WASHINGTON STATE UNIVERSITY
VANCOUVER

Software Requirements Specification

for

Minecraft Item Crafter

Version 1.0

Prepared by

Group Name: The Blondies

Noah Scarbrough	**11663725**	**noah.scarbrough@wsu.edu**
Jacob van Tol	**11568824**	**jacob.vantol@wsu.edu**
Jared Kangas	**11588980**	**jared.kangas@wsu.edu**

Date: October 25th, 2019

Contents

Revisions

Version	Primary Author(s)	Description of Version	Date Completed
1.0	Noah Scarborough Jacob van Tol Jared Kangas	The initial draft for the SRS. Details the minimal requirements for Minecraft Item Crafter	10/25/19

1 Introduction

1.1 Document Purpose

This document specifies the requirements for Minecraft Item Crafter 1.0.0. The entire system will be covered in this SRS. Specifically, this SRS will explain the minimal functional and nonfunctional requirements for Minecraft Item Crafter 1.0.0.

1.2 Product Scope

The software is a web app that allows users to experiment with Minecraft crafting recipes. Recipes are a pattern of items in a 3x3 table that result in a new item. The user will be able to populate a 3x3 table, and the software will scan for valid recipes. If a valid recipe is detected, it will display the resulting item to the user.

This is beneficial to players who want to experiment with crafting without wasting in-game materials. It is also helpful to new players who know the basics of crafting but are still learning the recipes.

1.3 Intended Audience and Document Overview

This document is intended to give an overview of the functionality and planned design of the product to the professor as well as potential clients. The professor will likely be interested in the entirety of the document, but clients will likely be most interested in section 3. This document is also intended as a guide for the developers.

1.4 Definitions, Acronyms and Abbreviations

Term	Definition
Crafting table	A 3x3 table where the user can place Minecraft items to form recipes
CSS	Cascading Style Sheet
HTML	HyperText Markup Language
HTTP	HyperText Transfer Protocol
Item	Any object from Minecraft that can be placed into the crafting table. Items typically resemble real world objects, such as wood, sticks, etc.
JS	JavaScript
Minecraft	A popular video game created by the company Mojang
Recipe	A unique and specific arrangement of items in a crafting table that can produce a new item

1.5 Document Conventions

This document follows the IEEE formatting requirements.

