Software Requirements Specifications

for

Items is Items

v1.0

10/17

Team Name: A group of people

Location of electronic version of file:

https://docs.google.com/document/d/1eKcnQwZeEs4QbP-UMZ4hVSC-cWBOWcV5ttpb7OWe_Qw/edit?usp=sharing

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Revision Page

version	Primary author	description	Date completed
0.1	Jordan Betcher	Creation	10/16/2018
1.0	Jordan Betcher Job Betcher Annick Stefanin	Added everything	10/17/2018

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Introduction

Purpose

The “Items is Items” game, is a top down 2D item Adventure puzzle game. With an inventory UI that allows you to combine and store items and the ability to use items to interact with the world.

The intended audience of this document is our group so that each of us knows that part within this game and our advisers so that they know how and what we’re planning on doing.

Scope

“Items is Items”’s goal is to provide players with the experience of using all items they can find in creative and interesting ways to solve any puzzle presented to them.

Definitions, Acronyms & Abbreviations

2D - Two Dimensional
Items is Items - The placeholder name for the game
NPC - Short for “Non-Player Character” a character that is operated by the computer.
UI - User Interface

References

Example SRS: http://www.dgp.toronto.edu/~ppacheco/course/444/spec.pdf
User Classes:
https://softwareengineering.stackexchange.com/questions/62965/what-is-the-definition-of-user-classes-with-respect-to-software-use
Operating Environment: https://unity3d.com/unity/system-requirements
How Fast your load times should be: https://www.bluecorona.com/blog/how-fast-should-website-be
https://stackoverflow.com/questions/25728822/software-requirments-specification-srs-what-are-system-interfaces

Overview

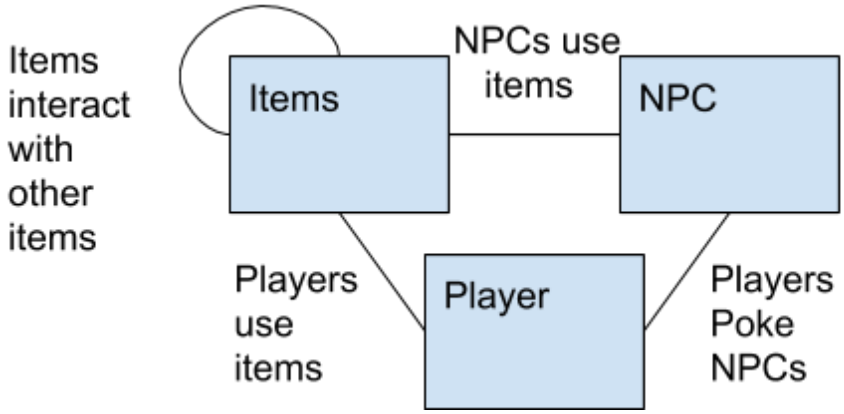
This document contains an overall description of our game, Items is Items. Within that description we discuss the product, the GUI, and target audience.

Further going into the details of our product, we discuss our specific requirements. We detail how our system interacts with the player and how the player interacts with our system.

Overall Description

Product Perspective

The product will be independant and totally contained not needing any outside sources apart from the player who will become apart of our system.



System Interfaces

None, this system is completely isolated from other systems. (The player becomes apart of the games system)

User Interfaces

The program will consist of three main screens. There will be a Main Menu Screen, the Multiplayer Select Screen and the In-game World Screen. These will be broken into several more components to aid the user in navigating the game program.

