall. The original menu had features that were cluttering the user experience that needed to be

changed. Another usability enhancement we have made was reducing the amount of user error. Our confirmation method help protect the user from accidentally sending large amount of money to another user. Our newly added features protect user who are sending money that is over 20 dollars by showing a quick authentication message to alert user if there transaction is correct. To improve productivity, we also included a lyft integration with easy to use sign in option. User only needs to sign into their lyft account the first time and venmo will remember the user credentials he next time they need to pay lyft with their venmo.

Conclusion

Venmo is a mobile payment application which is used by people all over the world. It makes it easier to transfer money between people and organizations. There are several similar mobile payment applications which serve the same purpose. While the idea behind Venmo is simple and the app is used by many people, there are still improvements that can be made, specifically with regards to Effectiveness, Efficiency, Accuracy, and Satisfaction. Using Justinmind, we were able to develop an interactive prototype that made improvements on these measures of usability.

We also added in the ability to schedule recurring payments, transfer balance to a virtual card, pay for Lyft rides, as well as having a confirmation screen for transactions greater than $20.

Adding these features has made the application more usable, and efficient. The newer components will also increase customer satisfaction since they will be able to achieve more from the same app.

What did you learn from this project

1. The team learned how to use prototyping methodologies beginning with the creation of a low-fidelity prototype and then applying it to a high-fidelity version. Through techniques learned in class and through the textbook, the team applied the theories to gain a better understanding. Moreover, the team learned how to use Justinmind to create high-fidelity prototypes and make them interactive by adding interactions to help navigate between the screens.
2. The team also learned how to measure metrics. Specifically, by analyzing how efficient it is for a user to navigate between multiple screens as opposed to two screens. Through analysis of the metrics, the team quickly learned whether a screen provided an average user experience or a great user experience.
3. The team also learned how to use user profiling to come up with a target audience in which the team was able to capture the different types of users who were most likely to use the mobile payments app. Creating personas helped to capture users and apply their demographics to improving the mobile app.
4. The team also learned to focus on the design before heading straight to the development. Typically, as software engineers, many of the members are tuned to diving into the development even without brainstorming a prototype or a model of what the software

should and will look like. Thus, through this project, the team had to think differently by focusing on the design and not worry about the development.

5. We also learned that a user's experience and security is at high stake especially in a mobile payments app. Thus it was necessary to include features based on taking into consideration the type of app.

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