Software Requirements Specification

for

Building A Modern Mindmap Interface

Version 1.0 approved

Prepared by Alexandra Corso, Shije An, Anh Le

SYRG Inc.

Oct 13th, 2019

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Revision History

Name	Date	Reason For Changes	Version

1. Introduction

1.1 Purpose

The goal will be to complete the frontend for a web-based mind maps application. A mind map is a graphical way to represent thoughts that allows users to add and connect nodes and subnodes that each contain text or images in order to create an organized thought diagram.

1.2 Document Conventions

In order to complete the requirement, we have to search through different javascript libraries and APIs. After getting referenced by those documents, we will specify the detailed requirements for the project.

1.3 Intended Audience and Reading Suggestions

This document is to be read by developers, project manager and users. This document provides an overall review of the projects features and goals throughout this SRS

1.4 Product Scope

This product provides tools for users to build the mind maps, so that users have a more effective way to improve their learning skills. The goal is to focus on building an interface that allows users can creatively create and organize information into their own unique map and enhance their memory. A secondary objective is to implement a feature of the webapp that sets it apart from other mind map applications that already exist.
If time permits, the extended goal is to build the backend for this product.

1.5 References

Libraries being explored for TBD graphics library referenced here:
https://github.com/d3/d3/wiki/Gallery

2. Overall Description

2.1 Product Perspective

This product will be its own self-contained product and works as a web application. While a product was developed by students in a previous year, this product will not be an attempt to replicate or build on that product, but to develop a new product altogether. The main focus to to build the product's interface with modern frontend development techniques.

2.2 Product Functions

User Actions When Creating Mind Map:

- *the user can add a new node, which will be attached to the currently selected node*
- *the user can put more detailed thoughts in a description when creating a new node*
- *the user can select a node to view or edit its description .*
- *the user can add arrows to connect nodes that are not already connected in the tree*
- *the user should put same thoughts in the same section.*
- *the user can either create or delete, swap left or right the section they create.*
- *the user can customize color, sharp and font for node or text as their reference.*
- *the user can select a theme to apply to all nodes when creating a new mindmap*

2.3 User Classes and Characteristics

Users may range from working professionals using mind maps for planning or presentation to students using mind maps for planning of essays or projects. Security and privilege levels will not vary in these cases but professionals with more experience and higher education levels may need the maps to allow more robust details and larger trees while ease of use and learning may be most important for students, especially those at lower education levels who may be less familiar with mind maps in general.

2.4 Operating Environment

The software will be provided on any javascript based browser such as firefox, or chrome.
No hardware platform is required since the product will be based on a website.
The website should at least compatible with ES5 version of javascript.

2.5 Design and Implementation Constraints

The product is only works as on the web browser. This is not a mobile application.
Internet connection is also a constraint to this product, because the product uses internet connection to fetch the data from the database.

2.6 User Documentation

There will be user's tutorial attached to the web app toolbar for users to review if necessary.

2.7 Assumptions and Dependencies

It is assumed that the app will work correctly on any web browsers; however Chrome is recommended. A library will also be used for the mind map's graphics. The particular library that will be used is TBD.