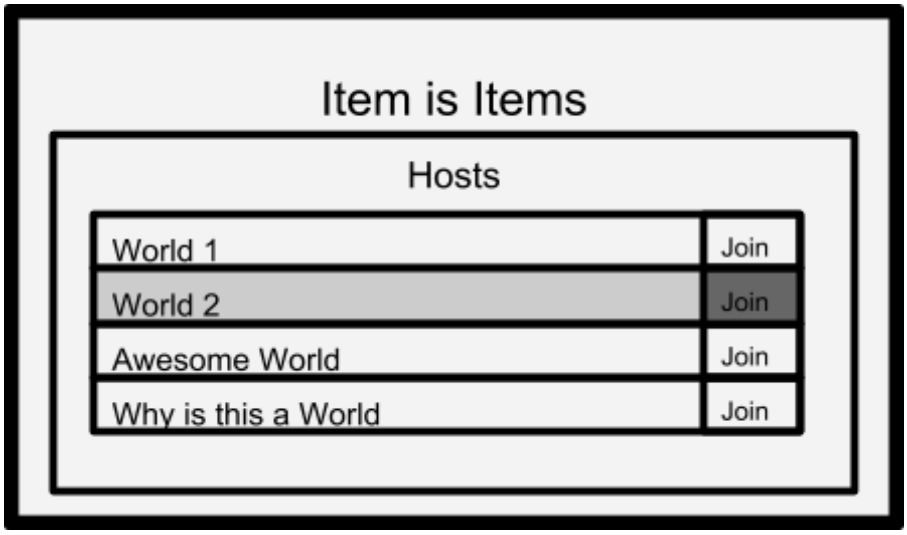
Main Menu

The Main Menu screen will be the first screen the user is greeted with when starting the program. It will consist of the game's title [pending] and three buttons below that, one which says 'new game' which will when pressed gives a text box that allows the player to enter a name for that world and confirm, which then initialize a new world and character, switching the user's display to the World Screen. The second will say 'load game', which will when pressed clear the title and list the various saves the user has made on that world if any. The player can either go back to the main menu, or select a world to load which will then load the world and display the World Screen. The third will say 'multiplayer', which moves it to a Multiplayer screen. The final button will simply say 'exit game' which when pressed will close the application.

Multiplayer

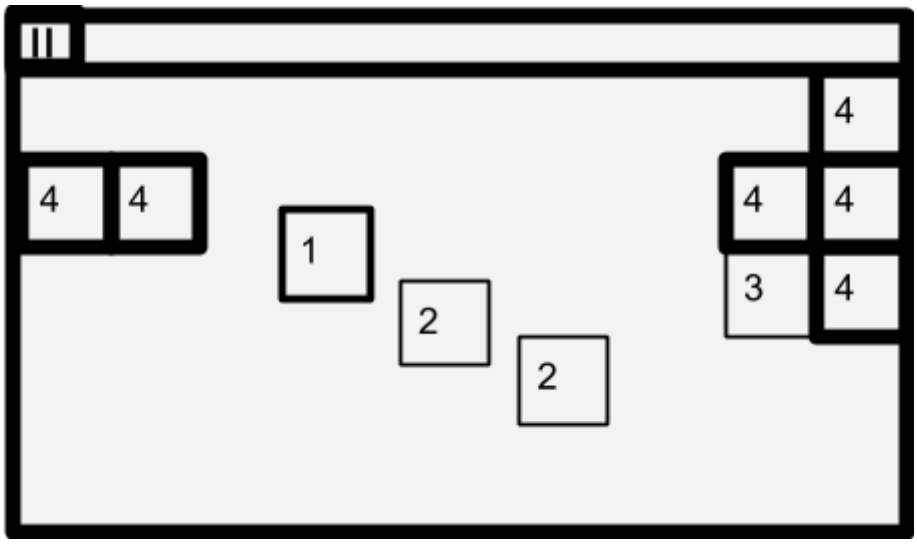
The Multiplayer screen will first offer the players two buttons: ‘Host’ and ‘Join’. If the player presses ‘Host’, it goes directly to the World Screen while opening the world up to other players.

If the player presses ‘Join’, the game lists the nearby (read, on the same router) worlds that are currently hosting, listing the names of those worlds. The player can select a world, which then allows the player to click the ‘Join’ button associated with that world. When ‘Join’ is pressed, the screen immediately switches to the World Screen of the host world that the player decided to join.



