Woolala 2021 Final Report

CSCE 606

CrimsonFlame

Spring 2021

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Summary

The primary stakeholder, Tito (C.E.O. of FashioNXT, LLC), wants an app for everyday users to interact with fashion in a different way than the current medium of online articles and magazines. The fashion industry has been slow to adapt to the technologies of today. The customer envisions a mobile app highly tailored to promoting/expressing beautiful fashion. The mobile app will allow more engagement from the other stakeholder, social media users both in high fashion and not involved with fashion, by allowing users to upload their own pictures of "aesthetically pleasing content". Other uses can rate the postings from 1 - 5 stars. The original poster will be able to get quantitative feedback from the app and learn the trends of everyday users. Overall, the purpose of this application is to be different from traditional social media applications such as Facebook and Instagram, where user likes and comments do not reflect whether users would spend money to buy the product. Hence, this application will target specific users who will browse through the content only to find the best available fashion products out there, and can directly communicate with sellers to buy the products.

Apart from adding new features in the mobile applications, the client requested for a brand new application CRM (Customer Relations Management) application to run on desktop. The CRM application will be used by admin users to manage user data and analyze user traffic in the backend. The mobile applications were previously developed by a group in 2020. We had a member from the previous team join the call. He informed us that although the project implementation is fully functional, the project will need to be scrapped and started from the beginning to be able to meet real-world customer demand. The current implementation is a very good proof-of-concept prototype, but to meet real customer demand and be able to handle real-world traffic, where availability and scalability are major issues, it was highly recommended by the last team that the project should be started from scratch by a professional software developer.

All User Stories Implemented:

Android/IOS Application:

- Feature: Facebook Login Issue **(3 points)**
  - As a user
  - I want to sign in my account using Google login
  - So I can use the application
- Feature: Apple Login **(3 points)**
  - As a user
  - I want to sign in my account using Apple login
  - So I can use the application

- Feature: DM potential buyers **(3 points)**
    - As a user
    - I want to tap a button and prompt to email application
    - So I can send email to one or more potential buyers
- Feature: EULA **(2 points)**
    - As a user
    - I must accept end user license agreement
    - So that I can proceed to homepage
- Feature: Block User **(3 points)**
    - As a user
    - I must be able to block other users
    - So that I do not see their profile and posts
- Feature: Share Posts **(3 points)**
    - As a user
    - I must be able to share posts to other social media
    - So that I can share/see them in other social media
- Feature: Flag Posts **(3 points)**
    - As a user
    - I must be able to flag a post
    - So, that the post is flagged in database and not shown in home screen
- Feature: Application needs new package name **(3 points)**
    - As a user
    - I should not see *woolala* as application identity
    - So that I should see ChooseNXT as the application identity
- Feature: Facebook users rate posts **(2 points)**
    - As a user
    - I want to login using facebook and rate posts
    - So that my rating reflects in the database
- Feature: Profile picture crop and compress **(2 points)**
    - As a user
    - I want to crop an uploaded image and compress it before upload
    - So that the image is centered and uploaded faster
- Feature: Increase caption limit **(1 point)**
    - As a user
    - I want to add caption upto 280 characters
    - So that the screen contains my full caption.
- Feature: Post Recommendation System via Matrix Factorization **(3 points)**
    - As a user
    - I want to see the most relevant posts in my home page
    - So that I can be aware of the most important post sooner.

