Milestone 2: Vision & Scope, User Stories, Iteration Plan

February 11, 2021

eBay TableStop table games application introduction

Prepared for

CS462

WINTER 2021

Prepared By

GROUP 32

Application designer:

Wei Huang, Zhongkai Huang, Zijing Huang, Zisong Zhang

Abstract

TableStop is a phone application for tabletop games. Users can use it anytime, anywhere with a phone. We collaborated with eBay to create this application.There are some different types of table games in the application, and the user can buy the table game by jumping to eBay. The user also can get the updated information about the table game that the user can quickly get news for table games. The user can also play dice roller in the application. For this app, we mainly target users who are interested in table games. At present, we use Kotlin and Java on android studio to create this android application.

Table of Contents

Section 1: Background

1.1 Current Conditions

The project is an Android eCommerce application targeting RPG[1] in the tabletop genre, offering a curated shopping experience for game merchandise and the games. In addition to the eCommerce experience driven by eBay public APIs[2], some gaming tools such as a dice roller[3] will enhance the experience of RPG games. The preliminary model currently includes, the app will have a bottom navigation bar, along with a search bar at the top of the app. A profile entry will be offered at the top right, which will lead to the page of the watchlist, saved items, shopping carts, and login/logout. The overall look of this app will be similar to the Google Play Store on Android devices. Kotlin[4] will be used for the Android development of the project. Java[5] will also be used for the project as needed to meet project requirements.

1.2 Existing Systems, Problems

We will use the following systems for the development of the project based on the recommendation of our project partner, and from the most common used platform from other developers.
The system that will be used for this project and development includes: Android Studio[6] for coding and developing, GitHub[7] for workflow and project management, Slack[8] channel for communication, and Google Drive for some shared content. Login credentials will not be required in this project.
There's no similar app on the market right now. This project is going to be built from scratch. The app that is related to this project is eBay. The goal of the project is to build another version of eBay that targets RPG tabletop gamers specifically. Other mainstream users could also use this app to shop for RPG peripherals.

1.3 Pertinent History of Where the Project is Today

The history of this project is that with the increased interest in this genre of gaming and the amount of merchandise for sale on eBay related to RPG, we would like to explore a tailored experience for these users. Additionally, Google has shifted Java language to Kotlin language for the newer architecture of the latest Android applications.

Section 2: Vision

We hope that after we finish this project, team members can become familiar in developing an Android application in Kotlin that is a state where it can be published to the Google Play store. In the addition, when the team develops this project, the team will develop a roadmap and plan to accomplish this while leveraging an Agile development approach that will allow for iterative development and the ability to modify the final deliverable.

---

[1] RPG = Role Playing Game, a type of game, could be a video game or real tabletop game.
[2] API = Application Programming Interface, API is used to connect to local information and the cloud data. In this program, API is used to get the buying info and selling info, such as the price, details, photos of the product, and info of the buyers.
[3] Dice roller and other RPG game elements.
[4] Kotlin is a high-level programming language along with Java. It has many similarities with Java and can be merged into the same application
[5] Another high-level programming language like Kotlin.
[6] Android Studio is a free to use, best, official application released by Google.
[7] GitHub is the most popular tool to store the code and manage the project with other people remotely.
[8] We decided to use Slack because it is the app we and the client both used, and it's easier for both of us to communicate through Slack rather than sending emails.

2.1. Growth hypothesis && Value hypothesis

Growth hypothesis: The app has some built-in tools which are useful for desktop gamers. At the same time, when a group of tabletop game players is playing games, the help provided by this tool can promote the functions of the app and attract new users to use this program.

Value hypothesis: Tabletop game players can browse various products about tabletop games from eBay on this app. The app has a detailed classification of desktop games, convenient for users to find the products they want and place orders with one click.

2.2 High-level requirements

Functional requirements:
- Favorites: The system will move the product selected by the user to a new category called "Favorites".
- Login function: The system will pass the account information entered by the user through the eBay api and accept the personal information returned by eBay.
- Purchase function: Purchasing function: The system generates orders based on the products and shipping addresses selected by the user, and uses eBay's payment channels to allow customers to pay to ensure safety.
- Product Browsing: The system will accept product data through eBay api and display it in the product list.

Non-functional requirements:
- eBay APIs will be used in this project to build the eCommerce experience representation of related products, such as buying, selling, searching for products that are desired.
- Usability: Users can switch back and forth between the shopping interface and the shopping cart at any time, and the shopping cart can also change the number of products or delete products.
- Performance: Application can display detailed product information on eBay, and the various click methods of the application can respond rapidly.