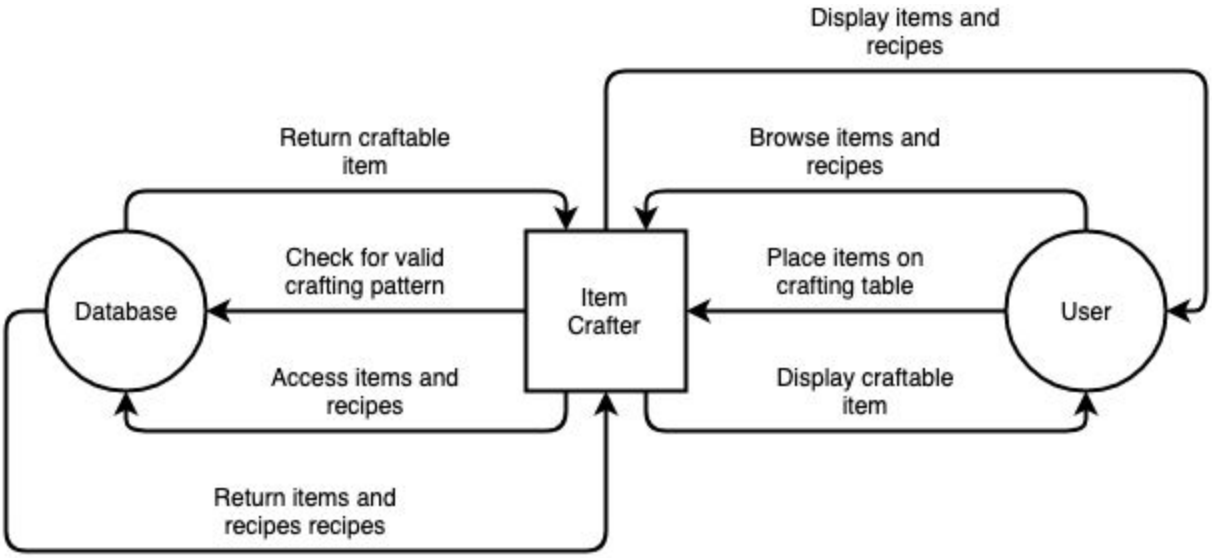
1.6 References and Acknowledgments

Majr et al. “Minecraft Wiki.” Internet: https://minecraft.gamepedia.com/, Oct. 12, 2019.

2 Overall Description

2.1 Product Perspective

The product is self contained and works within its own system. It will use data from the game, Minecraft, but does not actively interface with Minecraft or any other existing software. It will access a database of information pulled from the game and other sources that will allow the software to list items and recipes as well as detect valid crafting patterns.



2.2 Product Functionality

- List items and crafting recipes sourced from Minecraft
- Allow the user to search through items and crafting recipes
- Allow the user to choose items to populate crafting table
- Scan for valid crafting patterns and display the crafted item

2.3 Users and Characteristics

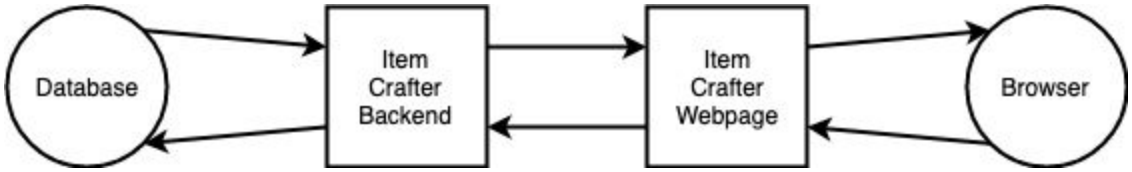
- Naive users with basic knowledge of the game; this will be the most common use case and therefore the most common user. It is important that the interface is similar to Minecraft, especially the crafting table. It will also be important that items and recipes are sourced and handled accurately.

- Technical users evaluating the software; this will be another present user-base. The technical user may or may not have knowledge of the game, so it is important that the documentation does an adequate job explaining what the software is doing and what purpose it serves. It will also be important that the backend is well written and runs smoothly.

Naive users with basic knowledge of the game will be the most important users for the product.

2.4 Operating Environment

The software will be a web app. It is intended to run on all major desktop browsers.



2.5 Design and Implementation Constraints

The task the product is carrying out is fairly simple, and the program shouldn't require more processing power or memory than what is widely available. A major limitation could be the website interface. It may be difficult to arrive at a UI design that is both feasible to code and accommodates the required functionality. There may also be limitations on how extensive the product's database is, and the finished database may not be fully up to date with the latest version of Minecraft.

2.6 User Documentation

The product will include a user manual detailing the features and usage of the program. There will additionally be a help page when the user first launches the site. This help page can be reviewed at any time.

2.7 Assumptions and Dependencies

- We assume that the Bootstrap API is stable
- We assume that scanning the table for craftable items will be fast enough to accommodate the pace at which the user is working
- We assume that the individual crafting recipes are constant
- We assume that any linked wiki pages for items are maintained
- We assume the user has a stable internet connection

3 Specific Requirements

3.1 External Interface Requirements

3.1.1 User Interfaces

The User Interfaces need to be simple and easy to use. All screens should have a standard header, which includes buttons for navigating pages. Initially, the user should view the home screen. A brief title and description should take up most of the screen, followed by a large button which should link to a new page where the user can use a crafting table

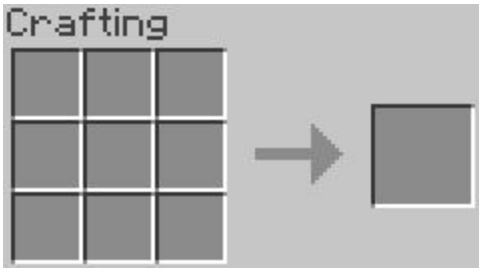


Figure 3.0: Crafting table interface from Minecraft (minecraft.gamepedia.com)

The page with the crafting table should have three pieces: The standard header, the crafting table, and a list of items. The crafting table should look like the one in the game Minecraft (see Figure 3.0). The resulting item should be displayed in a box, which again should resemble the one seen in Minecraft. The list items will be displayed on the bottom half of the screen. Each item will include the name of the item and an image of the item. There should be two buttons for each item. The first will allow the user to add an item to the table, and the second button should let user view more information about the item. Each button will be clearly labeled.

