

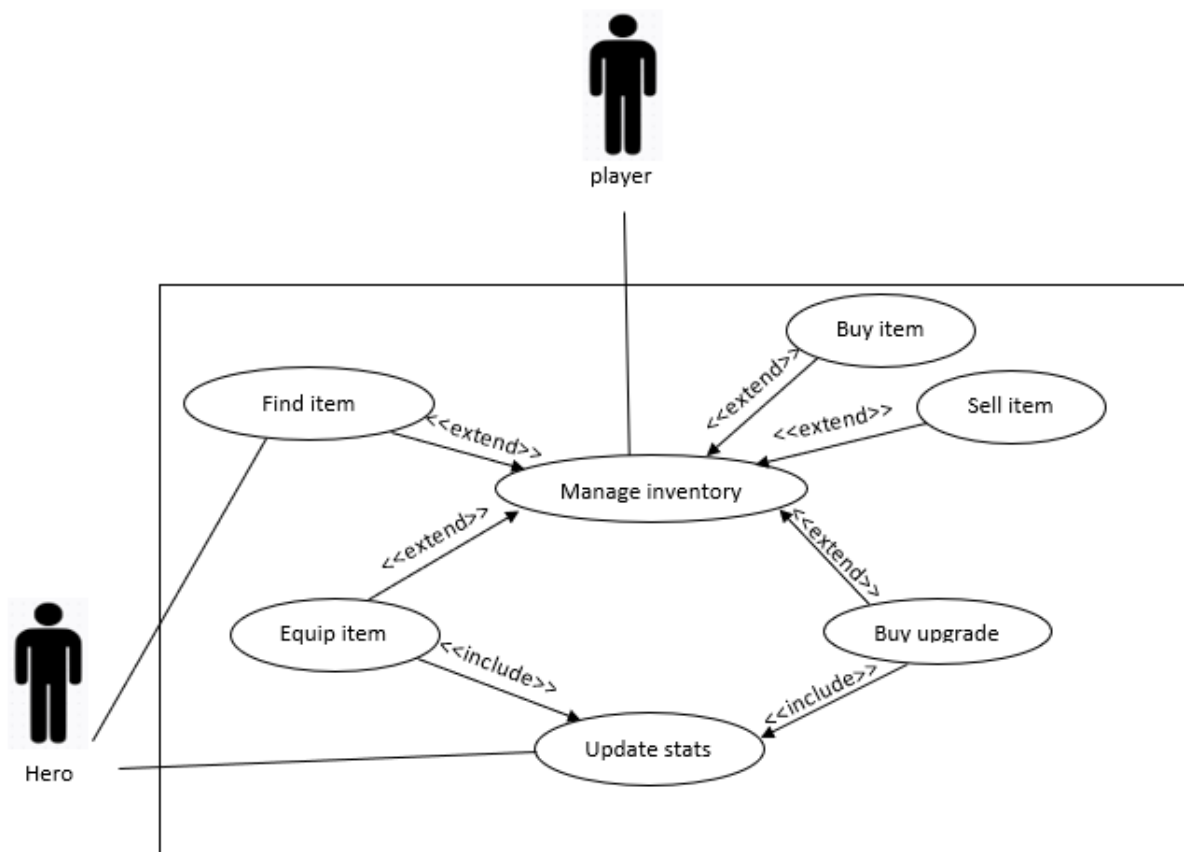
Brief introduction

This document details the inventory system in our game. The inventory system allows the player to view their inventory and equipped items that have been bought or found, as well as selling scrap items. It will also include the ability to buy upgrades for the character.

Use case diagram with scenario

Use Case Diagram

Inventory Management system



Scenarios

Name: Find item

Summary: The hero finishes combat and has a chance to find an item.

Actors: Hero.

Preconditions: Inventory has been initialized and hero finishes combat.

Basic sequence:

Step 1: Find item from combat.

Step 2: Check if inventory is full.

Step 3: Add item to inventory.

Exceptions:

Step 1: Inventory is full: do not add item

Post conditions: Item is added to inventory.

Priority: 3

ID: RK01

Name: Buy item

Summary: The player purchases an item.

Actors: Player.

Preconditions: Inventory and character has been initialized.

Basic sequence:

Step 1: Player clicks item.

Step 2: Check if enough gold.

Step 3: Check if inventory is full.

Step 4: Remove gold.

Step 5: Add item to inventory.

