

1. Define Objectives:

Ben's Objectives: Implement in-line functionality for the dealer. Develop varying difficulty levels for the dealer. Design an efficient algorithm for card dealing. Implement player actions (e.g., betting, splitting, checking)

2. Matthew's Objectives: Design a graphical user interface. Create a realistic player design that simulates a physical table environment, including animations for the dealer dealing cards.

While these are initial objectives, as time goes on, both Matthew and Ben will get each other's support in doing specific tasks that may require too much of a workload for one person.

3. Tech and Tools:

- IDE/Text Editor (e.g., PyCharm)
- Git
- GIMP or Adobe Photoshop for graphics editing (backgrounds, card images)
- PyGame for the game framework
- Python 3 as the programming language

4. Timeline

February - begin writing code for user inputs and computer responses. Start writing code for the algorithm for at least one of the computer's difficulties. Sketch sprites for cards and dealers.

March - Code algorithms for other computer difficulties, card dealing, more complex parts of the game like betting double, hitting, checking, etc. Create animations for dealing cards betting and so on.

April - Finish code and integrate GUI, card designs and animation with the computer algorithm to create a smoothly running game.

### 3. Create a Project Timeline:

Develop a detailed timeline outlining key milestones.

Include specific tasks, responsibilities, and deadlines for each project phase.

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Tasks: Design the game flow, user interface, graphics layout, and overall game mechanics.

Responsibilities: Matthew leads the UI design while Ben outlines the game logic.

Deadline: End of Week 2.

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Tasks: Set up the development environment and initial project structure.

Responsibilities: Ensure the Python environment, libraries, and tools are configured.

Deadline: Mid-Week 3.

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Tasks: Implement the core functionalities such as card dealing, betting system, dealer difficulty selection, and options like splitting.

Responsibilities: Ben focuses on algorithms and game logic, while Matthew supports integrating initial graphics.

Deadline: End of Week 5.

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Tasks: Develop and integrate graphics and animations for the dealer, cards, and user interface screens (intro, gameplay, game over).

Responsibilities: Matthew leads the integration of visual elements, while Ben assists with linking the game logic.

Deadline: End of Week 8.

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Tasks: Perform a final code review and prepare documentation.

Responsibilities: Finalize the product and complete the final project presentation.

Deadline: End of Week 9.

#### 4. Document the Plan:

Each team member should contribute a PDF document that includes the following:

1. Project scope

We aim to develop a runnable blackjack game with graphics and interactive gameplay. The game will simulate a physical card table where a dealer physically deals cards to the player. Key features include A start screen with function options, a dealer with functionality and varying difficulty levels, an algorithm for card dealing, player actions such as betting, checking, splitting, and drawing cards, and lastly, a system for managing the player's money; the game ends when the player runs out of money to bet with and are returned to the intro screen.

2. Individual and team objectives

Ben's Objectives: Implement in-line functionality for the dealer and develop varying difficulty levels for the dealer. Design and implement an algorithm for card dealing, implement player actions (betting, splitting, checking)

Matthew's objectives are to design and develop a GUI that simulates a realistic blackjack game, create a visual design for the player area, dealer area, and table layout, and integrate animations for the dealer dealing cards and card movement.

Team objectives: integrate the logic with graphic elements for the user to experience a realistic blackjack game. Meet project milestones according to the agreed timeline.

Upload the final PDF document to your project's GitHub repository.