The Half Dozen

A Dark Moon
Use-Case-Realization Specification

Version 1.0

Revision History

Date	Version	Description	Author
26/10/2022	1.0	First Draft	Harvey Ji

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Use-Case-Realization Specification

1.   Introduction

1.1   Purpose

The purpose of this document is to provide an overview of the system using sequence and class diagrams.

1.2   Scope

A Dark Moon

1.3   Definitions, Acronyms, and Abbreviations

HTML
> **Hypertext Markup Language**

CSS
> **Cascading Style Sheets**

1.4   References

1.5   References

A Dark Room: https://github.com/doublespeakgames/adarkroom

1.6   Overview

The sections of the Use-Case Realization document describes use cases in terms of their flow of events, participant objects and corresponding diagrams.

2.   Screen One

2.1   Flow of Events - Design

When the game is initially loaded, the player is put into screen 1. The player then gathers resources. These resources will be used to purchase items from the shop. The Nav CPU will be purchased, and the third screen will be unlocked. The cycle of collecting resources and purchasing items from the shop continues.

2.2 Interaction Diagrams

2.2.1 Sequence Diagrams
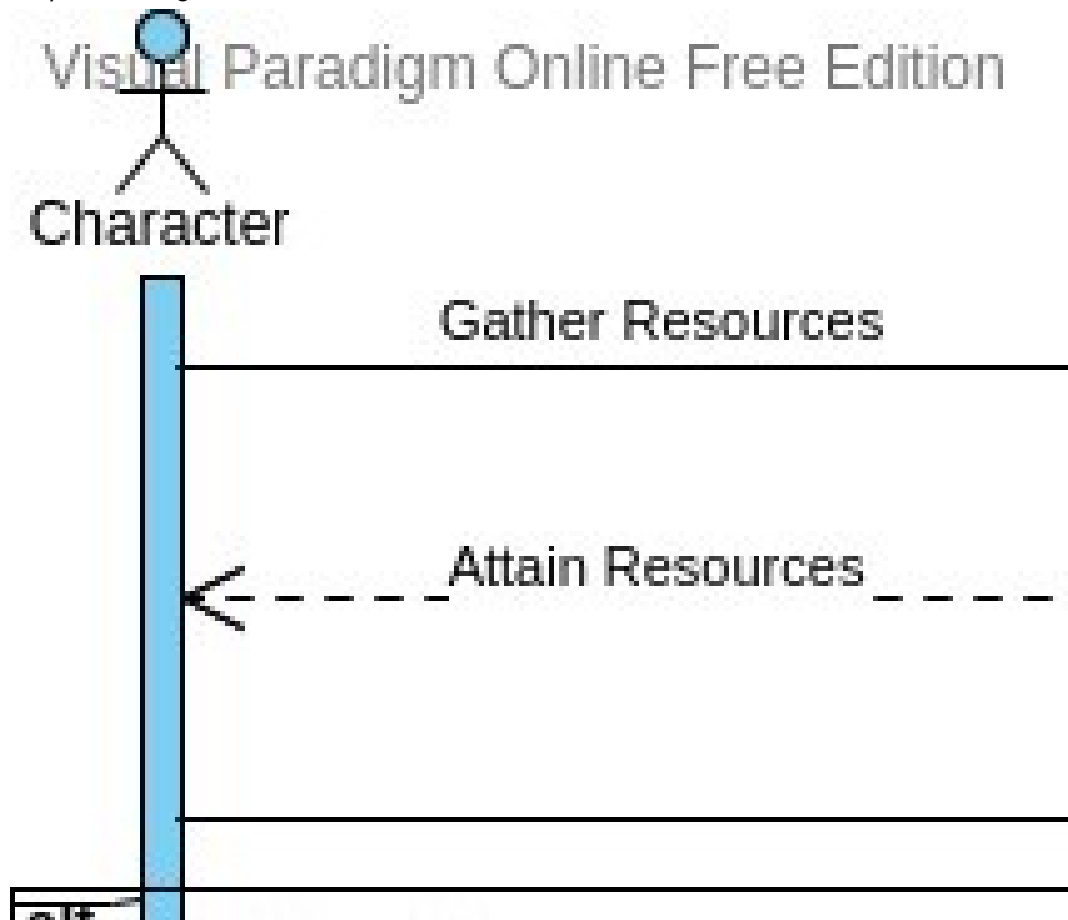
2.2.2 Participating objects

The following objects communicate to define the Use-Case<Screen 1> Behavior:

