Project Plan

Assignment here: <https://ivylearn.ivytech.edu/courses/1278696/assignments/20331218>

**Introduction**

For our project, we will be making a version of the card game Uno running Python. In particular, we want to have a fully graphical version of the game, with interactivity in all of Uno’s features, like drawing cards, playing those cards with their variety of functionality, and of course the iconic shouting of *Uno!* Translating this game from physical to digital will be an interesting task, having to turn intuitive physical interactions like the deck of cards and the management of those cards in your hand, to an equal digital equivalent experience. We endeavor to complete the final product so that a true authentic Uno experience can be available easily to all!

**Project Organization**

| POSITION | NAMES | DESCRIPTION |
| --- | --- | --- |
| *Organizer* | Lukas Meyer | Ensures that the team meets the required task to complete the project and keeps all materials in check. |
| *Designer* | Julian Payne | Ensures that the software has a simple design that is easy for the project team to implement. |
| *Designer* | Oluwaseun Odugbesan | Ensures that the software has a simple design that is easy for the project team to implement. |
| *Programmer* | Julian Payne | Writes the code for the program. |
| *Programmer* | Ryan Richardson | Writes the code for the program. |
| *Tester* | Lukas Meyer | Analysis and ensures that the program does not have any flaws in its design and that it runs smoothly. |

**Risk Analysis**

| RISK | DESCRIPTION | RISK PRIORITY | RISK PLANNING |
| --- | --- | --- | --- |
| Improper Design | The underlying design set out for the project does not properly handle project requirements, and changes must be made. | High | The project's design will be handled by all team members, so that each individual's needed work can be accounted for. |
| Scheduling Issues | Scheduled time to be used on the project fails to align with reality, damaging the project's workflow. | High | A system of communication between team members will be established to make sure time for work is properly scheduled between them all. |
| Incomplete Work | The project's features have flaws or are not fully implemented. | Moderate | Work will be reviewed to make sure it is complete, has little errors, and is feature ready. |
| Feature Creep | The amount of features deemed to be needed to make Uno increase to a high amount. | Low | As the design of the project is to be collectively decided upon, the amount of features will be handled in advance, and hopefully not bloat. |
| Work-Life Interference | Team members have issues in their private lives, and these issues affect their work. | Low | By properly communicating the status of work being done, any interference with that work can be communicated and handled. |

