Game Development Masterclass:

Cast-Aside (2000 words)

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# Introduction

* This document will show a rapid overlay of 3 different game project myself and my team worked on for the duration of the Game Development Masterclass module.
* My contributions can be found in the “Individual contributions” folder provided in my submission.
* The design brief was to provide a vertical slice of a game which had to last more than 30 minutes. Along with this we had to identify our Unique Selling Point (USP) to show how we stood out.
* We also needed to provide documentation showing research or how we would go about seeking funding if we were to take the game to market along with target audience and research showing this. This would also align with submitting to Transfuzer if we so wished.

# Week 01

## Work Done

* + **Foundational Work:** Initial setup and installation of packages, reordering of scenes and merging in assets.
  + **Character and Animation Integration:** Added player models, animations, character controllers and basic level design.
  + **Abilities System Development:** Developed a foundational abilities system with specific abilities for different character types.
  + **Script Modifications and Enhancements:** Modified scripts for abilities, altered the AbilityManager.cs script and implemented class and role assignment logic.
  + **Visual and Interaction Enhancements:** Implemented see-through textures, interactables, pop-up start animations and text pop-up boxes.
  + **UI and Scene Development:** Added player assignment information scene and started work on pause menu and shaders
  + **Game Mechanics Enhancement:** Implemented a basic stat system, character assignments and folder settings.

## Individual Contribution

* + **Abilities System:** Led the development of the abilities system defining four abilities for each character type and integrating animations.
  + **Script Development:** Actively worked on scripting, including modifying scripts for abilities, altering the AbilitiesManager.cs script and implementing class and role assignments.
  + **UI Enhancement:** Added an information scene as a prelude to the game enhancing player understanding of their character assignments.
  + **Gameplay Mechanics:** Mapped attach actions to specific abilities based on the players class, adding depth to combat mechanics.

# Week 02

## Work Done

* **Initial Development on Previous Game Concept:**
* Continued work on model, animation and currency system.
* Developed UI elements such as the currency symbol and menu.
* Implemented basic game mechanics and UI enhancements.
* **Pivotal Shift to New Game Concept (“Cast-Aside”):**
* Created a new Github repository and initiated development.
* Added new assets like crypts, characters and animations.
* Developed the main menu, including logo animation and button functionality.
* Implemented new game mechanics such as shadow detection and teleportation.
* Added environmental elements like buildings, rooms and shaders.

## Individual Contribution

* + **Currency System Development:** Designed and implemented the currency symbol and system in the initial game concept.
  + **UI and Menu Design:** Focused on font selection, logo design and main menu development including animation and button functionality.
  + **Strategic Shift and New Concept Development:** Actively involved in the decision to pivot to a new game concept, contributing to the brainstorming and initial setup of “Cast-Aside”.
  + **Menu Scene and Logo Animation:** Created and animated the menu logo for “Cast-Aside”.
  + **Button Functionality:** Added and animated start, options and quid buttons for the main menu, though functionality was pending.

# Week 03

## Work Done

* **UI Development and Menu Implementation:** Continued refinement of the UI, including main menu concepts and button functionality.
* **Game Environment Enhancements:** 
  + - Adjustments to room sizes and scales, addition of new meshes and textures.
    - Implementation of room triggers, layering fixes and lighting changes.
    - Development of basic tutorial scenes and addition of new assets for building and environment design.
* Game Mechanics and Features:
  + - Fixed character controller and animations.
    - Added room triggers, sun switching, temporary UI elements and debug features.
    - Implemented hidden door mechanics and fixed major lighting bugs.
    - Added trap prefabs and started constructing in-game buildings

## Individual Contribution

* + **UI and Menu Development:** Focused on developing the main menu concept including working buttons and a mock logo.
  + **PlayerPrefs Implementation:** Integrated PlayerPrefs for the options menu, addressing challenges with audio mixer linkage and sliders.
  + **Character Customisation:** Developed a customization script to automatically populate a list of heads from a designated folder, enhancing player personalisation options.
  + Lighting and Transition Effects: Worked on lighting changes and transitions, contributing to the games visual appeal and atmosphere.

# Week 04

## Work Done

* + **Gameplay and Environment Development:**
    - Introduction of task display, objective manager and objectives.
    - Development of basic cave/tomb environments and terrain changes.
    - Implementation of dungeon camera pan and various puzzles.
    - Significant updates to the game scene, including pathing, building placement and the addition of a pyramid, temple, shrine and respawn points.
  + **Enhancements in Game Mechanics:**
    - Adjustments to prefabs and scene elements.
    - Development of puzzles and shadow mechanics.

## Individual Contribution

* + **Customisation Features:**
    - I focused on enhancing the lobby and character customization, including the development of a custom UI for these features.
    - Created a player prefab for the main menu screen which reflects the updates to the character.
    - Implemented a concept for changing the player prefab in the main menu using key assignments for basic skin colour changes as a placeholder/proof of concept.
    - Laid the groundwork for preview images upon selection of character.
    - Worked on the prefab/character selection itself using skin colour changes as a temporary measure until new prefabs had been created.