Character: This object represents the main character that the player controls throughout the game.

Shop: This object represents the area where the player will be able to trade resources for other resources and items.

Resources: This object represents the different currencies and items that the player can collect throughout the game for upgrades and advancements.

2.3 Derived Requirements

The Use-Case<Screen 1> will have the following requirements:

The screen will need to function without crashing. There will need to be clickable buttons that allow the player to collect resources. The amount of resources that the player has at any given time will need to be displayed on screen. When a button is clicked, the resources display should update. The player will also need to be able to switch between screens. There will need to be buttons for the player to interact with the shop object in order to trade resources for other resources and items. If there are not enough resources, the shop should refuse the transaction.

3. Screen Two

During the game, after the character has gathered enough resources. They can use those resources to build tools through the village. Some of the villagers have skill sets that will allow them to provide survival tools for the character if enough resources are available. As the village continues to grow in size, the character can then change the goal of any villager and make them a gatherer relieving the duty of material attainment from the character.

3.1 Interaction Diagrams

3.1.1 Sequence Diagrams
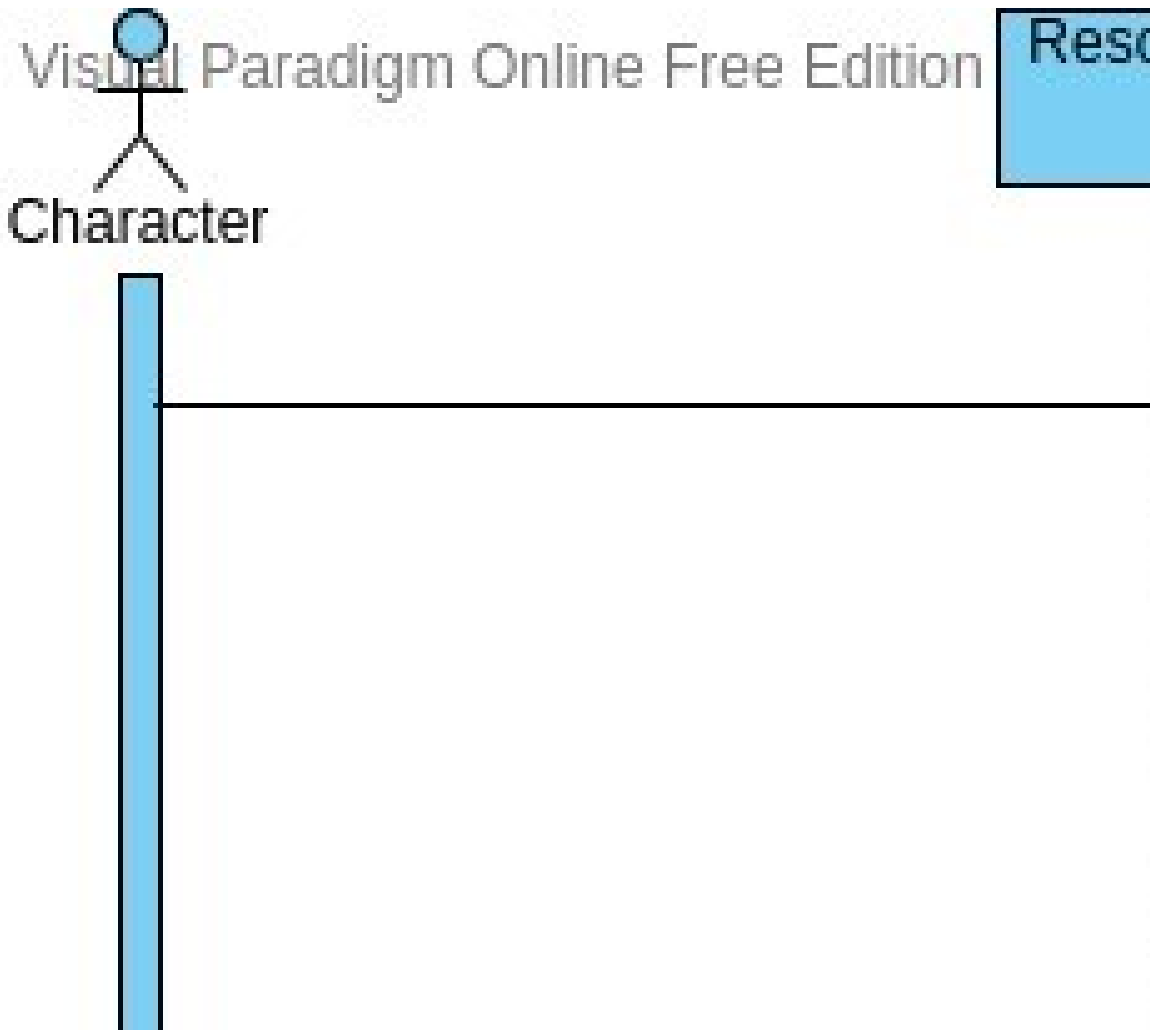
3.1.2 Participating objects

The following objects communicate to define the Use-Case<Screen 2> Behavior:

Character

- This is the main actor in the situation. The character can choose to go gather material or designate a villager to gather or build tools depending on their skillset.

Village

- Every villager will have a unique skill set that the character can take advantage of for the betterment of the

community

Resources

- The resources gathered can be used in many aspects. For example, wood could either be used to start a fire or if enough of it is acquired, could be used to build a shop

3.2   Derived Requirements

The Use-Case<Screen 2> will have the following requirements:

The Screen should work without any malfunctions or bugs, when a button is pressed to have the character gather materials or when an assignment is designated to one of the villagers to build or attain more of the materials, the display should update and the task duties should be on screen. The amount of resources should always update when used to let the player know just how the character can proceed with the next steps.

4.   Screen Three

The third screen is the culmination of the first two screens. This is where all the player has collected and worked for is put to use. In this screen, the player character goes exploring, using a map, to find new resources, interactions, and finally the end of the game. The resources collected in the first screen are used to fight and survive while out exploring. The villagers in the second screen will assist in exploration and continue to make better exploring and survival equipment. The end can only be reached when the player has gained high level items from both previous screens, so they can explore far enough and find the solution to the story.