**Hardware and Software Requirements**

Hardware Requirement

* Windows Computer
* CPU
* Keyboard and Mouse
* Monitor

Software Requirement

* Python Interpreter
* Operating System (Preferably Windows)
* Pygame

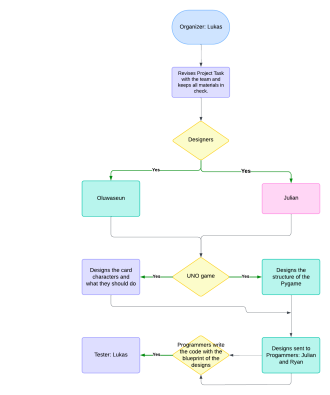
**Work Breakdown**

| **Task No.** | **Task** | **Team Members** |
| --- | --- | --- |
| **1** | **Project UNO** | All members |
| **1.1** | **Phase 1: Research and Planning** | All members |
| **1.1.2** | Requirements Document | All members |
| **1.1.3** | Feasibility Document | Ryan Richardson |
| **1.1.4** | Risk Planning Document | Lukas Meyer |
| **1.1.5** | Project Plan | All members |
| **1.2** | **Phase 2: Creative Design** | All members |
| **1.2.1** | Consider Pygame design limitations | Lukas Meyer |
| **1.2.2** | Research card game design elements | All members |
| **1.2.3** | Create mockup design | Lukas Meyer, Oluwaseun Odugbesan |
| **1.2.4** | Review design with group | All members |
| **1.2.5** | Alter design as needed | All members |
| **1.3** | **Phase 3: Technical Design** | All members |
| **1.3.1** | Establish logical rules for game | Julian Payne |
| **1.3.2** | Decide on application features | Julian Payne, Lukas Meyer |
| **1.3.3** | Consider dependencies (GUI library) | Lukas Meyer |
| **1.3.4** | Create technical design of application | All Members |
| **1.4** | **Phase 4: Implementation** | All members |
| **1.4.1** | Create game object classes | All members |
| **1.4.2** | Create main game loop | Julian Payne |
| **1.4.3** | Create GUI | Lukas Meyer |
| **1.5** | **Phase 5: Test / QA / Train** | All members |
| **1.5.1** | Create unit tests/validation functions. | Lukas Meyer, Julian Payne, Oluwaseun |
| **1.5.2** | Perform validation testing | Julian Payne, Oluwaseun Odugbesan |
| **1.5.3** | Implement bug fixes as needed | Lukas Meyer, Julian Payne |
| **1.5.4** | Create training documentation (README.md) | Oluwaseun Odugbesan, Ryan Richardson, Lukas Meyer |
| **1.6** | **Phase 6: Deploy** | All members |

**Process Flow Diagrams**

| Plan Flow Diagram | Workflow Diagram |
| --- | --- |

Overall structure diagram:



**Project Schedule**

| Task | Effort(Person-hours) | Duration (weeks) | Dependencies | Ending Members |
| --- | --- | --- | --- | --- |
| 1.1 Creative Design | Julian Payne & Oluwaseun Odugbesan (8 hours~) | 1 week~ |  | All Members |
| 1.2 Technical Design | All members (6 hours~) | 0.5 week~ | 1.1 | All Members |
| 1.3 Implementation | Julian Payne & Ryan Richardson (10 hours~) | 1.5-2 weeks~ | 1.1-1.2 | All Members |
| 1.4 Test | Lukas Meyer (6 hours~) | 0.5 week~ | 1.1-1.3 | All Members |
| 1.5 Training documentation | Lukas Meyer (3 hours~) | 0.5 week~ | 1.1-1.4 | Oluwaseun Odugbesan, Lukas Meyer, Ryan Richardson |

**Monitoring and Reporting Mechanisms**

We are planning to use Discord, Google Docs, Zoom, and GitHub to make sure we can easily work together and are all on the same page. Discord is our main hub where we all communicate together, sharing links and directly messaging each other, helping to make up for our other mechanisms' shortcomings. Google Docs is used so we can readily share files and work on making our plans, such as this document! Though we can do meetings on Discord, we use Zoom for more official business due to its easy ability to record, invite, and screen share, which we do for all of our team meeting assignments. Lastly, we use GitHub to make sure that we all have the same version of our project, and to make changes to that project.

With these platforms for communication and cooperation, we can uphold a proper system of monitoring and reporting cleanly and simply. By working readily together via steady Discord communication, cooperation on Google Docs and GitHub, and a meeting on Zoom every two weeks, we are ready to deal with and schedule any work that needs to be done!

**Appendix**

| **Task Number** | **Task** | **Duration(weeks)** | **Dependencies** |
| --- | --- | --- | --- |
| **T1** | Planning | 1 | T1 |
| **T2** | Creative Design | 1 | T2 |
| **T3** | Technical Design | 0.5 | T3 |
| **T4** | Implementation | 2 | T4 |
| **T5** | Coding: Logic | 1 | T4 |
| **T6** | Coding: Images/cards | 1 | T4 |
| **T7** | Coding: GUI | 2 | T4 - T7 |
| **T8** | Coding: Objects | 3 | T4 - T7 |
| **T9** | Coding: Main loop | 3 | T4 - T7 |
| **T10** | Testing | 0.5 | T4 - T9 |
| **T11** | Debugging | 1 | T4 - T9 |
| **T12** | Maintenance | 1 | T11 |