**Project Deliverable 1 – Requirements and Use Cases**

**System Overview**

This version of Go Fish is designed for both kids and adults to enjoy. The unique voice activation feature makes it possible to play the game hands-free. Different themes, such as animals, colors, and food, are included for an enhanced learning experience for kids.

**Rationale for building the system**

* Educating kids
* Voice activation/hands-free
* User-friendly

One problem we are working on solving is the lack of educational content and communication opportunities for kids while playing mobile games. Our version of Go Fish will help kids improve their communication skills by using the voice activation feature. They will also be able to learn about different colors, animals, and food by taking advantage of the different themes that will be provided in the game.

Currently, there are very few existing similar Go Fish based card game apps on the android play store (around 3-5), and each have their own shortcomings that our version of the system seeks to address. For instance, none of the existing competitors have a voice-enabled feature, nor do they offer additional themes for a kid-based audience. One version we researched, *Let’s Go Fish!* (produced by Mohd Junaidi for iOS), has a few additional shortcomings that we seek to address. For example, it does not offer the traditional Go Fish game with the traditional deck, rather it is an implementation of the game with literal fish. Furthermore, there is no pause button, or help/description button to explain the game. A second version, which we examined includes *Go Fish – The Card game* (produced by Daniel Islam for Android/iOS) which also did not offer multiple themes/voice-recognition capabilities. Another shortcoming of this version is that there was no help button during the middle of the game in case the user forgets how to play.

**Methodology used**

* Brainstorming
* Research

We gathered the requirements by using our own knowledge of the game and studying other go fish apps in the android play and iOS app store. Looking at the other games, we brainstormed ideas that can help improve our own game. When evaluating the requirements, it was whether the features found in the other games would be adequate and feasible in our game.

**Functional Requirements**

Create table, columns (requirement, priority, estimate)

Highest priority requirements will form the minimum viable product

ideas

* Receive voice input
* Code all general game features (cards, decks, hands, computer AI, pair checking, win condition)
* Respond according to input
* Main menu
* Different themes (especially for kids)

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| --- | --- | --- | --- | --- |
| Requirement | Description/Rationale | Priority | Estimate | Rationale for Priority/Estimates |
| Go Fish game mechanics | Handling standard Go Fish mechanics, such as dealing cards at beginning of game, checking for pairs, asking for cards, having a working computer AI player, and knowing when a player has won | 1 | 2 weeks | Creating the basic Go Fish game is needed for any other functional requirements to work. Creating the basic game will require a decent amount of coding. |
| Voice input | The system will receive voice input and respond according to it | 3 | 1 week |  |
| Themes | Different themes for the cards, such as colors, animals, and food | 5 | 1 week |  |
| Android app Implementation | Implementing the Go Fish game into a viable Android application | 2 | 2 weeks |  |
| Main menu | Creating a menu including a play button, a how to play tab that explains how to play Go Fish and how to use the voice recognition, a themes drop-down box, and a quit button. | 4 | 1 week |  |
| Graphics | Pictures for the cards, avatars, and background | 6 | 2 weeks |  |

**Non-functional requirements**

ideas

* Accuracy of voice recognition
* Response time
* Permissions (access to device’s microphone)
* Learnability (being able to learn how to play the game and use the voice recognition)
* Accessibility (Android)
* Single player (against computer)

|  |  |  |
| --- | --- | --- |
| Requirement | Measurement Criteria | Constraints |
| Accuracy of voice recognition | Commands should be repeated at most 3 times |  |
| Permissions - accessing device’s microphone | User must give permission for microphone access | The game will only work on devices that have a microphone |
| Learnability - learning how to use the app to play Go Fish with different themes and voice recognition | Users will be able to learn in less than 10 minutes (assuming they know the rules Go Fish) | App would need to be made simpler, possibly including a “Help” button |
| Accessibility - accessible on Android |  |  |

**Use case descriptions**

4 cases

Description of the interaction- sequence of steps a user would take to complete a task

Flow can be disrupted due to errors – additional steps can be taken to return to the normal flow

Ideas = Play game normally | Look at tutorial during play | restart game during play | Quit game during play

**Contributions**

Ecem managed this deliverable.

We decided to work on all the sections of this deliverable together as a lot of the work for this deliverable was discussion based. We each contributed to all the questions.