- Chore: Client Requested Changes
  - Change theme from blue to white or black
  - remove name and date from posts; just keep captions
  - Change color scheme of upload picture to neutral color
  - Login color scheme to neutral color
  - Too much white space between posts
  - change rating logo to NXT
  - URL field in profile
- Chore: Android Asset changes
  - logo drawing (as per customer design)
  - Android asset file changes in 7 different locations
  - change in android.xml to reflect the asset change
- Chore: **DEPLOYMENT**
  - Deployed successfully to Google Play Store after 3 iterations
  - Deployed successfully in Apple App Store after 6 iterations
- Bug: Google Login Issue
  - Google Firebase App integration
  - Firebase package integration in flutter
  - Test run real login scenarios
- Bug: Duplicate username when signing up
  - Input logic on unique username
  - add logic in the database to check if the username already exists, otherwise generate another username.
  - Test unique username queries
- Bug: Follow Button Synchronization
  - make database calls synchronized so that the operation completes and only then UI updates.
- Bug: IOS Small Screen Issue
  - Change the static value of screen width so that the screen can fit for any screen size.
- Bug: profile picture disappears when pressed back button
  - Fix logic in app
- Bug: Heroku Server Logic
  - server crash for any http request

CRM portal:

- Feature: CRM Server and Database Setup **(3 points)**
  - As an admin
  - I should be able to access database
  - So, that I can see and manipulate data in a web based portal

- Feature: CRM Admin see and delete reported posts **(3 points)**
    - As an admin
    - I should be able to view and delete reported posts
    - So that other users cannot see them in feed
- Feature: CRM Admin delete marked posts **(3 points)**
    - As an admin
    - I should be able to mark multiple posts and delete them
    - So that other users cannot see them in feed
- Feature: CRM Admin delete reported user **(2 points)**
    - As an admin
    - I should be able to delete reported users
    - So that other users cannot find them anymore
- Feature: CRM admin delete marked users **(3 points)**
    - As an admin
    - I should be able to mark multiple users and delete them
    - So that other users cannot find them anymore
- Feature: CRM admin register feature **(2 points)**
    - As an admin
    - I should be able to register to the admin application
    - So that I can perform tasks as admin
- Feature: CRM application login feature **(2 points)**
    - As a registered admin
    - I should be able to login into application
    - So that I can perform tasks as admin
- Feature: CRM logout + session feature **(2 points)**
    - As a registered admin
    - I should be able to logout from application
    - So that the session is completed
- Feature: CRM View entitled application data as admin **(1 point)**
    - As an admin
    - I should be able to view data particularly based on my entitlement
    - So, that I can view the data
- Feature: CRM - Show most active users to Admin **(3 points)**
    - As an admin
    - I can see the most active users based on their posts and activity
    - So that I can know about user's engagements
- Feature: CRM Show most popular Posts to Admin **(3 points)**
    - As an admin
    - I want to see the most popular posts based in their ratings and
    - So that I can take appropriate action

- Feature: CRM Application admin can update data **(2 points)**
    - As an admin
    - I want to be able to update user data as appropriate
    - So that user can see the change reflected in the app

<u>All User Stories Not Implemented:</u>

______**Android/IOS Application:**

- Feature: Find People/Post by Tag/HashTag
    - As a user
    - I want to be able to search people by tag or post by hashtag
    - So that I can find people and posts easily
- Sliding price Bar
    - As a user
    - I want to set a price for my product using a sliding bar
    - So that others can see the asking price.

Reason for not implementing:

- Time shortage: We did not have enough time to start these features.

Links

- Pivotal Tracker: https://www.pivotaltracker.com/n/projects/2495221
- GitHub for Woolala user app: https://github.com/FashioNXT/Woolala2021CF
- GitHub for CRM/analytics app: https://github.com/FashioNXT/woolala-analytics-app
- Heroku for Woolala user app: https://hidden-caverns-85596.herokuapp.com/
- Heroku for analytics app: https://woolala-analytics-app.herokuapp.com/
- Slack: https://crimsonflameworkspace.slack.com/
- Testflight link: https://testflight.apple.com/join/pTevnoC7
- Play Store link: https://play.google.com/store/apps/details?id=com.fashionxt.choosenxt
- CRM portal: https://woolala-analytics-app.herokuapp.com/
- Poster: https://drive.google.com/file/d/1vQa77fBeHafyMKnNhfKjXX_GUnb5-4c5/view?usp=sharing
- Demo Video: https://drive.google.com/file/d/1zYZegAhQUXi6FUBGZAN0GsHjvSQNgOjk/view?usp=sharing
- Daily Scrum Meetings: https://docs.google.com/document/d/144vmwNV8X3JpXnwqbaSKQhIZ6KkvLXY76ixTFOFv7Ms/edit?usp=sharing