4.1   Interaction Diagrams

4.1.1   Sequence Diagrams
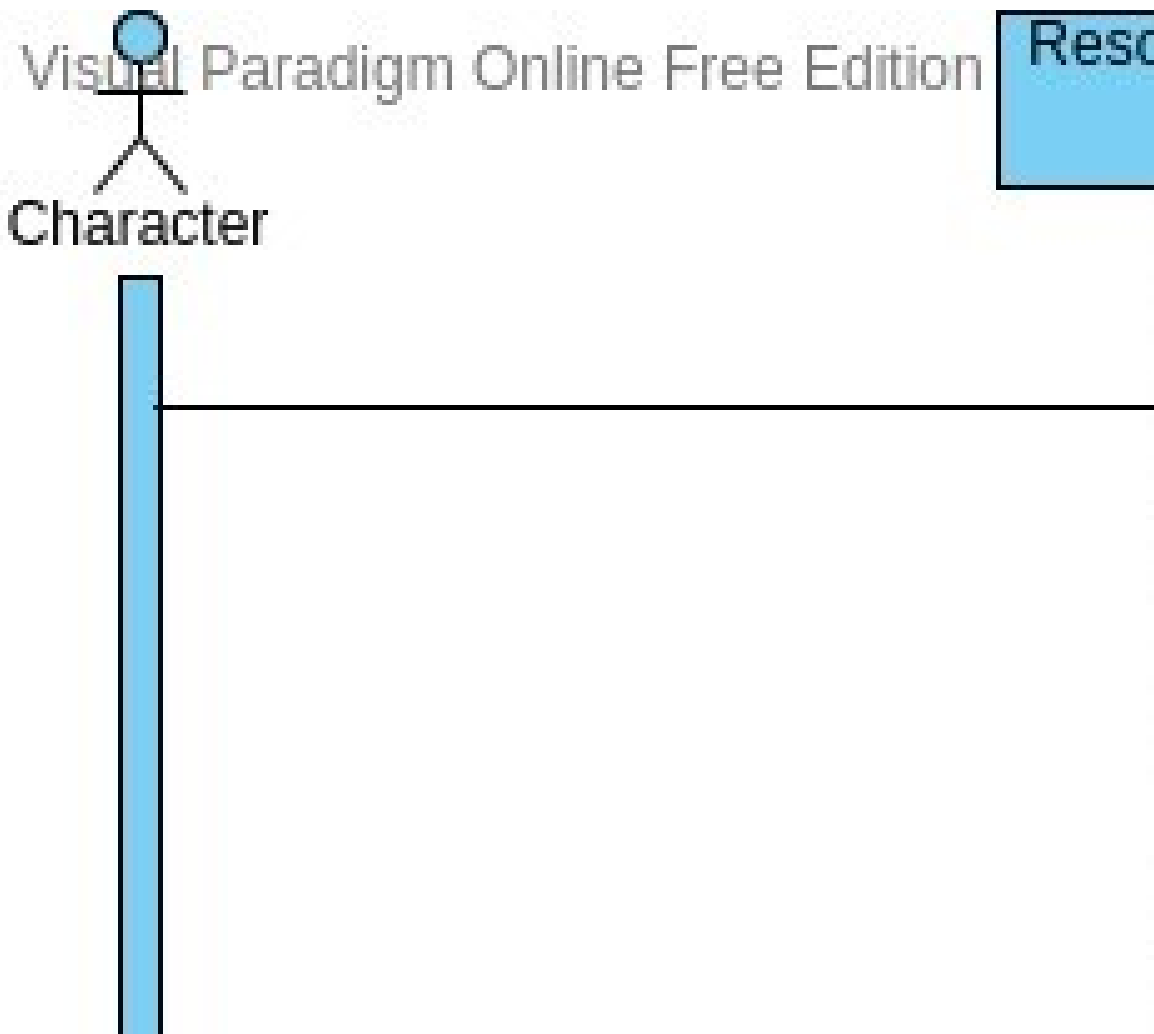
4.1.2   Participating objects

Objects that will participate in this screen include the Character, resources, the map, the combat system, and the endgame.

When the player character buys the navigator, the third screen and the map on it will be unlocked. The player character will then use collected resources to go on explorations in the map. While exploring the character may encounter an enemy. The enemy and the character will attack each other, both taking damage, until the other is dead. While the player is exploring, they may also iscover new resources or new ways to gather known resources. Finally, once the player character has accumulated enough resources, equipment, and experience, they will adventure to the end of the game.

4.2   Derived Requirements

This screen, like the other two, must be available offline once the game has been loaded. This screen also has a much higher requirement for performance. This screen, unlike the first two, has real time events, such as attacks. Here the player will be required to click buttons in real time, to fight for their life. If the game has low performance here, it may cause the player to be unable to perform as planned, even resulting in character death.

5.   Class Diagram

Since all three screens are highly connected, we decided it was best to use one class diagram.