Error messages should be prominent on the page. They should explain to the user what went wrong and what they should do to fix the error.

3.1.2 Hardware Interfaces

The system will need to interface with an external database. This database will be used to hold Minecraft items. When the user interacts with the website, an API call will be made to the database to retrieve a list of Minecraft items.

3.1.3 Software Interfaces

The interface will be the same for every operating system. To interact with the operating system, the website will require a web browser, which will need the ability to run the latest versions of CSS, HTML, and JavaScript.

3.1.4 Communications Interfaces

The system itself will require an HTTP connection for the user interact with it. No other types of communication are needed for the system.

The website will only need to interface with the Minecraft Wiki webpage. The domain that will be used for this page is https://minecraft.gamepedia.com. Images and text may be retrieved from https://minecraft.gamepedia.com.

3.2 Functional Requirements

3.2.1 Add Item To Recipe

1. The user selects a square in the crafting table
2. The selected square becomes highlighted
3. The user chooses an item from a list of all items
4. The item is placed into the selected square

3.2.2 View Item Information

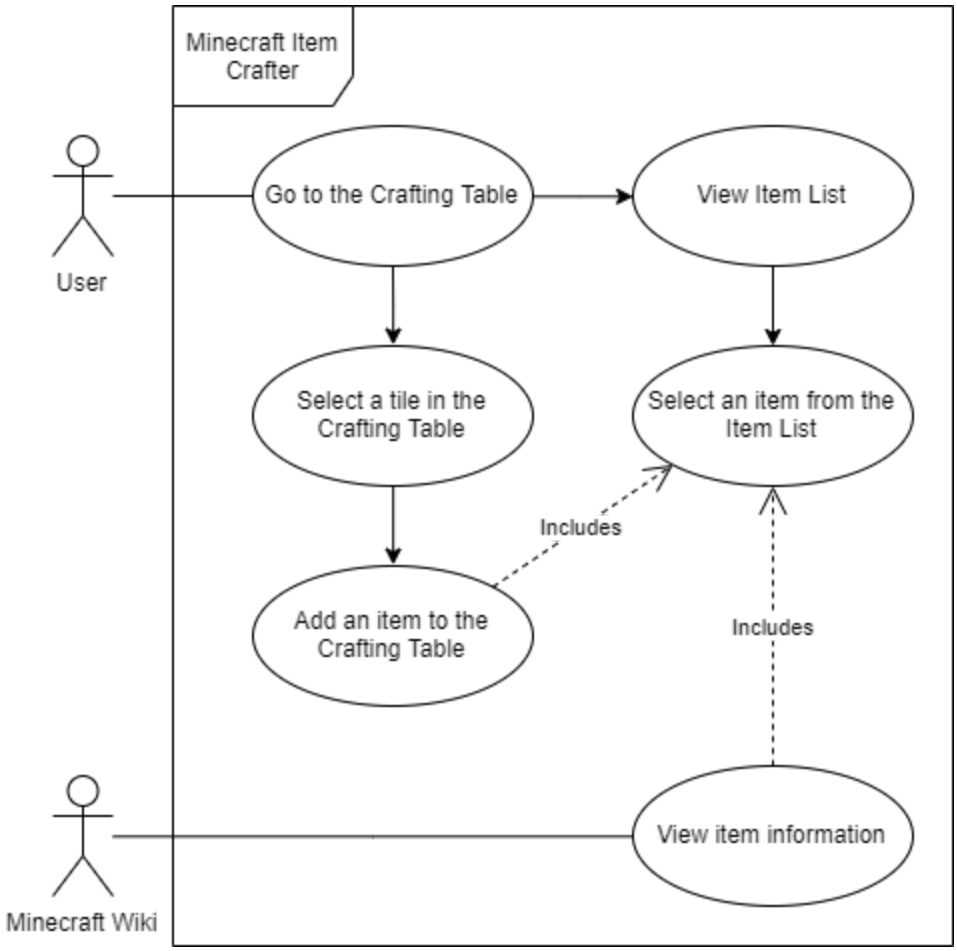
1. The user clicks on an item name
2. A new tab is opened
3. The new tab is redirected to the Minecraft Wiki page associated with the selected item