Customer meeting dates and times:

- Meeting #1: April 6th
  - Getting briefing about the project + some features
- Meeting #2: April 9th
  - Getting a broad list of customer requested features
- Meeting #3: April 16th
  - List of changes requested by customers + demo to customer
- Meeting #4: April 23rd
  - Customer update about feature developments
- Meeting #5: April 30th
  - Customer final demo and wrap up

Team roles:

- Amran Haroon: Product owner
- Mohammad Sagor: Scrum Master
- Bryant Passage: Feature Developer
- Mihir Chadaga: Feature Developer
- Devesh Kumar: CRM Application Backend
- Phi Thuan Au: CRM Application Frontend

We had some changes in team roles throughout the development process. Along with the responsibilities mentioned above, all members developed features for the application. We divided our team into two smaller teams of development - Mobile team and CRM team. Despite the initial allotment of manpower, we often did switching roles. Sometimes, instead of the product owner contacting the client, the feature developer had to exchange emails with the client to directly hear from what he wanted.

Discussion for Legacy Project

This item will be directions for next team as to how to setup development environment and how to start with the code -

- **Code Structure:**The code was written in Flutter, a cross-platform development tool that uses a language called Dart. The best way to pick up Flutter is to watch tutorials about how this tool works. Android Studio supports Flutter development, so knowing Android development is a plus. In Dart language, basically everything is a widget, and developers use logic inside every widget to declare how the widget is going to behave when the user interacts with it. Most actions performed by users are already implemented in some package and all developers have to do is to find the right package and implement the right widget that uses that package. The **lib/** folder contains all code that will be cross-compiled for both Android and IOS devices. The **pubspec.yaml** file acts like a build file (like gradle, ant or maven), where developers declare all packages they want to use.

- **Setting up the development environment:** The previous team did not leave any clue as to how to set up the development environment. Hence, a significant amount of time during the first two weeks were spent on setting up the environment and resolving package conflicts. However, our team is leaving a separate doc file named **Setting_up_dev_env** which includes step by step as to how to set up the development environment and start from the checkpoint where we left off.
- **Release:** Developers can write code using one IDE (Android Studio, Visual Code etc) but it is highly recommended that to build release **apk** (for Android) or **ipa** (for IOS) files, developers should use Android Studio and xCode for Android and IOS respectively. Releasing apps requires following rules and regulations imposed by platforms and they change very often. So, please follow the official Android and IOS website guidelines to know how to deploy.
- **Future Work:** We are leaving another document named **future_works** that contains a list of bugs and features that the next team can do.

Accomplishment for each scrum iteration:

- Iteration 0: **0 points +** set up dev env
- Iteration 1: **9 points** + Bug fixes
- Iteration 2: **23 points +** Bug fixes + Chores
- Final Iteration: **27 points +** Bug fixes + Chores

Note: We gave points to stories based on how many tasks it incorporated. Any story with three or more tasks was given 3 points. Stories with two tasks worth 2 points and stories with one task worth 1 point.

Current Release Status:

______After 3 tries for Google Play Store and 6 tries with Apple App Store, we finally got approved for release on both platforms. The links are mentioned above in the **Links** section. However, our client asked us to halt the App Store release (he wants it to be more polished before people start using it), the link still says TestFlight, instead of AppStore.

BDD/TDD process:

We incorporated BDD (Behavior Driven Development) process in which clients gave us a list of required user stories and we developed those stories. The development goal was to finish each story and test it in multiple devices so that we could verify our implementation. Challenges were when clients changed user stories and requested changes relating to application appearance and performance. Then a majority effort was spent on engineering the existing code, instead of adding new code.

