**Project 2 Person-Hours: Estimates and Actuals**

**Estimated Person-Hours**

This section describes the estimated person-hours for each task, the description of each task, and how those tasks are assigned to team members.

**Task Descriptions:**

1. Refactoring: Refactor the code so that it meets Project 1 requirements
2. UML Diagram: Design the custom addition feature and develop the corresponding UML diagram
3. Implementing AI: Implement the 3 different AI difficulties
4. Implementing Custom Addition: Implement the custom addition feature in the code
5. Testing and Debugging: Test the entire game, including human & AI opponents, as well as the custom addition
6. Documentation: Provide hour estimates and draft and revise system documentation

**Task Estimate Gantt Chart**

Below is a Gantt chart that shows the estimates of each task in addition to the team members responsible for different stages of the project.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Hours  Task | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| 1. Refactoring: **4 hours** | Abir | Abir | Abir | Nikhil |  |  |  |  |  |  |  |  |  |  |  |
| 2. UML Diagram: **3 hours** |  |  | Shad | Rahul | Nikhil |  |  |  |  |  |  |  |  |  |  |
| 3. Implementing AI: **4 hours** |  |  |  |  |  | Nikhil | Nikhil | Nikhil | Abir |  |  |  |  |  |  |
| 4. Implementing Custom Addition: **4 hours** |  |  |  |  |  | Shad | Shad | Greg | Greg |  |  |  |  |  |  |
| 5. Testing and Debugging: **6 hours** |  |  |  |  |  |  |  |  | Rahul | Rahul | Rahul | Rahul | Greg | Shad |  |
| 6. Documentation: **4 hours** | Greg |  |  |  |  |  |  |  |  |  |  |  | Shad | Greg | Abir |

**Final Estimate for Person-Hours**

According to the Gantt chart above, the project will take a total of 25 person-hours. This is derived by adding hours taken for tasks 1 through 6 (Task #1 + Task #2 + Task #3 + Task #4 + Task #5 + Task #6 = 4 + 3 + 4 + 4 + 6 + 4 = 25 hours). Since we have 25 hours to divide among 5 team members, **each team member is assigned 5 estimated person-hours**. The breakdown of tasks and person-hours is already seen in the Gantt chart above.