

The Hero Project

Project Manual

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Abstract

The Hero Project is a **bullethell roguelike multiplayer RPG** providing a very unique storytelling and gameplay experience. Its main goal as a school project is to create a solid base for a video game ready for further development. The core should be highly abstract, stable and easy to extend.

This document explains how the Hero Project, including all features found in the *Functional Specification* document, is realised by the team.

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1 Introduction

The Hero Project is a **bullethell**^I **roguelike**^{II} **multiplayer**^{III} **RPG**^{IV} providing a very unique storytelling and gameplay experience.

It is highly inspired by previous titles in the roguelike and roleplay game genres, the most noteworthy being [Realm of the Mad God](#), [Titan Souls](#) and [Enter the Gungeon](#).

While all mentioned games are using a topdown pixelart setting, the Hero Project is drawn in a very unique combination of high and low resolutions.

2 Project Goals

The main goal of The Hero Project as a school project is to create a solid base for a video game ready for further development. This base includes all elements listed in the *Functional* and *Technical* Specifications sections found in the *Functional Specifications* document.

2.1 Targets

Targets The team is going to provide a core game as mentioned earlier and also a prototype for presentation.

Non Targets The team is not thought to provide a demo version or even a complete game.

^I A video game sub-genre where the screen is usually covered in bullets.

^{II} A video game sub-genre which, based on the [Roguebasin Interpretation](#), is defined by

- **Permanent Failure:** The player is encouraged to take responsibility for the risks he takes.
- **Procedural Environments:** Most of the game world is generated and provides complexity in resources and other elements of the game.
- **Resources:** The player can manage a limited amount of resources.

The [Roguebasin](#), [Berlin](#) and [Rogueteple](#) Interpretation may give a more detailed explanation on this subject.

^{III} A multiplayer game allows but does not require clients to play together. The Hero Project is not meant to be played online only!

^{IV} A roleplay game is a game in which the player assumes the roles of characters in a fictional setting and takes responsibility for his acting either through literal acting.

3 Team

The Hero Projects core as a school project is developed by a static team of 4 members and 1 professor. All members are listed below followed by a short description including their role, responsibilities and contact information.

Djordjevic Filip Sound Designer

Filip is responsible for all types of music and sound throughout the game.

Email: fdjordjevic@student.tgm.ac.at

Reichl Markus Project Manager (*Product Owner*)

Markus is both project manager and product owner. On development he provides concept art and is responsible for the system's architecture.

Email: mreichl@student.tgm.ac.at

Tekin Abdurrahim Artist

Burak provides art for both concept and production and is responsible for the aesthetics.

Email: atekin@student.tgm.ac.at

Wellner Florian Software Developer

Florian is responsible for the software development process and helps out at pixelart.

Email: fwellner@student.tgm.ac.at

The teams professor **Dolezal Dominik** acts as a supervisor and provides knowledge in all fields. He also helps during development and in the project management process.

4 Documentation Guidelines

4.1 Project Documentation

The Hero Project is using the v-Model^I, which requires the team to provide at least 2 documents.

Functional Specification This document defines all features the product has to provide as a response to a *Requirement Specification* document using the results of a feasibility study.

Project Manual This document explains how the project, including all features found in the Functional Specification document, is realised by the team.

4.2 Work Documentation

Every person working on the project has to provide some documentation for every session including at least:

Current date: YY-MM-DD: Title
Time spent: START: 00:00
TIME SPENT: 0h 0m
Description: A short description of this session

4.2.1 Development Documentation

The team is using [Git commits](#) to backup their work documentation and record changes during development.

^I The V represents the sequence of steps in a project life cycle development. It describes the activities to be performed and the results that have to be produced during product development. In software development, the V-model represents a development process that may be considered an extension of the waterfall model.

5 Preconditions

5.1 General Preconditions

5.1.1 GitHub

The whole development process of the project is managed using a private GitHub^I repository. In this case GitHub is also used in the project management process utilising *Issues*^{II} and *Milestones*^{III}. To backup work documentations and provide more detailed information about the development process, git commits^{IV} are used as the teams development documentation.

5.2 Technical Preconditions

As seen in the projects feasibility study there have to be at least some technical conditions to the project.

5.2.1 Unity

First of all the project is running on top of the Unity game engine using C# as its main scripting language. Game elements are therefore implemented as Unity's *Game Objects*^V and actions are realised as *Mono Behaviours*^{VI}.

When used correctly this pattern helps a lot with decoupling although it requires the core game to provide more concrete entities. Another limitation is Unity's lacking support for generics, what makes using interfaces for behaviours a lot harder.

6 Implementation

^I GitHub is a web-based Git repository hosting service offering distributed version control and source code management.

^{II} Issues are used to keep track of tasks, enhancements, and bugs for GitHub projects.

^{III} A milestone acts like a container for issues. This is useful for associating issues with specific features or project phases.

^{IV} A Git commit records changes to a repository.

^V Base class for all entities in Unity.

^{VI} Base class from which every Script Component derives.