Configuration Management

We first forked the original repository (Woolala2021) into Woolala2021CF and then started our development on it. We had a total of 13 branches, each created for the purpose of new features. The master branch was always kept stable and whenever a feature branch was completed, we merged the code into master and tested it.

Deployment on Heroku:

______Initially we had a free tier server instance that is why the server was very slow and every operation would take many seconds to complete. Then we persuaded our client to upgrade the server instance with more dynos (more containers) and after that the application performance improved significantly.

Issues with Github

The application code contains a sacred **key.jks** file which should not be released public. Hence, we had to include this file in the **.gitignore** file so that the file would never get pushed in the public repository. Future teams should also **NOT** include the keyStore file in remote pushes.

Other tools used:

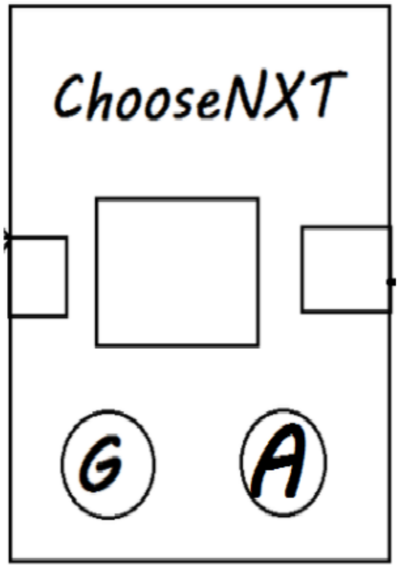
We used a tool channel **Keytool** to generate **key.jks** keystore file. The details of how to generate this file from the command line are included in the **Setting_up_dev_env** doc file.

Cucumber and RSpec Testing:

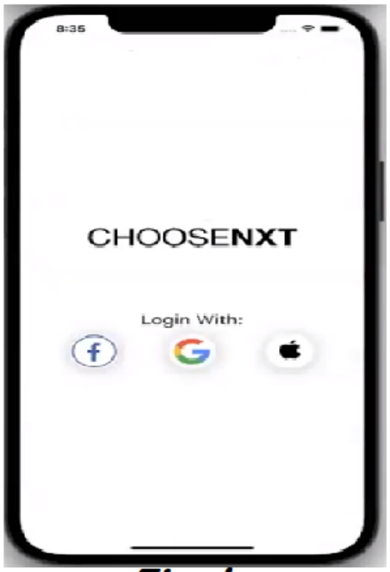
______Since we are not developing applications in Ruby in Rails, our testing did not contain Cucumber and RSpec testing. Insead, most of our testing was done via manual testing. We have some unit testing in the **test/test.dart** file. To run them, you first set-up the environment and then do **flutter test test/test.dart.** Instead, we left screenshots of us running the test so please check the attached screenshot **test/test.png**. We relied on integration testing from user and beta testers (clients, his friends and colleagues) who downloaded the app from TestFlight and gave us a list of bugs that we fixed.

Lo-fi UI mockups vs Screenshots:

