**EcoMecanica Project Plan Document**

**1. Project Scope**

**Includes:**

* A factory simulation where players set up production lines, process resources and manufacture new products.
* Managing environmental pollution and unlocking new products through research.
* Dynamic interaction between buildings (processor, transporter, cleaner, research).

**2. Project Organization - People (Roles and Responsibilities)**

| **Name** | **Role** | **Responsibilities** |
| --- | --- | --- |
| Mehmet Efe Palaz | Project Tracking, Game Mechanics | Planning, coordination, deadline tracking; design pattern planning |
| Umut Baran Boztas | Project Tracking, Game Mechanics | Planning, coordination, tracking deadlines; Production, pollution systems |
| Mehmet Fatih Akay | Graphic Design | Game interface (building menus, information panels, progress bar, etc.), 2D designs |
| Kaan Behzetoglu | Backend & Data Model | Product, building, resource data structures, saving system |
| Efe Selim Sürekli | Game Mechanics | Product research system, research advancement by resource, tree design for research system |

**3. Objectives**

* To codify the basic functioning of the game (production, pollution, cleaning) with solid foundations.
* Building a playable prototype with user-friendly interfaces.
* To create an educational system that reflects the importance of environmental balance to the player.

**4. Key Phases and Timeline**

| **Phase** | **Beginning** | **End** | **Deliveries** |
| --- | --- | --- | --- |
| Requirements Gathering | June 10 | June 20 | Game document, class diagram |
| Design (UI + Architecture) | June 21 | July 14th | Wireframe, base classes, data model |
| Development (Core) | July 15th | August 10 | Production line, research, pollution systems |
| Final Presentation & Closing | July 11th | July 12 | Presentation file, video, final build |

**5. Resource Planning**

* Unity Game Engine (C#)
* GitHub

**6. Risk Management**

| **Risk** | **Solution** |
| --- | --- |
| Technical barriers / bugs | Code partitioning, modular design |
| Lack of members / delay | Weekly progress check, dual task mapping |
| Deviation from the calendar | Buffer days per phase, mission critical priority |
|  |  |

**7. Communication Plan**

* Online communication will be established via Discord server, daily written communication tools, etc.

**8. Change Management Plan**

* Group members will jointly decide on changes that can be made to solve problems that may arise and for development purposes.

**9. Acceptance Tests and Criteria**

| **Feature** | **Acceptance Criteria** |
| --- | --- |
| Production system | Accurate output production when the material arrives |
| Pollution system | Increase with each production, decrease with cleaner |
| Research system | Advance and unlock when given the required product |
| User interface | Smooth UI that reflects the logic of the game |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Project Organization Allocation** | **Resource**  **Planning** | **Change Management Planning** | **Risk Management Planning** | **Document**  **Writer** |
| **Mehmet Efe Palaz** | X |  |  |  | X |
| **Umut Baran Boztaş** | X | X |  |  |  |
| **Mehmet Fatih Akay** | X |  |  | X |  |
| **Kaan Behzetoğlu** | X |  | X |  |  |
| **Efe Selim Sürekli** | X |  | X |  |  |