Alexander Telich

Deliverable 1

In 2016, PEW Research Center conducted a study about smartphone adoption. They found that, in the U.S., 92% of individuals, ages 18-29, owned a smartphone. Additionally, 88% of individuals, ages 30-49, and 74% of individuals, ages 50-64, owned a smartphone. ComScore also conducted a study in 2016. They found that Americans, ages 18-24, spent 93.5 hours per month on their smartphones, Americans, ages 25-34, spent 85.6 hours, Americans, ages 35-44, spent 78.8 hours, Americans, ages 45-54, spend 62.7 hours, and Americans, ages 55-64, spent 55.6 hours (up 37% from the previous year, 2015!). Finally, ComScore found that in 2016, the average American spent 67% of their total time using digital media on a smartphone.

This data makes it clear that people prioritize smartphones. This prioritization is only going to grow as time goes on and smartphones become more advanced.

Currently, the Wells Fargo mobile banking app is lacking. Wells Fargo offers a wide range of financial products to customers. Yet, in its current state, their mobile app does not, and could not introduce users to new products, that are pertinent to them, in an effective and thoughtful way.

On top of that, the current Wells Fargo mobile app fails to provide the best experience for users while they use features that are default to any mobile banking app.

What I am getting at is this; any good product is much more than just the sum of its features. A good product is the result of extremely careful consideration about, not just, what features are offered. But, how those features are experienced by the user, in a good cohesive way.

I assume the goal of Wells Fargo executives is, to not only keep Wells Fargo competitive as a financial product provider but, for Wells Fargo to achieve dominance in its industry. A huge part of achieving this goal will have to come from completely overhauling the Wells Fargo mobile app.

The Product

I created the vision for doing this by these guiding principles; one, providing the best experience to the user by utilizing the best technologies in a thoughtful way. And two, keeping in mind, that by doing this correctly, Wells Fargo's interests are also prioritized.

The new mobile app will be anchored around the concept of what I call, 'product cards'. *Refer to the attached file named, 'Home Screen 1', and view it as a photo on your iPhone to get the correct feel*. Each financial product that Wells Fargo offers will have a 'product card'.

In this screen you see the 'accounts card' at the top. This the main 'product card'. It displays the name of all of the accounts that a user has with Wells Fargo as well as the balance associated with that account.

The blue card is the 'credit card accounts card'. This shows the name of the credit card associated with that user and a circle that is relational to the percentage of the line of credit that remains available.

The last card, the green one, is the 'insurance card'.

Now, the pinkish-burgundy card between the 'accounts card' and the 'credit card accounts card' is a 'suggestion card'. This is how the app recommends *completely new* products to the

user that, because of the recommendation system, are pertinent to them. In this case, the 'suggestion card' is a recommendation for the user to get a home equity line of credit.

Tapping on an account in the 'accounts card'

When a user taps on an account in the 'accounts card' they are taken to a page for that account. *Refer to the attached file named, 'Account Screen', and view it as a photo on your iPhone to get the correct feel*. In this page they are presented with the balance of that account at the top of the page.

In the colored portion of the page are all of the buttons that are associated with features for that specific account. This screen shows the features associated with a primary checking account. In the top row, from left to right, there are buttons for features associated with; cards for that account, moving money from that account, and checks for that account. The bottom row, from left to right, has a button for getting an ATM Pin for that account, bills paid from that account, and a feature I call, 'contextual help' will detail in a moment. All of these buttons are contextual to the account that they are located in.

The lower part of the page is a list of the transactions that are associated with that account. Each transaction has, from left to right, a date, a title, an icon indicating what method was used to make that transaction, and the amount of the transaction. If the transaction was made with a debit card associated with that account, the icon displays the last four digits of the debit card that was used to make the transaction. The triangle next to the text, 'primary checking', is a filter button so the user can filter the list of transactions according to different parameters. For example, if the user wants to see all of the transactions made from a specific debit card associated with that account they can filter it as such.