Apple Login

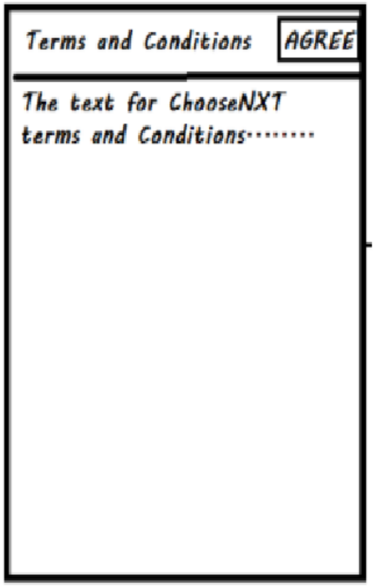


lo-fi

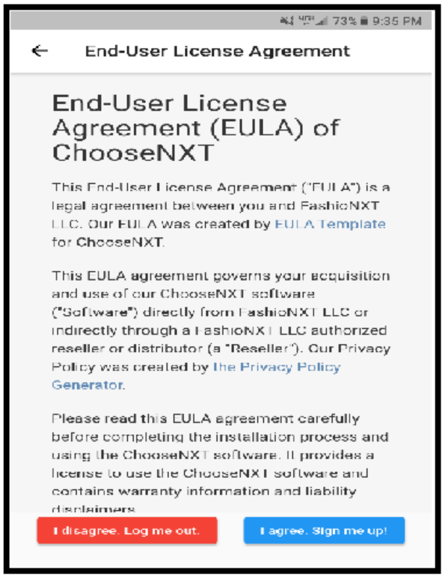


Final

EULA



lo-fi



End-User License Agreement

End-User License Agreement (EULA) of ChooseNXT

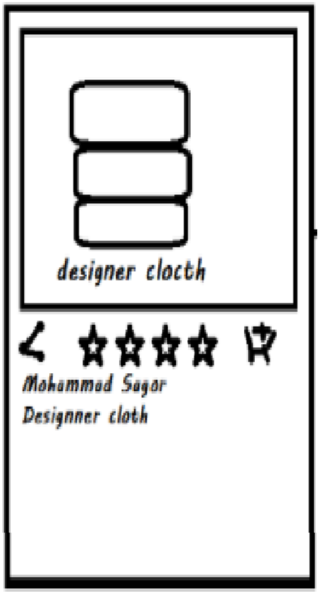
This End-User License Agreement ("EULA") is a legal agreement between you and FashioNXT LLC. Our EULA was created by EULA Template for ChooseNXT.

This EULA agreement governs your acquisition and use of our ChooseNXT software ("Software") directly from FashioNXT LLC or indirectly through a FashioNXT LLC authorized reseller or distributor (a "Reseller"). Our Privacy Policy was created by The Privacy Policy Generator.

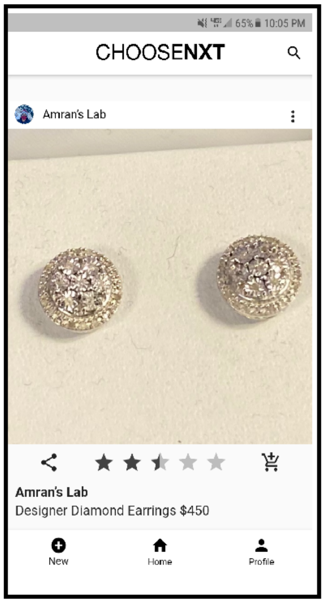
Please read this EULA agreement carefully before completing the installation process and using the ChooseNXT software. It provides a license to use the ChooseNXT software and contains warranty information and liability disclaimers.