3. External Interface Requirements

3.1 User Interfaces

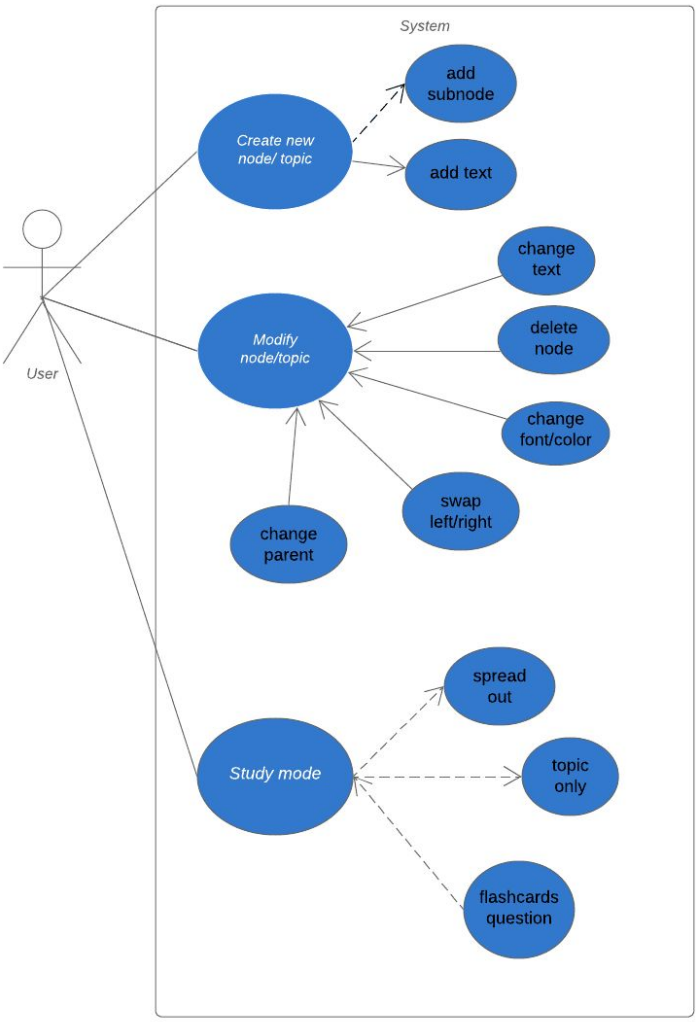
The main UI will be the canvas in which the mind map is built, along with the toolbar for building the maps. A help button will be on the toolbar which will lead to a user's tutorial. As a webapp this should resize appropriately with the browser window.

3.2 Software Interfaces

A graphics library will be required to allow the webapp to build the mind maps. The particular library is TBD after further research. No other services are planned to be connected to the webapp at this time. Backend services will be built after the completion of the frontend.

4. System Features

4.1 Use Case Diagram



4.2 Create New Mindmap

4.1.1 Description and Priority

This feature allows users to build new map for new subject. This is the main feature of the application and highest priority.

4.1.2 Stimulus/Response Sequences

When users start a new map and no theme is chosen, they will start with a blank page. Users have all control of making new node and connecting the nodes with edges. Nodes and edges appear correspond to user actions. Text/ description will show once users type inside the node.

4.1.3 Functional Requirements

REQ-1: Addition, subtraction, and linking of nodes supported

Nodes added while selecting another node will become child nodes. If no node is selected the node will not be attached to a parent.

REQ-2: Editing of node style, color, and text

4.3 Mindmap themes feature

4.1.1 Description and Priority

This feature allows users to build new map with a style and color pallet determined by a theme they select. This feature is of second priority to completing the basic mind map functions.

4.1.2 Stimulus/Response Sequences

When users start a new map, they can either choose to start with a template or blank page. This feature provides a template for users to build new map easier. The feature make available a few blank nodes and subnodes with connecting edges. Users are able to add, modify or remove the nodes to match their ideas. Color background and text fonts is customized by developers as default and can be changed by users if they wish.

4.1.3 Functional Requirements

REQ-1: The feature only available strictly when starting a new map projects.

4.4 Study mode feature

4.1.1 Description and Priority

This feature allows users to review their mind map with options: spread-out or topic-only . This feature is of lowest priority as it serves to add extra functionality to the application, but is not necessary for the mindmap to be useable.

4.1.2 Stimulus/Response Sequences

When users finish creating their mind map, they can study their material by using this feature. The feature has options to zoom the map and spread out all the subnode or just show main topics to review. The background is darkened for focus and nodes are hidden and revealed as the user pans through. Optionally they can be revealed after the user is given a chance to try to remember the information associated with the node, like flashcards.

4.1.3 Functional Requirements

REQ-1: The feature only available when it is not a blank page

5. Other Nonfunctional Requirements

5.1 Software Quality Attributes

As a mind mapping software, ease of use will be important to users. The webapp must also be maintainable and be easy build upon if more features of the mind-map are added later. Maintainability will be ensured by following standards of small readable functions with a single function and limited side effects.

6. Other Requirements

Appendix A: Glossary

SRS - Software Requirement Specification

Appendix B: To Be Determined List

TBD: Graphical library for node building
TBD: additional product features may be added to make the product stand out from others, with the permission of time