Software Requirements Specification

for

Typing tutor

Version <1.0>

Prepared by

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Introduction

1.1 Purpose

The purpose of this document is to present a detailed description of the Typing Tutor Website System. It will explain the purpose and features of the system, the interfaces of the system, what the system will do, the constraints under which it must operate and how the system will react to external stimuli. This document is intended for both the stakeholders and the developers of the system.

1.2 Scope of Project

This software system will be a Typing Tutor Website for the beginners who want to learn 10 thumbs. This system will be designed to maximize the user's typing speed by providing lessons to help them in learning and practicing typing 10 thumb efficiently and properly. By maximizing the user's typing speed, users can improve the efficiency and productivity of using and utilizing the computer in their works as well as entertainment.

More specifically, this system is designed to help the users learn from the first step of typing 10 thumbs through the basic lessons. In turn, they can practice typing from easy levels to advanced levels by applying some rules and tips we provide. The software will facilitate not only users, but also the editors who can easily create and post new post on website.

1.3 Glossary

Term	Definition
Basic Lesson	The basic lesson provided for users to practice
Advanced Lesson	The high-level lesson for users to practice
User	An account registering on website
Database	Collection of all the information monitored by this system.
Editor	Person who create and post lessons on the website.
Software Requirements Specification	A document that completely describes all of the functions of a proposed system and the constraints under which it must operate. For example, this document.
Stakeholder	Any person with an interest in the project who is not a developer.

1.4 References

IEEE. *IEEE Std 830-1998 IEEE Recommended Practice for Software Requirements Specifications.* IEEE Computer Society, 1998.

1.5 Overview of Document

The next chapter, the Overall Description section, of this document gives an overview of the functionality of the product. It describes the informal requirements and is used to establish a context for the technical requirements specification in the next chapter.

The third chapter, Requirements Specification section, of this document is written primarily for the developers and describes in technical terms the details of the functionality of the product.

Both sections of the document describe the same software product in its entirety, but are intended for different audiences and thus use different language.

2.0 Overall Description

2.1 System Environment

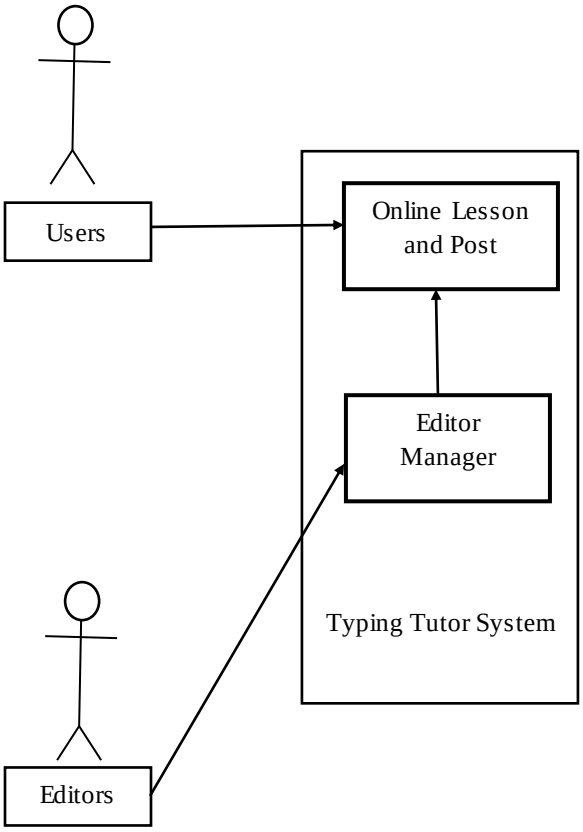


Figure 1 - System Environment

The Web Typing Tutor System has two active actors including The User and The Editor. The User and Editor access the system through the Internet and login directly through the account registered using social network authentication.

2.2 Functional Requirements Specification

This section outlines the use cases for each of the active users separately. The editor has only two use cases while the user is main actor in this system with 4 use cases.