The 'contextual help' feature

'contextual help' is one of the best features. *Refer to the attached video file named, 'contextual help', and view it as a video on your iPhone to get the correct feel*. Tapping the help icon in any circumstance brings up the 'contextual help' feature. In this feature you are greeted by the contextual help pane which slides up from the bottom. From here, you are instructed to tap on any item within the page that you need help with. In this animation, the user taps on the cards icon. At any point within using this feature, the user can tap the text at the top of the screen entitled, 'call Wells Fargo about this', to call Wells Fargo. If a user has selected an item they need help with and they tap 'call Wells Fargo about this', they will automatically be directed to the correct department that is related to what they need help with. Additionally, this feature could be build out even more so that the app sends a form to the web server that contains exactly what they need help with. The web server could then direct that data to the appropriate data base so that when they are connected with a help representative, the help representative just has to verify the user's identity and then already knows what the user is calling about. However, if the help topic can be solved within the app, for example the user lost their debit card and needs to disable it, 'contextual help' can automatically take the user to, and show the user exactly how to deactivate the card without even leaving the account page.

*Note that due to time constraints, I did not build this feature out to the level where it has the right feel yet. It's close, but, it needs more polishing.

Suggesting a new product for a type of product that a user already has

Refer to the attached video file named, 'better product notification', and view it as a video on your iPhone to get the correct feel.

Now we go back to the home screen. Suppose a user already has a product from Wells Fargo, such as a credit card, but because of their spending habits, there is a better credit card that would suit them better. This animation shows the implementation of the 'friendly notification' feature. If there is a credit card that would give the user more rewards they are alerted to it by a notification that is not intrusive. A ring around the card the notification pertains to starts to glow gently, but not too gently. First, text appears over the card that states the purpose of the notification. The text remains alone for a few seconds so the user has time to read it. Then, two buttons appear as text to either reject or accept the notification. Notice how the accept button is not bolded. You don't want to use tricking tactics to get the user to accept the notification if they don't truly want to. The best recommendations feel like they are coming from a good friend. The app has to act like a friend and have a good personality in order for the user to even entertain anything it recommends. The exact feel of how the app recommends products to the user is equally, if not more important, as the technical mechanics behind the recommendation.

How the data will be used

To create a system to recommend completely new products to a user, a recommendation system is required. For this, the traditional, heuristic approach to recommendation systems will not cut it. A hybrid recommendation system that implements a learning algorithm to generate a constructor is needed. In this case, the WellsFargo.com traffic data would be used to see what products a specific user might be interested in and then more detailed month end statement data would be used to check if the user is qualified for that specific product. If the user ignores the recommendation entirely, a negative response would be sent on a form from the mobile app to the webserver and then to the database so the classifier would be amended based on another learning algorithm. If the user engages the recommendation, a positive response would be sent. Unfortunately, with a heavy class workload and limited data, I found it unreasonably to make a good, functioning, version of this feature. But, given time and access to Wells Fargo data I could do it.

The algorithm I found it reasonable to build out, was one to recommend the best credit card for rewards and points to a user based on their credit card spending habits. I took a heuristic approach to this and coded it in Python. My algorithm does not take into account if a user already has the recommended credit card or if a user would be suited for that credit card. The documented Python code is attached and named, 'CCRecommender.py'.

Conclusions

It would not require many more resources than were required to build the current Wells Fargo mobile app to build this app. I could build it alone in a year. However, good products are not something you can simply write a check for. They are created by individuals that are not primarily motivated by money, but rather are motivated by the love of building the best things. This type of motivation produces the best products because individuals who have it don't limit themselves to doing the minimum work required to acquire the pay check that comes with a job.

CITATIONS

ComScore Survey Data: https://www.applause.com/blog/smartphone-apps-mobile-usage/

PEW Research Center Survey Data: http://www.pewinternet.org/fact-sheet/mobile/