Project Proposal Final

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# Project Gameplay and Rules

The project will be an iOS app (game) that involves symbols and a range of numbers that will require the players to figure out what the value of each symbol is. The clues to the values of the symbols are given by the what the symbols total up to for each column, row, and diagonal.

For the MVP, it would have at most the following items:

* A 4x4 grid with corresponding values and symbols
* A list of 10 numbers that can be used for the symbols
* Buttons for submit, new game, and to clear the grid
* Ability to choose difficulty (easy, medium, hard) and corresponding clues
* Appealing graphics

If there is still time left, some extra features to add:

* A timer (either how long they are taking or countdown)
* Ability to choose the range for the numbers (increases complexity)
* A home screen with settings button
* A collection of various statistics (games completed, difficulty completed, etc).

The game will allow players over time to increase their ability to think mathematically because they will have to add numbers constantly in their head if they want to complete the puzzles as fast as possible. With the ability to choose complexity, they will be able to challenge themselves at the levels that they think are appropriate for them.

For easy mode, there will be 3 clues given, 2 clues for medium mode, and only 1 clue for hard without the diagonal total.

## Sample Game

Sample image of a puzzle (easy) where the letters can have any value between 1 to 10 and no repetitions. The columns, rows, and diagonal add up to the numbers. Based on the clues, the user will have to fill in the rest of the values. For the following puzzle, the clues are H = 2, E = 8, and G = 5. The right side are the answers to the puzzle.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| A | B | C | 22 |  | 7 | 6 | 9 | 22 |
| D | E | F | **13** |  | 1 | 8 | 4 | **13** |
| G | H | I | **17** |  | 5 | 2 | 10 | **17** |
| 13 | **16** | **23** | **25** |  | **13** | **16** | **23** | **25** |

# Technology and Project Management

Language: Swift

IDE: Xcode

OS: macOS

Platform: iPhone (iPad later if time left)

UI/UX Program: Sketch

Architecture: MVC (Model-View-Controller)

Other Programs: Paint Code, Slack

Management: Trello for Agile Development

CI/CD: Yes, Manual (No Jenkins or shells script involved)

Frameworks: None

3rd Party Libraries: None

## Source Control (Git and Bitbucket)

As a team of developers, it is expected that code reviews occur when merging specific team member’s pull requests into the development branch. The format of branches is as followed:

* Development: The branch that will contain merged code from all team members.
* Production: The branch that contains production ready code (from Main-Develop). Only merged if the project can successfully compile.

Team members will have to make a branch from Development in order to complete their stories. Then they make a pull request to Development and other team members will review the code for merge. QA can then review and validate the stories from Production branch.

# Team Members and Roles

Jose Ramirez: Lead iOS Developer and Project Manager

Mala Pahari: Quality Assurance

Landon Frederes: iOS Developer

Kurtis Waldner: UI/UX Designer