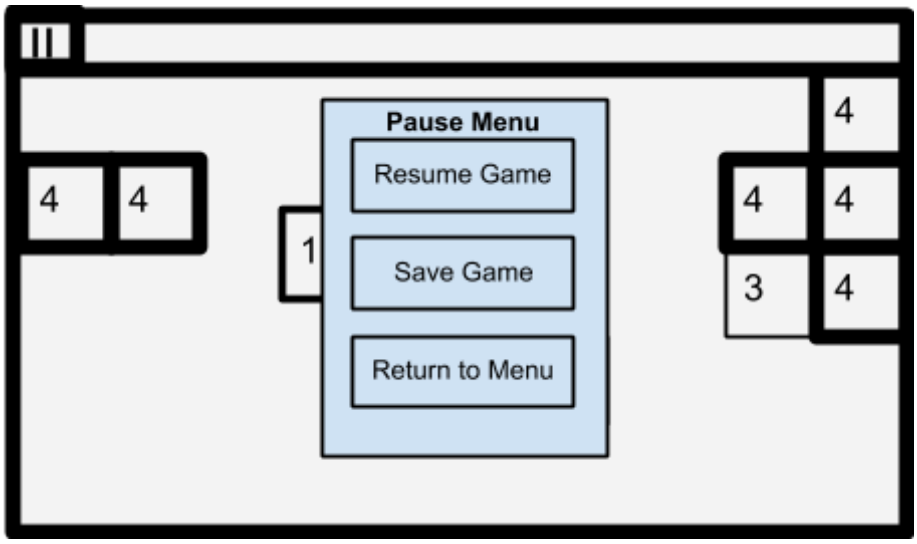
World Screen

The World Screen will be the screen on which the main gameplay will take place. It will display the 2D tiled game world from a top-down perspective. The world screen will move with the player, and everything on the screen will be interacted with with the mouse.



1: Is the player
2: Are the items that follow behind the player
3: Is the items that the player hasn't picked up
4: Is the terrain that he player can't walk through

The player can press a small pause icon in the top left of the screen to exit the application, or press tab to pause the game. When the game is paused the player can 'resume game', 'save game', or 'return to menu'. The 'resume game' button will simply go back fully to the World Screen. The 'save game' button will allow the player to name their world, save it, and immediately return to the World Screen. The 'return to menu button' will save the game and switch the screen to the Main Menu.



Hardware Interfaces

The game will be run on PC, and will also be ported to Android devices. The game itself will save and load files locally within the game files, and each device which can access the game must have the game files fully downloaded onto its hardware.

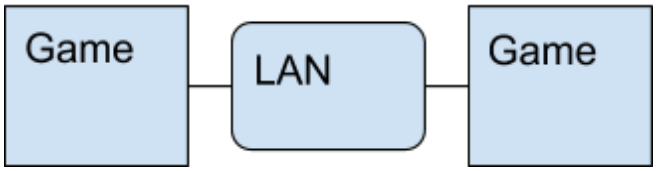
Software Interfaces

The game will be built on Unity version 2018.1.9f2. The game will be an isolated system which will not interact with programs outside of its own files.

The only instance of outside communication will occur when a user opens their world to multiplayer. In this case the application will open up a local port on the user's system allowing other instances of the game on different systems to connect to the host with a maximum of 4 different players allowed per host world.

Communication Interfaces

This game interacts with itself over LAN for multiplayer.



Product Functions

Challenge the player's mental capacity for solving puzzles and creating unusual solutions to the problems they face. Teach them to use their brain! =D Ideally our game will encourage out-of-the-box thinking which will help develop the user's problem-solving abilities, and when playing multiplayer will increase their collaborative abilities.

User Characteristics

General characteristics of our target audience are:

-

Constraints

Business Constraint:

- A form of multiplayer

Assumptions and Dependencies

-

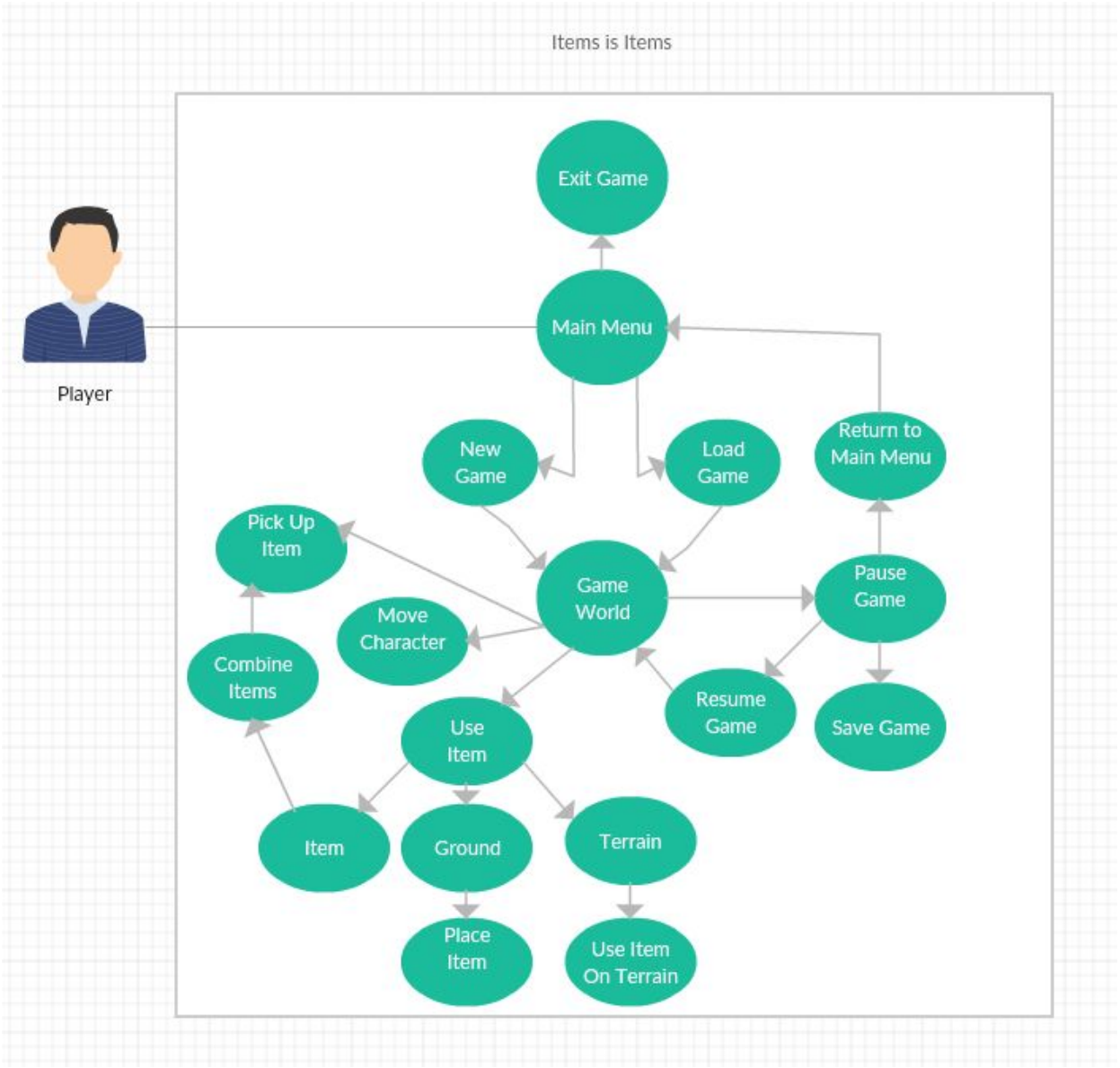
Specific Requirements

External Interfaces

The game will be run on PC for Windows and Mac, and will also be ported to Android devices. The game itself will save and load files locally within the game files, and each device which can access the game must have the game files fully downloaded onto its hardware.

Functional Requirements

The System shall allow the player can drop items.
The System shall teleport the player upon ‘death’.
The System shall make the NPCs move.
The System shall make the NPC’s use items they touch.
The System shall make NPCs drop items (if available).
The System shall teleport NPCs when they ‘die’.
The System shall will make NPCs move toward some items.
The System shall let the player give items to NPCs.
The System shall let the player poke NPCs.