Exceptions:

Step 1: Inventory is full: do not add item or remove gold send prompt

Step 2: Not enough gold: do not add item or remove gold send prompt

Post conditions: Item is added to inventory and gold is removed.

Priority: 2

ID: RK02

Name: Sell item

Summary: The player sells an item.

Actors: Player.

Preconditions: Inventory and character has been initialized, item in inventory.

Basic sequence:

Step 1: Player selects item.

Step 2: Player clicks sell.

Step 3: Item is removed.

Step 4: Gold is added.

Post conditions: Item is removed from inventory and gold is added.

Priority: 3

ID: RK03

Name: Equip item

Summary: The player equips an item.

Actors: Player, Hero.

Preconditions: Inventory and character has been initialized and an item in the inventory.

Basic sequence:

Step 1: Player selects item.

Step 2: Player clicks equip.

Step 3: Check if equipment slot is full.

Step 4: Move item in equipment slot to inventory.

Step 5: Move selected item slot to equipment slot.

Step 6: Update player stats

Post conditions: Item is added to equipment slot removed from inventory.

Priority: 2

ID: RK04

Name: Buy Upgrade

Summary: The player purchases an upgrade.

Actors: Player.

Preconditions: Inventory, shop, and gold have been initialized.

Basic sequence:

Step 1: Player clicks upgrade.

Step 2: Check if gold is enough.

Step 3: Remove gold.

Step 4: Add upgrade to inventory.

Exceptions:

Step 1: Not enough gold: do not add upgrade

Post conditions: upgrade is added to inventory and gold is removed.

Priority: 1

ID: RK05

Name: Update stats

Summary: The player equips an item or purchases and upgrade and the stats change.

Actors: Player, Hero.

Preconditions: Equipment or upgrades are changed.

Basic sequence:

Step 1: Equipment or upgrades are changed.

Step 2: Set stats to new item or upgrade.

Post conditions: Hero stats are updated.

Priority: 1

ID: RK06

Name: Manage Inventory

Summary: The player interacts with items and upgrades.

Actors: Player.

Preconditions: Inventory has been initialized.

Basic sequence:

Step 1: Select item.

Step 2: Equip or sell selected item.

Step 3: Change inventory state.

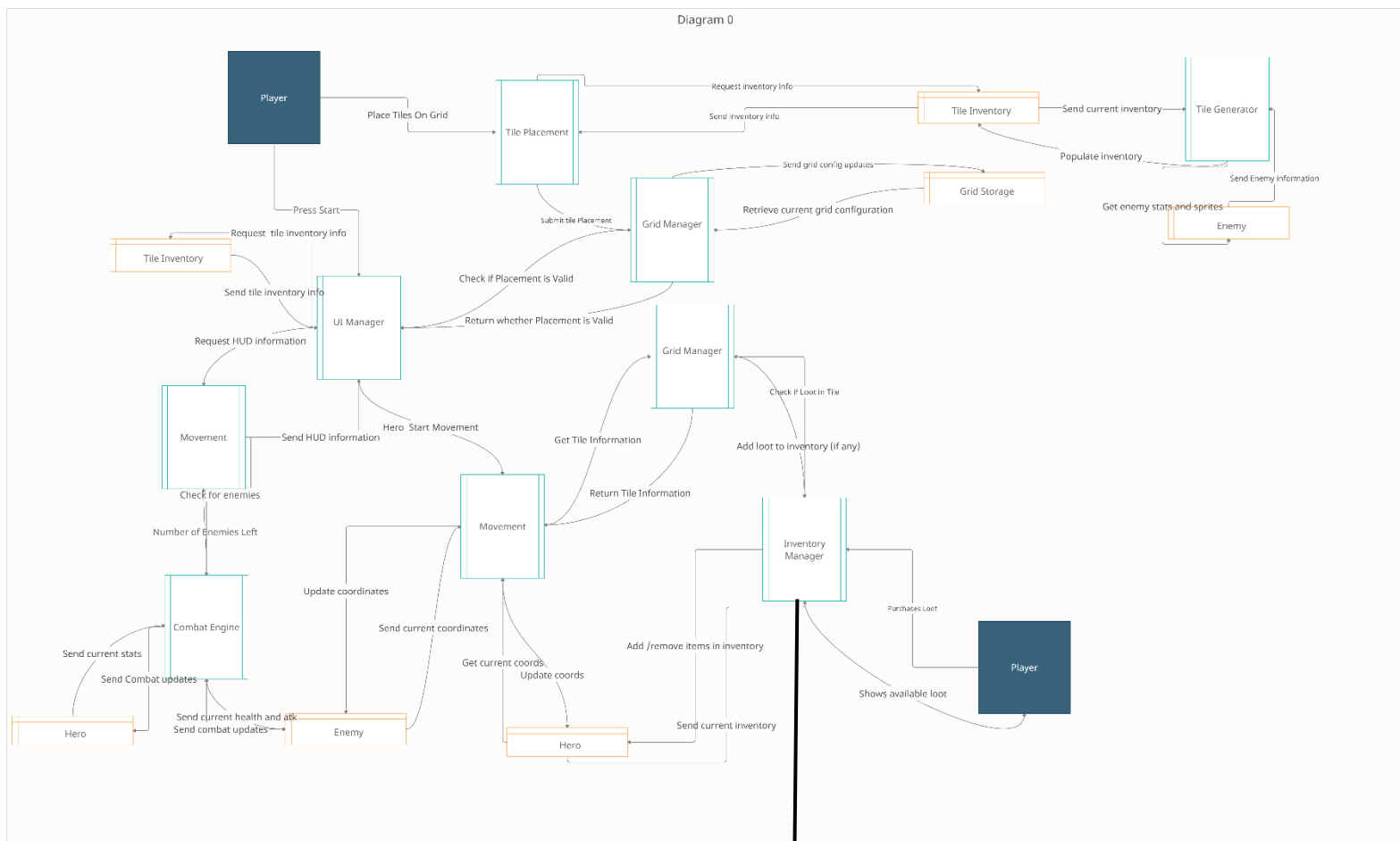
Exceptions:

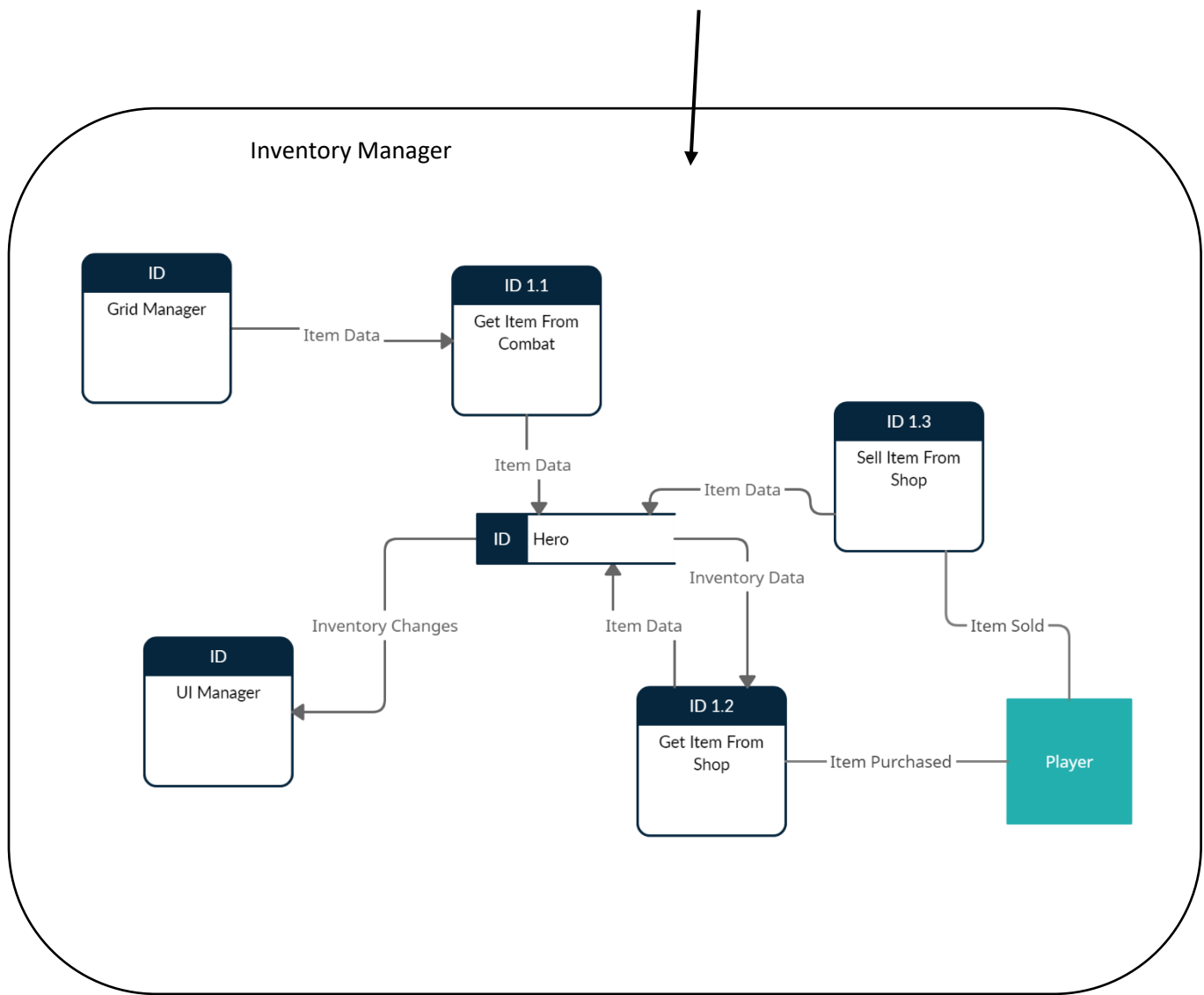
Step 1: Inventory is full: do not add item