2.2.1 User Use Case

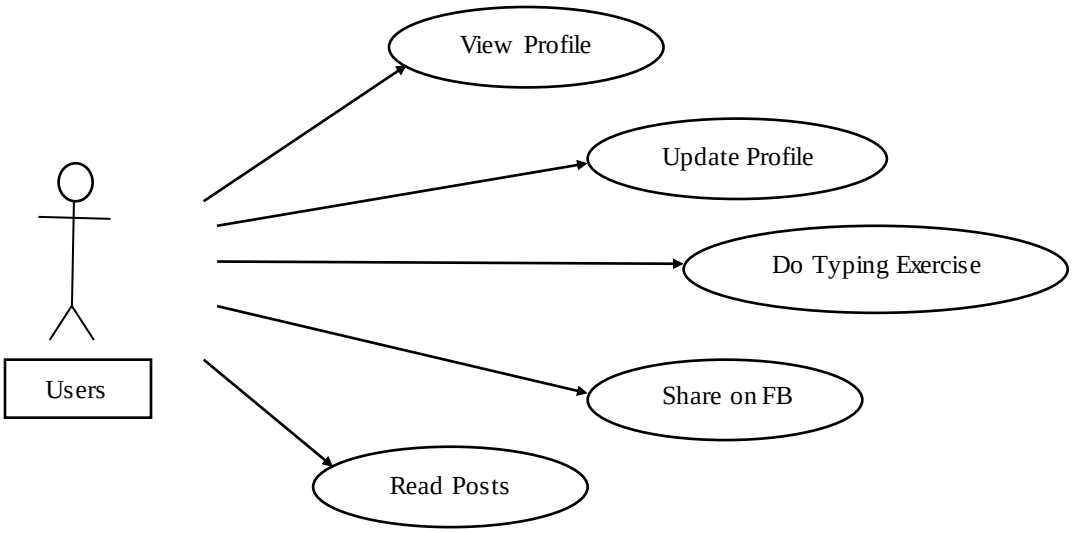
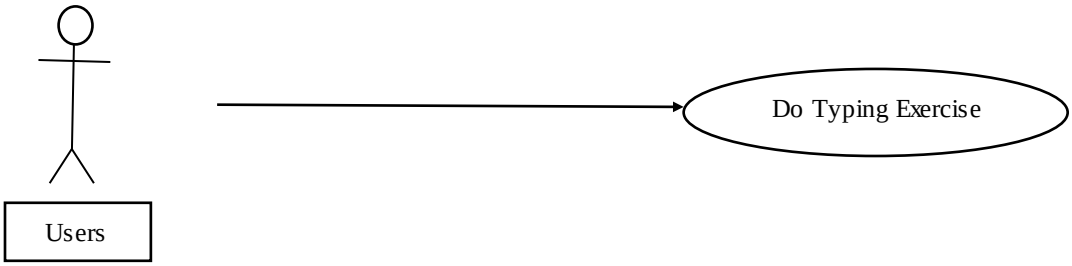


Figure 2 – User Use Cases

Use case: Do Typing Exercise
Diagram:



Brief Description
The User does a typing exercise.

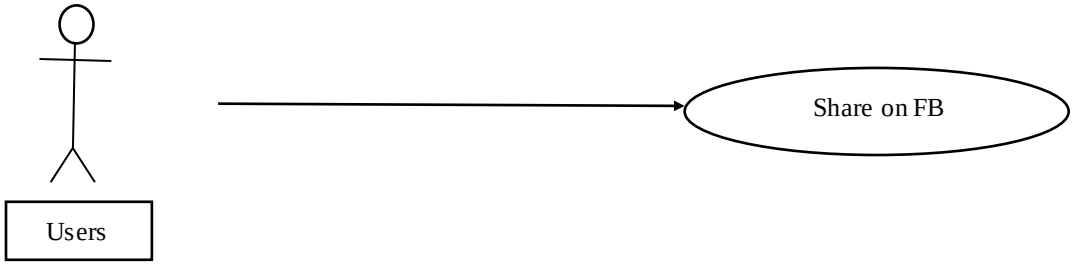
Initial Step-by-Step Description
Before this use case can be initiated, the User has already selected a typing lesson or a paragraph.

1. The system presents a dialog that tells the user to begin typing.
2. The User press Enter or click the OK button on the dialog.
3. The system presents the content of the typing test in a text box, along with the keyboard guide and the user's current statistics. The first character of the text is highlighted.
4. The corresponding key in the keyboard is highlighted. If the user types the correct character, the next character is selected. Otherwise, the current character will be highlighted differently to reflect the error. This is repeated until there are no more characters.
5. The system displays a dialog informing the user that he/she has completed the exercise.

6. The user chooses to go back, practise again or share the progress on Facebook

Xref: Section 3.1.1, Do Typing Exercise

User use case: Share on Facebook
Diagram



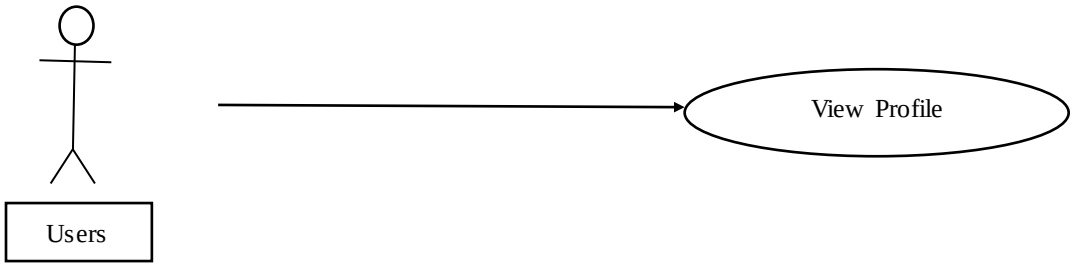
Brief Description
The User shares his/her progress using his/her Facebook account

Initial Step-by-Step Description
Before this use case can be initiated, the User has already completed an exercise. The User also has to be logged in.

1. The system presents a dialog that prompts the user to share his/her progress on Facebook.
2. The User enters the content of the post.
3. The User chooses where to share the above post.
4. The User chooses to share the post on Facebook or cancel the action.

