UFO Game

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**1. Project Definition (**100 - 200 words**)** – *Group responsibility*

* Why (it is needed)
  + UFO Game is a game designed for user entertainment and competition. The genre mashup we are going for is rarely attempted and as such our game is serving a community that does not have many games to play.
* What (is the goal of the project)
  + The goal of this project is to develop a roguelike/metroid-vania genre mashup with a high replayability factor that will be entertaining and encourage players to compete against each other for high scores.
* How (how will it be achieved)
  + We will be achieving the above goals mainly through leaderboards and procedural generation, as well as a short game cycle. The leaderboards will encourage competition both between two players, as well as a single player as they try to beat the current high score. The procedural generation will keep the game fresh and varied across multiple play sessions, and the short game cycle ensures that a bad run does not take too much of the player’s time, and they can try their luck again quickly.

**2. Project Requirements** – *Group responsibility*

* Functional
* Usability
  + User interface
  + Performance
* System
  + Hardware
  + Software
  + Database
* Security

**3. Project Specification** – *Group responsibility*

* Focus / Domain / Area
* Libraries / Frameworks / Development Environment
* Platform (Mobile, Desktop, Gaming, Etc)
* Genre (Game, Application, etc)

**4. System – Design Perspective** – *Group responsibility*

* Identify subsystems – design point of view
  + Illustrate with class, use-case, UML, sequence ..... diagrams
  + Design choices (Optional)
* Sub-System Communication (Diagram and Description)
  + Controls
  + I/O
  + DataFlow
* Entity Relationship Model (E-R Model)
  + Example - <https://en.wikipedia.org/wiki/Entity%E2%80%93relationship_model>
* Overall operation - System Model
  + Simplified Sub-system to System interaction

**5. System – Analysis Perspective** – *Group responsibility*

* Identify subsystems – analysis point of view
* System (Tables and Description)
  + Data analysis
    - Data dictionary (Table - Name, Data Type, Description)
  + Process models
* Algorithm Analysis
  + Big - O analysis of overall System and Sub-Systems

**6. Project Scrum Report -** *Group Responsibility*

* Product Backlog (Table / Diagram)
* Sprint Backlog (Table / Diagram)
* Burndown Chart

**7. Subsystems**

**7.1 Subsystem 1** – Name 1 - *Individual responsibility*

* Initial design and model
  + Illustrate with class, use-case, UML, sequence ..... diagrams
  + Design choices
* Data dictionary
* If refined (changed over the course of project)
  + Reason for refinement (Pro versus Con)
  + Changes from initial model
  + Refined model analysis
  + Refined design (Diagram and Description)
* Scrum Backlog (Product and Sprint - Link to Section 6)
* Coding
  + Approach (Functional, OOP)
  + Language
* User training
  + Training / User manual (needed for final report)
* Testing

**7.2 Subsystem 2** – Name 2 - *Individual responsibility*

* Initial design and model
  + Illustrate with class, use-case, UML, sequence ..... diagrams
  + Design choices
* Data dictionary
* If refined (changed over the course of project)
  + Reason for refinement (Pro versus Con)
  + Changes from initial model
  + Refined model analysis
  + Refined design (Diagram and Description)
* Scrum Backlog (Product and Sprint - Link to Section 6)
* Coding
  + Approach (Functional, OOP)
  + Language
* User training
  + Training / User manual (needed for final report)
* Testing

**7.3 Subsystem 3** – Name 3 - *Individual responsibility*

* Initial design and model
  + Illustrate with class, use-case, UML, sequence ..... diagrams
  + Design choices
* Data dictionary
* If refined (changed over the course of project)
  + Reason for refinement (Pro versus Con)
  + Changes from initial model
  + Refined model analysis
  + Refined design (Diagram and Description)
* Scrum Backlog (Product and Sprint - Link to Section 6)
* Coding
  + Approach (Functional, OOP)
  + Language
* User training
  + Training / User manual (needed for final report)
* Testing

**7.4 Subsystem 4** – Name 4 - *Individual responsibility*

* Initial design and model
  + Illustrate with class, use-case, UML, sequence ..... diagrams
  + Design choices
* Data dictionary
* If refined (changed over the course of project)
  + Reason for refinement (Pro versus Con)
  + Changes from initial model
  + Refined model analysis
  + Refined design (Diagram and Description)
* Scrum Backlog (Product and Sprint - Link to Section 6)
* Coding
  + Approach (Functional, OOP)
  + Language
* User training
  + Training / User manual (needed for final report)
* Testing

**8. Complete System** – *Group responsibility*

* Final software/hardware product
* Source code and user manual – screenshots as needed - Technical report
  + Github Link
* Evaluation by client and instructor
* Team Member Descriptions

***This is just a guide, and use it to create/improve your report. Feel free to add sections. You are responsible for your own subsystem/s, not other members. You have to contribute to the team’s goals and objectives, and develop your subsystem/s, write your documents and slides.***