RedWar: A Single-Player Game Developed with Unity

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***Abstract*—This thesis develops RedWar, a single-player game built with Unity and C#. The author studies Unity game-development concepts and documents game objects, interface flow, and play screens. The practical chapter shows a home screen, instructions, two gameplay screens, pause behavior, game-over state, and victory display. The conclusion states that the basic game was completed and that its interface is approachable. It also identifies unfinished improvements: reducing game size, improving performance, adding more levels and play modes, and enriching sound and visual effects. The source does not describe a formal user study, measured frame rate, or public release. Its contribution is a documented student game prototype and a clear roadmap for further content and performance work.**

***Index Terms*—Unity, C#, game development, single-player game, RedWar**

I. Introduction

Game development combines interaction rules, graphics, audio, and software implementation. This thesis uses Unity and C# to build a single-player game called RedWar. It introduces the game concept and the basic requirements for a playable prototype. The aim is to connect menus, gameplay, state changes, and ending screens in one application. The report does not position the work as a released commercial game [1]. Earlier ICTU student work on related designs is included here for context [2], [3], [4], [5], [6]. Related published studies provide context for the subject and methods [7], [8], [9], [10]. These contextual works were selected for this English summary; they are not asserted to appear in the original thesis bibliography.

II. Methods

The author reviews Unity and C# development concepts, designs game scenes and interactions, and implements RedWar as a single-player application. The implementation chapter documents the home and instruction screens, gameplay scenes, pause state, game-over state, and victory screen. Screenshots illustrate the designed flow and screen transitions. The source does not specify a formal play-testing protocol, device benchmark, or accessibility evaluation [1].

III. Results

The manuscript shows RedWar screens and describes the implemented navigation and game states. The conclusion says the game meets its basic requirements and has a usable interface. It also records the author learning outcomes in C# and Unity. The source does not provide measured performance, download size, retention, or player satisfaction results. The supported outcome is a working educational game prototype [1].

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IV. Discussion

A playable prototype can show that game states and screens are connected, but the quality of play also depends on responsiveness, pacing, sound, and varied content. The author proposes improving file size and execution speed, adding levels and play modes, and enhancing audio and visual effects. Those items remain future work. Broader play tests could reveal usability problems that screenshots and developer observations alone cannot establish [1].

V. Conclusion

The thesis documents a completed basic version of RedWar in Unity and C#. It presents the interface, gameplay scenes, and end states of a single-player game. The author lists performance, content, sound, and visual improvements for later development. No measured technical benchmark or user study is reported. The project is best understood as a student prototype with room for iteration [1].

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