Section 3: Prioritized Project Constraints

3.1 TIME:

The time constraints for this project are not defined yet, while the clients set the schedule of the beginning of development in mid-November. Since this project only lasts for nine months, and the requirements are still under the definition, the deadline of each state could vary in the current situation. This time limit may increase costs because employees may work overtime to complete the task before the selected date. We are full-time students for our group, and we need to spend time in other classes.

3.2 RESOURCES:

The developing platforms or applications that this project requires are mostly free. Android Studio is going to be the most used application for feature implementation. GitHub will be the project managing tools and code repository. All the eBay APIs are free to use in this project or provided by the clients and eBay. In general, we don't have a budget constraint because there's nothing to purchase.

3.3 SCOPE:

We can deliver an eBay Android application that runs like RPG games and offers a tabletop-like shopping experience for tabletop gamers to customers within the specified time. A shopping application must search for products, display products, and purchase products. We can ensure that the application runs on the Android system and can use eBay's public API to display tabletop game-related products. Customers can directly perform shopping operations on this app. It has desktop game tools to help users play desktop games.

Section 4: Scope

Our Team will spend about nine months to complete the eBay mobile application. The target people for this project are those who prefer tabletop gaming. The eBay mobile application can let the consumers who want to purchase tabletop gaming, convenience operand on the android mobile phone, and buy the items any time they want. The user also can get the update information about the tabletop games. For the project, the computer is only equipment and supplies, that may be our only resource. Each team member needs to spend a decent amount of time on the computer weekly for this project.

4.1 Process Flows:

Figure 1 shows the basic user process flows of the TableStop application. There are four pages in the application. There are different categories of table game items on the page. The user can search the specified item on the search bar. Then, the user can select the item and jump to eBay to buy it, or add the item to the favorite. The user can see the favorite items on the profile page. The social page will show the updated information about the table games. There is a dice roller on the tool game page that the user can choose the different kinds of dice to get the random number.
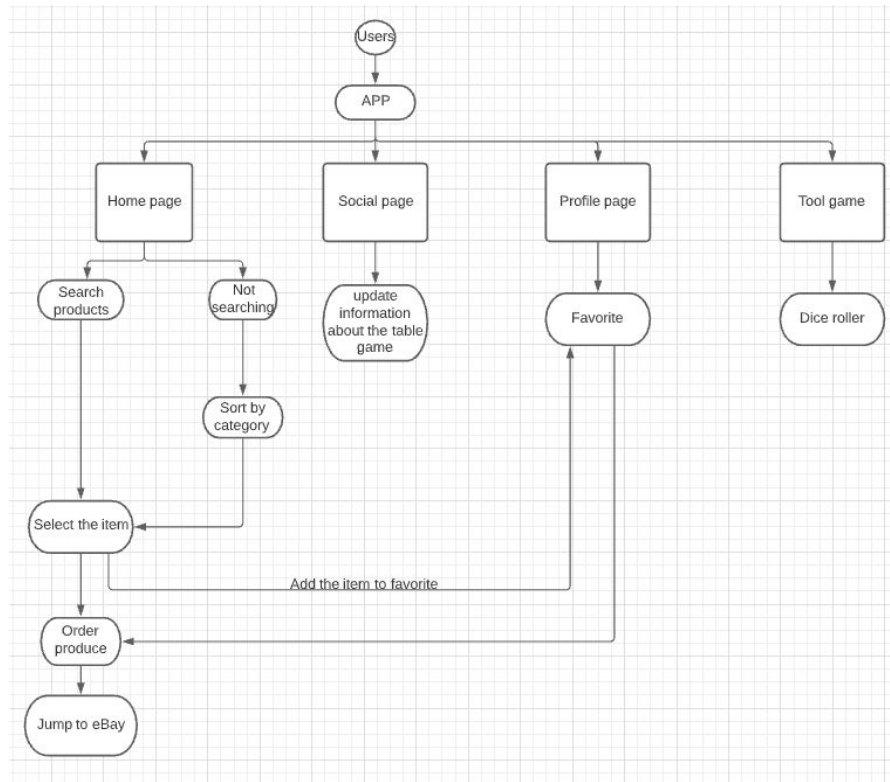
Figure 1

4.2 User Stories:

A user story is an informal natural language description of one or more functions of a software system. User stories are a tool used in agile software development to capture the description of software functions from the perspective of the end user. User stories describe the types of users, what they want and why. User stories help create simplified descriptions of requirements.

Luther:
- As a user, I need a header bar similar to Google Play Store application so that it enhances user experience.
- As a user, I need to have a set of controls to help me navigate content and tools so that I can easily read the project's content.

Zijing:
- As a user, I need to see the RPG* related gaming peripherals listed correctly on the application, so that I can shop on the app for what I am looking for.
- As a user, I need some tabletop gaming tools while I am using the app so that shopping is entertaining and sustainable.