Final

Share post

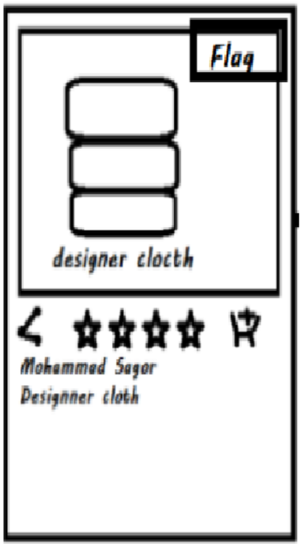


lo-fi

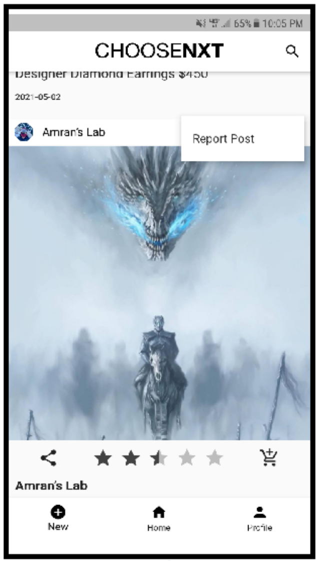


Final

Flag post

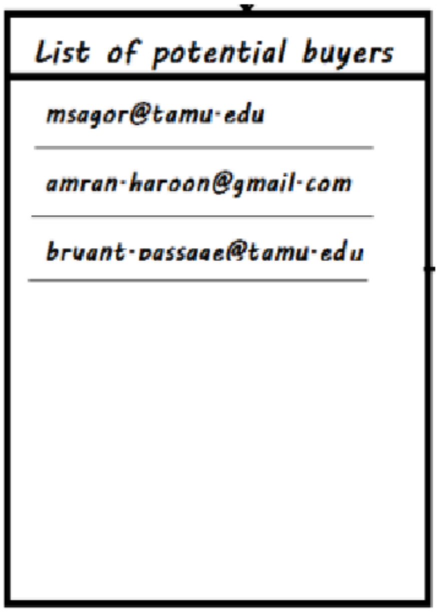


lo-fi



Final

DM Feature



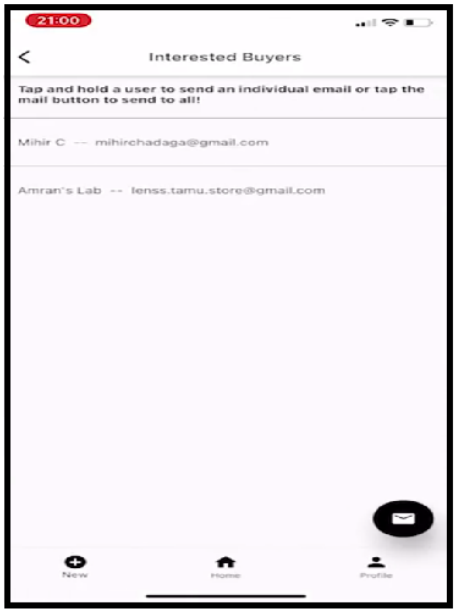
List of potential buyers

msagor@tamu·edu

amran·haroon@gmail·com

bryant·passage@tamu·edu

Lo-fi



21:00

Interested Buyers

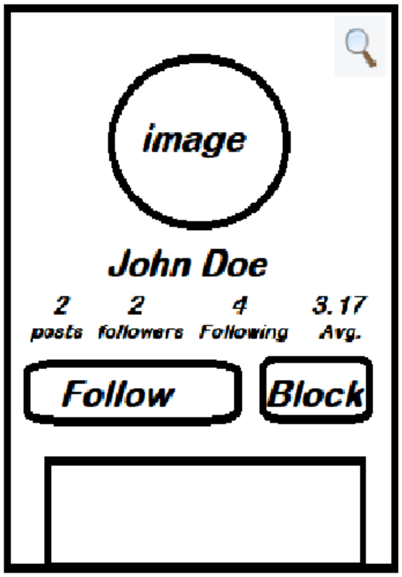
Tap and hold a user to send an individual email or tap the mail button to send to all!

Mihir C -- mihirchadaga@gmail.com

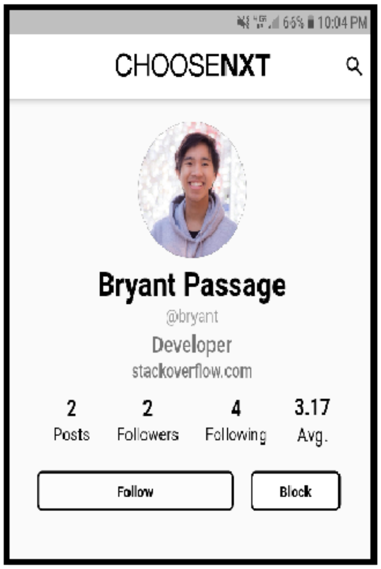
Amran's Lab -- lenss.tamu.store@gmail.com

Final

Block User



lo-fi



66% 10:04 PM

CHOOSENXT

Bryant Passage

@bryant

Developer

stackoverflow.com

2	2	4	3.17
Posts	Followers	Following	Avg.

Final