Post conditions: Inventory is changed.

Priority: 1

ID: RK07





ID 1.1 Get Item From Combat

The Grid Manager calls the Add item function when combat is finished supplying the function with the item information. This adds the item to the hero's inventory and sends the new inventory list to the UI Manager to update the visual inventory.

ID 1.2

The player selects an Item from the shop and clicks the purchase button. That calls the Purchase Item function, which takes in the hero's inventory and the selected item, compares the gold value in the inventory. If the inventory gold is larger than the items cost, the cost is removed from the inventory and the item is added, and the UI is updated. Else if the inventory gold is less than the item cost, a warning pops up to notify the user they cannot afford the item.

ID 1.3

The player selects an item in the inventory and clicks the sell button. This calls a function that takes in the players inventory and the item selected. It adds the sell value to the inventory and removes the item.

Run feature 1000 times saving outputs to a file

The input will be testing a variety of inventory lengths, item types, and amounts to be added or removed

The output should be the list of inventory items after performing the operations

For the purchase of an item from the shop there are many cases because there are so many possible outcomes, I will restrict the values of inventory gold to 0 - 3 and Item cost to 1-3, Items in Inventory must be less than or equal to Inventory size.

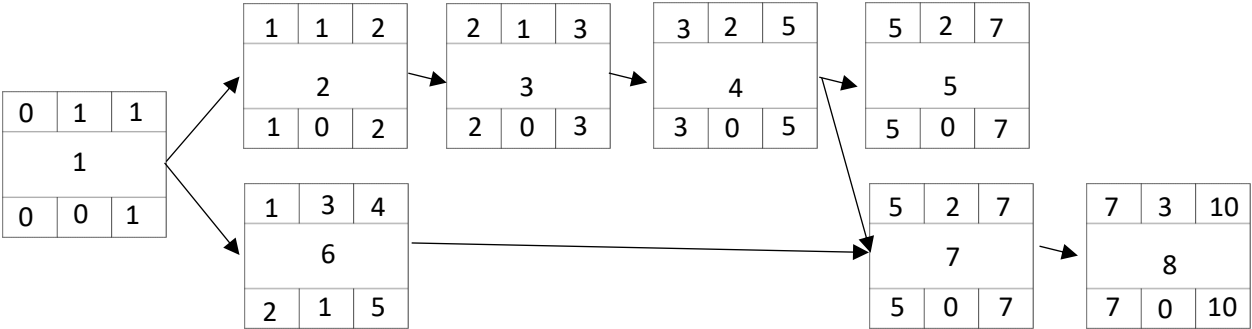
For Purchasing an Item

Inventory gold	Item cost	Inventory size	Items in Inventory	Output
0	1	3	1	No item added(not enough gold)
1	1	3	1	Item added
2	1	3	2	Item added inventory now full
2	2	3	3	No item added(inventory full)

Work Items

#	Task	Duration	Requirements
1	Create Item Class	1	-
2	Create Inventory List	1	1
3	Add Items to List	1	2
4	Remove Items from List	2	3
5	Create Item Shop	2	4
6	Create Equipped List	3	1
7	Equip Items	2	4,6
8	Equipped Items Update Stats	3	7

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