Wei :
- As a customer, I need a way to quickly find the product, so that I can easily shop.
- As a customer, I need a shopping cart feature so that I can save the product.
- As a customer, I need commodity diversity, so that I have multiple choices.
- As a customer, I want to receive an SMS when the item arrives, so that I can go pick it up right away.

Zhongkai:
- As a developer, I need to keep the user smoothly using the program when many users use it at the same time.
- As a developer, I need to make a program suitable for users.
- As a developer, I need to make auxiliary tools suitable for most desktop games based on common desktop games' characteristics.

Zisong:
- As a tester, I need to test every function, so that I can make sure that the product will not go wrong after it is released.
- As a tester, I need to test the state of the application under extreme conditions, so that I can ensure the user experience.
- As a tester, I need to test the security of the application, so that I can make sure users have a safe shopping environment.

Section 5: Iteration Plan and Estimate

Discussion about detailed requirements with the project partner	Next 2 weeks
Features decided and start UI/UX and mockup design with eBay engineers Getting familiar with Kotlin	Starting early November
Finished initial design and initiate development of the prototype	Mid-November to early December
The first test of prototype and getting feedback from the project partner and eBay engineering Discussion about additional features to add	Mid December
The second stage of development begins	Late December to mid or end of January
Second test and feedback	Early February
Continue on development	Until the end of March
Complete 1.0 version of the app Published for public beta testing	Early April
Getting feedback from public users and collect data	Mid-April
The final stage of development	Until Mid or end of May
App published on Google Play Store Start wrapping up the project	Early June
Concludes and report the project	Until the end of the course

Section 6: Report of Alpha Functionality

Wei Huang:

My name is Wei Huang. I am a senior student at Oregon State University. My major is computer science. I took the cs492 before learning about the android studio. I think this project is a good way to practice what I learn from the course cs492. In this project, I work on the social page. At present, I use cardView to separate the information about the table game that the user can easily see. Besides, I add the recycleView to let the user see the more different table games information. Then I can design a nice picture and use the grid to post the image on the cardView that makes it look good. When the user chooses a cardView and clicks it, the page will jump to the detail page about the table game, and the user can swipe right to back the original page.

Zhongkai Huang:

My name is Zhongkai Huang, and I am a senior CS student at Oregon State University. I will graduate at the end of June. I am currently working as a product manager intern in an Internet company. At work, I am good at prototyping products and can communicate well with the development department.
In this project, I am responsible for the profile page. Currently I use gridview to display favorite products, and use onclicklistener to detect whether users need to click on a single product. When users click on the favorite product, they will jump to the product detail page. The next thing I want to achieve is to use api to get eBay data to replace the original fake data, and associate the favorite button in the product list to get the favorite data list.

Zijing Huang:

My name is Zijing Huang (Allen) , and I am a senior student majoring in Computer Science at Oregon State University. I am expected to graduate in June, 2021.
Before my capstone project, I took CS 492 (Mobile Development) and CS 468 (Inclusive Design), which is really helpful to this project. I've also taken some design related courses and have a good awareness of how to use tools to design the UI/UX and make a prototype.
Besides the basic developer tools which is Android Studio, I also use Postman for testing the API, GitHub Desktop for easier graphic interface of pushing and merging branches on GitHub repository.
So far, I have been charged for the Home page and the overall design layout. The framework in the home page and the search page are already set.
The next thing to implement is to implement the API[9] I tested on Postman into the Android application. The first step is generate an OAuth token when launching, and then use the token to access other API information. We will use the token to generate an URL to call the API. The response from the API will be a JSON file that contains all the information that we need for the home page (such as title of the product, image, price, ratings) or further API calling. Then we just need to create a Java class that we can fill the data we got from the JSON and use the value to update the View Model.

Zisong Zhang:
My name is Zisong Zhang, and I am a senior student at Oregon state university. My applied option is Web and Mobile Application Development, and I took the cs492(mobile development) course before, so I have gained some experience in mobile development. That's the reason why I choose this project. I work on the game tools page, which allows the user to select a type of dice, the number of dice, and then get a result. I put six dice types on the page: four pieces, six pieces, eight pieces, ten pieces, twelve pieces, and twenty pieces dice. The user can select one of the dice and then click the "roll" button, and the program will pop up a window to show the result. And there is a shop button on the page. When the user clicks the "shop" button, the page will navigate to the shopping page with some dice products. Finally, the user can get a level such as gold, silver, etc., when the user completes adventures.

---

[9] API stands for Application Program Interface. In our project, we use eBay's API for getting public data stored on eBay's server, such as results from searching, image, title, price of item, and item's web link for purchasing purpose.