Sprint 2 Release Document

Planned Requirements Delivered

Requirement 4.1

- Description: The GUI must display a European Roulette board and a wheel with slotted numbers from 0-36.
- Story Points: 13
- Status: **COMPLETE** – Creation of the GUI is fully complete, and all specified elements are present.

Requirement 4.2

- Description: A user must only bet from their existing supply of chips. They do not actually lose their chips at this point.
- Story Points: 2
- Status: **COMPLETE –** Chip tracking is fully implemented. A user can bet all of their chips, but they are only removed after they lose all their bets.

Requirement 4.3

- Description: A user should be able to place their amount directly on a number, which will guarantee 35x if they win.
- Story Points: 8
- Status: **COMPLETE** – All number slots have invisible buttons that, when clicked, log a bet of 50 chips on that number, with the specified payout upon success.

Requirement 4.4

- Description: A user should be able to place their amount on a line between two numbers, which will guarantee 17x if they win.
- Story Points: 8
- Status: **COMPLETE –** All borders have invisible buttons as described above, which log 50 chips towards the bet upon being clicked. The appropriate payout is administered.

Requirement 4.5

- Description: A user should be able to place their amount at the edge of a three-number row, which will guarantee 11x if they win.
- Story Points: 8
- Status: **COMPLETE –** All row edges have invisible buttons as described above, which log 50 chips towards the bet upon being clicked. The appropriate payout is administered.

Requirement 4.6

- Description: A user should be able to place their amount on the intersection of four numbers, which will guarantee 11x if they win.
- Story Points: 8
- Status: **COMPLETE –** All intersections have invisible buttons as described above, which log 50 chips towards the bet upon being clicked. The appropriate payout is administered.

Requirement 4.7

- Description: A user should be able to place their amount on the intersection of three numbers(0, 1, and 2 or 0, 2, and 3), which guarantees 11x if they win.
- Story Points: 8
- Status: **COMPLETE –** All intersections have invisible buttons as described above, which log 50 chips towards the bet upon being clicked. The appropriate payout is administered.

Requirement 4.8

- Description: A user should be able to place their amount on the edge between two rows, which guarantees 5x if they win.
- Story Points: 8
- Status: **COMPLETE –** All row pairs have invisible buttons as described above, which log 50 chips towards the bet upon being clicked. The appropriate payout is administered.

Requirement 4.9

- Description: A user should be able to place their amount on the red or black box, which guarantees 1x if they win.
- Story Points: 8
- Status: **COMPLETE –** Both boxes have invisible buttons as described above, which log 50 chips towards the bet upon being clicked. The appropriate payout is administered.

Requirement 4.10

- Description: A user should be able to place their amount on the odd or even boxes, which guarantees 1x if they win.
- Story Points: 8
- Status: **COMPLETE –** Both boxes have invisible buttons as described above, which log 50 chips towards the bet upon being clicked. The appropriate payout is administered.

Requirement 4.11

- Description: A user should be able to place their amount on the 1-18 or 19-36 boxes, which guarantees 1x if they win.
- Story Points: 8
- Status: **COMPLETE –** Both boxes have invisible buttons as described above, which log 50 chips towards the bet upon being clicked. The appropriate payout is administered.

Requirement 4.12

- Description: A user should be able to place their amount on the 1st, 2nd, or 3rd 12 boxes, guaranteeing 2x if they win.
- Story Points: 8
- Status: **COMPLETE –** All three boxes have invisible buttons as described above, which log 50 chips towards the bet upon being clicked. The appropriate payout is administered.

Requirement 4.13

- Description: A user should be able to place their amount at the bottom of any number column, guaranteeing 2x if they win.
- Story Points: 8
- Status: **COMPLETE –** All columns have invisible buttons as described above, which log 50 chips towards the bet upon being clicked. The appropriate payout is administered.

Requirement 4.14

- Description: When the user finishes betting, the displayed wheel should spin, randomly landing on one of the randomized number slots.
- Story Points: 8
- Status: **COMPLETE –** Clicking the spin button will first determine the resulting number. This number is used to generate an animation of the wheel icon spinning. The chosen number is used to compute the precise angle to have the wheel end on, ensuring that the wheel actually lands on the specified number.

Requirement 4.15

- Description: If the wheel lands on zero, all bets placed on even should be considered to be lost.
- Story Points: 8
- Status: **COMPLETE –** In hindsight, the number of story points assigned is generous. However, functionality has been added so that the zero number invalidates all even/odd bets, as well as any twelve bets, row bets, and column bets.

Requirement 4.16

- Description: If the user's bet wins based on the wheel, they must be rewarded chips as specified by their bet.
- Story Points: 2
- Status: **COMPLETE –** Payout computation and chip-rewarding are fully implemented for all bets.

Requirement 4.17

- Description: If the user's bet does not win, they lose the amount allocated for betting, exiting to the main menu if they run out of chips.
- Story Points: 2
- Status: **COMPLETE –** Bets are immediately subtracted from the user's balance before spinning. However, post-loss kicking is fully implemented.

Requirement 4.18

- Description: The user should have the option to leave at any point, with chip forfeiting like in Blackjack or Poker.
- Story Points: 2
- Status: **COMPLETE** – Clicking the "Rules" button will generate a form listing all of the rules(i.e. bets and payouts) of Roulette.

Requirement 4.19

- Description: The user should be shown Roulette instructions if requested.
- Story Points: 1
- Status:

Additional Requirements Achieved

Requirement 4.20

- Description: The user wants sounds effect to feel more engaged.
- Story Points: 2
- Status: **COMPLETE** – Spinning the roulette wheel produces a spinning sound effect.

Requirement 4.21

- Description: The user should be able to review what bets they have placed so that they can keep track of what they've bet chips on.
- Story Points: 3

- Status: **COMPLETE –** There is a button in the GUI that, when pressed, will display all of the user's bets and the number of chips allocated to each bet. Additional refactoring will be applied at a later date(such as the final sprint) to reduce the coupling that this feature added between the game logic and gui management classes.

Story Points Promised: 126

Story Points Delivered: 131

Improvements to Previous Requirements

One bug, which caused the card deck back icon to sometimes disappear after a game of Blackjack, was addressed during this sprint.

New Requirements Begun

In addition to the full implementation of Roulette, the project team made initial steps towards implementing the final two games: Poker and Sabacc.

A skeletal GUI has been created for the Poker mode, which will be used as the foundation for the full implementation of Poker. Additionally, initial creations of the game logic and GUI manager classes for Poker have been created to support easier collaboration. Currently, the only functionality supported by the GUI manager is the return to the main menu. The game logic class only supports a single player, and contains initial methods for the flop, turn, and river stages, as well as a method to determine the best hand possible given the public cards combined with the player's cards.

Initial work for the Sabacc implementation has come in the form of manual creation of the Sabacc card sprites. As a ficitious card game, suitable card sprites are nonexistent. As of November 9th, at least five Sabacc cards have been created. The creation of these sprites will continue throughout the next sprint.

Additionally, chip tracking across games has been implemented. This corresponds to **Requirement 1.1**.

Goals for Next Sprint

The firm goals of Sprint 3 are defined as follows:

1. Fully implement Poker mode, including full GUI development, all game stages, betting and rewarding, and AI opponents.

2. Fully implement the game logic component for Sabacc, including all steps. Implementation of the Sabacc GUI is preferred but not required for this sprint.
3. Integrate the Poker-mode's AI opponents with Sabacc game logic.
4. Finalize cross-game features, like the main menu and forced exit upon losing all chips.