# Week 05

## Work Done

* + **Environment and Gameplay Enhancements:**
    - Addition of new assets and updates to the game scene, including Ancient Greek low poly packages and city elements.
    - Completion and polishing of the shadow torch puzzle.
    - Implementation of respawn functionality and updates to character models.
    - Continuous improvements to the games environment, like leveling paths and adding colliders to buildings

## Individual Contribution

* + **Main Menu and Customisation:**
    - Significant time invested in researching audio elements and implementing them into the game.
    - Development of new prefabs for the menu and main menu customization.
    - Design of dynamic preview images for character customization.
    - Design of locked item visuals in the appearance menu, enhancing the games UI/UX.
  + **Audio Integration:**
    - Dedicated effort in integrating audio elements into the menu, including placeholder music and sound effects for button interactions.
  + **Menu Functionality:**
    - Implementation of mouseover and click functions to alter the alpha and preview images in the customization menu.
    - Added functionality to lock/unlock items in the prefab selection, improving the games interactivity and player choice.

# Week 06

## Work Done

* **Audio Interface Enhancement:** 
  + Focused on refining the audio interface, including fixing and assigning audio to sliders, with settings saved and reloaded using PlayerPrefs.
* **Environment and UI Updates:** 
  + Continued enhancements to the game environment, including tweaking the sand and leveling out paths to avoid clipping. Also, made significant updates to the mana UI.
* **Game Stability and Functionality:** 
  + Addressed and fixed a game crash issue at startup, merged and updated the pause menu, and added new features like a mini-map and player preferences editor.
* **Keybinding Development:** 
  + Began the challenging task of implementing keybinding functionality, a complex feature that extended into the following week.

## Individual Contribution

* **Audio Sliders:**
  + - Successfully implemented audio sliders enhancing the games audio settings and user customization options.
* **Crash Resolution:**
  + - Addressed and fixed a crash issue when starting the game after it had been built which improved stability.
* **Menu and UI Enhancements:**
  + - Made substantial updates to the pause menu and main menu, including adding a control button and repositioning UI elements.
    - Developed a rough panel with information for the control’s menu enhancing player accessibility and understanding.
    - Improved the main menus UI, focusing on button repositioning and starting implementation of key binds for player convenience.

# Week 07

## Work Done

## **Key Binding Completion:** After extensive effort, successfully completed the key binding functionality, a significant milestone in the project.

## **Trailer Preparation:** Worked on creating a scene clone and gathering footage for the game's trailer, showcasing the game's progress and features.

## **Game Environment and UI Enhancements:** Continued to enhance the game environment and UI, including adding player heads, fixing puzzles, updating icons, and tweaking the mana UI.

## Individual Contribution

* **Key Binding Resolution:** Collaborated closely with Adam to resolve the key binding challenges, culminating in the successful implementation of this feature.
* **Trailer Development:** Took charge of creating a scene clone and gathering footage for the game's trailer, playing a pivotal role in marketing and showcasing the game.
* **Game Build and Stability:** Addressed and resolved a Unity issue that prevented the game from building, contributing to the overall stability and progress of the project**.**

## Influence on Game Development Process

* My work on resolving the keybinding issue significantly improved the games customization options and player controls.

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## Maintaining Quality and Facing Challenges

* **Quality Maintenance:** Ensured that the key binding feature was not only functional but user friendly.
* **Challenges and Successes:**
  + The key binding feature posed the biggest challenge of the project, requiring me to use extensive problem solving and collaboration skills. My perseverance and openness in asking for help are what helped overcome this hurdle.
  + Successfully managing the trailer development and resolving the Unity build issue further demonstrated my adaptability and technical proficiency which would be crucial for the project’s success.

# Conclusion and Future Recommendations

Throughout the Game Development Masterclass, I've gained invaluable insights into the multifaceted nature of game development. My role often bridged programming and design, placing me in a unique position to facilitate communication and collaboration between these two critical areas. This experience underscored the importance of understanding and respecting each team member's strengths, which was crucial in compensating for the uneven distribution of workload within our team.

One of the most significant lessons was the impact of adaptability on our project. Navigating through three different game variants was both challenging and enlightening. It taught us the importance of resilience and the need to balance external feedback with our vision. However, this process also led to a degree of burnout and a final product that, while technically sound, didn't resonate with us as creators. This experience highlighted the delicate balance between adapting to feedback and staying true to our original vision.

Our team dynamics were generally positive, with clear roles and a strong sense of collaboration. However, the lack of contribution from one team member was a notable challenge. Despite this, the remaining team members, including myself, stepped up to ensure the project's success. This situation reinforced the value of flexibility and the ability to wear multiple hats in a project, especially in smaller teams.

From a technical standpoint, while I didn't push my boundaries in Unity and C#, I solidified my existing skills. This project reinforced my belief in "repetition creates habit," emphasizing the importance of continuous practice and completion of projects for skill enhancement.

In terms of project management, we prioritized practicality, ensuring that our design and development goals were achievable. This approach proved effective, though in hindsight, pacing and managing our enthusiasm could have been handled better to avoid burnout.

Looking forward, this project has prepared me for a career in the indie game sector by enhancing my adaptability, problem-solving skills, and ability to contribute across different aspects of game development. While the final game may not be something we intend to publish, the process itself was enriching and will undoubtedly inform my future endeavors.

For future projects, I aim to balance ambition with practicality more effectively, ensuring that the scope and vision remain aligned with the team's capabilities and timeline. I am very aware that not every project I may work on in the future will have any sense of personal passion or be something that I would want to play myself. Additionally, maintaining enthusiasm and motivation throughout the project, especially during challenging phases, will be a key focus.

In conclusion, this masterclass was a profound learning journey, offering lessons that extend beyond game development into teamwork, project management, and personal growth. These experiences have not only honed my skills but also shaped my perspective on what it means to be a versatile and effective game developer.

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# Appendices

See Individual Contributions folder.