Use Cases

Use Case Name:	Exit Game
Priority:	Normal
Precondition:	In the Main Menu
Trigger:	Click the Exit Game button
Purpose:	Exit the Game
Operations:	Close the Main Menu

Output:	The Game is closed

Use Case Name:	New Game
Priority:	Normal
Precondition:	On Menu Screen
Trigger:	Click the New Game Button
Purpose:	Create a new Game
Operations:	Create a new Game State Create Game name Close the Main Menu Open new world
Output:	The new Game is created Player is now in the world

Use Case Name:	Load Game
Priority:	Normal
Precondition:	On the Main Menu Screen There are Games to Load
Trigger:	Click the Load Game Button
Purpose:	Load a Game
Operations:	Open up a file explorer The player selects the save file Extract game state from file Close the Main Menu Open up the game with the game state
Output:	The Game state is loaded Player is now in the world

Use Case Name:	Pause Game

Priority:	Normal
Precondition:	In the Game World
Trigger:	Click the Pause Button
Purpose:	Pause the game
Operations:	Pause the Game Open the Pause Menu
Output:	The game is paused The pause menu is opened

Use Case Name:	Return to Menu
Priority:	Normal
Precondition:	In Pause Menu
Trigger:	Click the Return to Menu button
Purpose:	Return to Main Menu
Operations:	AutoSave the game Close the Game Open the Main Menu
Output:	The Main Menu is displayed

Use Case Name:	Save Game
Priority:	Normal
Precondition:	In the Pause Game
Trigger:	Click the Save Game Button
Purpose:	Save the Game to be Loaded in the Main Menu Later
Operations:	Open a file Explorer to get the save spot and name Compress the gamestate and store it as a file

Output:	The game data in a save state stored in the save area

Use Case Name:	Resume Game
Priority:	Normal
Precondition:	In the Pause Menu
Trigger:	Click the Resume Game Button
Purpose:	Resume the Game
Operations:	Close the Pause Menu Unpause the Game
Output:	The Pause Menu is gone The Game is Unpaused

Use Case Name:	Select Item
Priority:	Very High
Precondition:	In Game world
Trigger:	Click on an Item in the world
Purpose:	Select an Item
Operations:	Turn off collision from the item The Item is follows the mouse All usable Items are highlighted
Output:	The Item no longer collides There are highlighted terrain There are highlighted Items

Use Case Name:	Use Item on Item in World
Priority:	High
Precondition:	In Game world Item is Selected

	The Item in World is interactable
Trigger:	Click onto the Item in World
Purpose:	Use the Item on the Item in World
Operations:	The Item is deleted The Item in World now has Item use state added
Output:	The Item in World has a new state

Use Case Name:	Use Item on Item
Priority:	High
Precondition:	In Game world Item is Selected
Trigger:	Click onto another Item
Purpose:	Combine the Items
Operations:	Delete both Items Create the new Item
Output:	The two items are gone but now a new Item follows the player in the inventory

Use Case Name:	Use Item on Ground
Priority:	High
Precondition:	In Game world Item is Selected
Trigger:	Click onto Ground
Purpose:	Place the Selected Item
Operations:	Deselect the item and change it’s position onto the ground

Output:	The item no longer follows you in your inventory and instead is lying on the ground.

Use Case Name:	Player can Move
Priority:	Very High
Precondition:	In Game world
Trigger:	Left click on place in the world
Purpose:	Move the character
Operations:	Changes the position of the character in a direct line in the vector direction of where the user clicked
Output:	The character is in the position where the user clicked

Use Case Name:	Character Uses Item
Priority:	High
Precondition:	In Game world Character moves
Trigger:	Character touches Item
Purpose:	Uses the Item on the Character
Operations:	The character moves and touches the Item in the Game world.
Output:	The player now has the effects of the Item.

Use Case Name:	Character Picks up Item
Priority:	High
Precondition:	In Game world

	Item in Game world
Trigger:	User clicks and grabs
Purpose:	Place the Item in inventory
Operations:	The player clicks the Item in the world and drags it to their inventory.
Output:	The Item is now in the player's inventory.

Performance Requirements

95% of the time screens should load in less than 1 seconds on desktop.
95% of the time screens should load in less than 2 seconds for mobile.
95% of the time it should take less than a tenth of a second for an object to highlight upon interacting.

Design Constraints

Hardware Limitations:

- Our game needs to play on mobile, so each control needs to be used via touch screen.

Software System Attributes

Items-to-Items will be a reliable single and multiplayer game capable of running on windows and android. The player can play it both casually and seriously, though it caters to the more casual gamer. It will be persistent, where they don't have to worry about saving as it the world will remain even when you aren't playing, the save / load function is for multiple worlds.