3.2.3 Preview Crafting Result

1. The user adds an item to the crafting table (see 3.2.1)
2. Saved recipes are scanned and compared to recipe in the crafting table
3. If a match is found, the result is displayed in the result box

3.3 Behaviour Requirements

3.3.1 Use Case View



Actor	User
Description	Someone who is accessing the website's landing page.

Actor	Minecraft Wiki
Description	A website that holds information about most Minecraft items. (https://minecraft.gamepedia.com)

Use Case	Go to Crafting Table
Description	On the landing page, the user can click a button to navigate to the Crafting Table.

Use Case	View Item List
Description	A list will automatically generate when the user views the Crafting Table. The list will contain every Minecraft item in the database.

Use Case	Select item from the Item List
Description	The user can select a specific item from the item list.

Use Case	Select a tile in the Crafting Table
Description	The user can select one of the 9 tiles in the 3x3 Crafting Table. The tile will then be highlighted. If a tile is already selected, then the previous tile will no longer be highlighted, and the new tile will be selected.

Use Case	Add an item to the Crafting Table
Description	The user can add an item by choosing an item in the Item List and clicking “Add Item”.

Use Case	View item information
Description	The user can view an item’s information by choosing an item in the Item List and clicking “View Info”. The user will then be redirected to Minecraft Wiki.

4 Other Non-functional Requirements

4.1 Performance Requirements

- Visual response to user input shall take less than 500 milliseconds on all testing devices and in all tested browsers.
- All pages should take a maximum of five seconds to load in a simulated slow connection.

4.2 Safety and Security Requirements

Any user input that may be sent to the database shall be thoroughly sanitized to prevent malicious database manipulation.

4.3 Software Quality Attributes

4.3.1 Testability

The project's source code shall be thoroughly testable, which carries several implications. First, global variables will be avoided in the source code due to the added complexity in testing a global state. Functions should also be no longer than 50 lines long. Short, reusable, and testable functions are preferable over complex functions. Finally, the source code should be modular and robust, handling error states gracefully.

4.3.2 Portability

The software shall run on any browser that supports the ECMAScript 6 standard. To ensure the software functions as expected in mainstream browsers, informal testing shall be done for Firefox, Google Chrome, Microsoft Edge, Safari, and Opera.

4.3.2 Maintainability

Due to using Agile development, an emphasis on maintainability is needed to prevent structural degradation of the source code. Code refactor cycles will be done on occasion to preserve the functionality of the software while strengthening the source code's readability and modularity.

Appendix A – Data Dictionary

Entity Name:	**Description:**
Item	An object that stores information for a Minecraft Item, including: ● ID: A unique identifier for the item ● Name: The name of the item ● Image: An image of the item ● Wiki Link: A link to the item's description in minecraft.gamepedia.com ● Recipe: The recipe for creating the item (Nullable)
Crafting Table	A 2D array that stores Items. Each index of the array represents a square in the crafting table (see Figure 3.0)
Result	An Item that has a recipe that matches the arrangement of items in the Crafting Table
Item List	An array of Items

Appendix B - Group Log

Date:	**Time spent:**	**Work completed:**
10/19/19	~2 hours	Entire group met to work on the concept and document
10/23/19	~1.5 hours	Entire group met to work on the concept and document
N/A	N/A	Other individual writing sessions