Xref: Section 3.1.2, Share on Facebook

Use case: View Profile Information
Diagram:



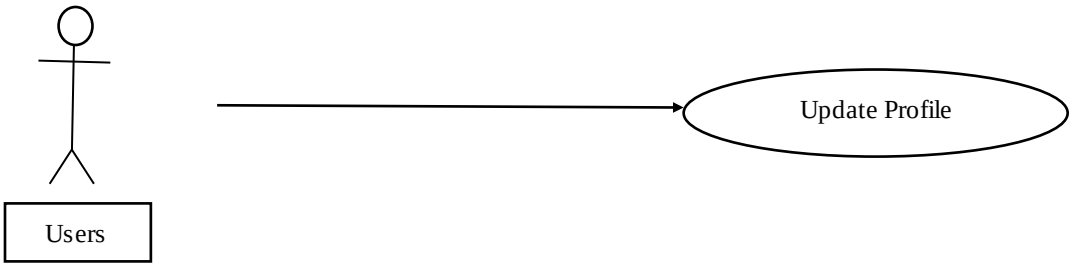
Brief Description
The User view profile to see their personal information and progress

Initial Step-by-Step Description
Before this use case can be initiated, the User has already logged in.

1. The system presents the user's personal information and the typing progress.
2. The personal information includes profile picture, username, level, date of birth, joined date and an option for the user to change their personal information
3. If the user click on Profile, then it allows them to view their personal information including the following information: profile picture, username, date of birth and the typing progress which includes the user average speed, average accuracy, frequently mistyped keys, a list of finished basic lesson and a chart showing the user statistics in the last 50 exercises.

Xref:

Use case: Update Profile Information
Diagram:



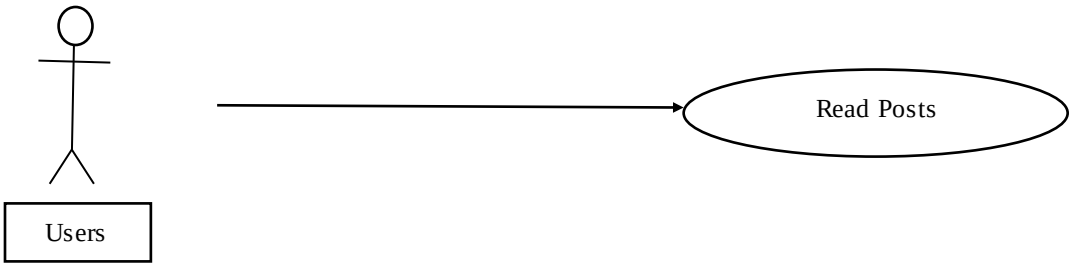
Brief Description
Users can update their profile by editing their personal information.

Initial Step-by-Step Description
Before this use case can be initiated, the User has already logged in.

1. The system presents the user's personal information and the typing progress.
2. The users click on Profile, and then it allows them to view their profile.
2. The personal information includes profile picture, username, level, date of birth, joined date and an option for the user to change their personal information.
3. If the users choose to change their personal information, the system will allow the users to change the following information: profile picture, username, date of birth. The users choose to save changes or cancel.

Xref:

Use case: Read Posts
Diagram:



Brief Description
Users can view and read posts and tips from Website to update new information or knowledge.
Initial Step-by-Step Description
Before this use case can be initiated, the User has already logged in.

1. The users click on Posts, and then it allows them to view a list of posts.
2. The users click on each post, and then it allows them to view specific posts
3. The user choose to save changes or cancel.

2.2.2 Editor Use Case

The Editor has the following sets of use cases:

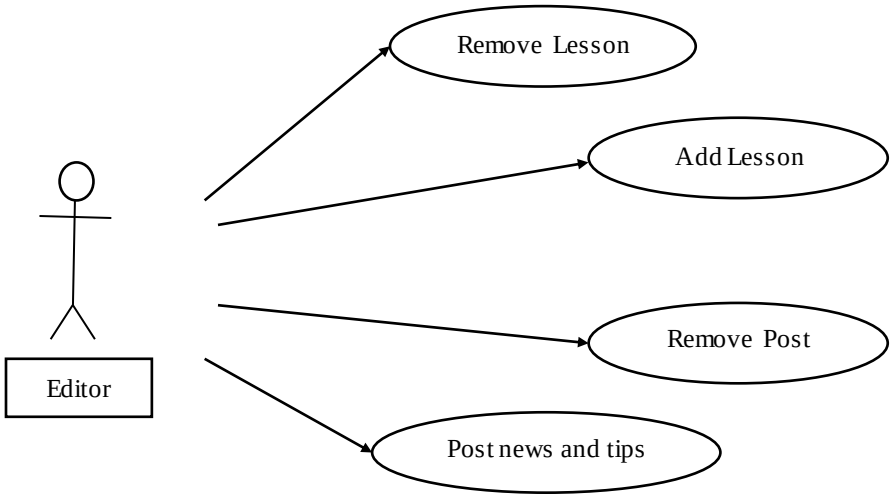
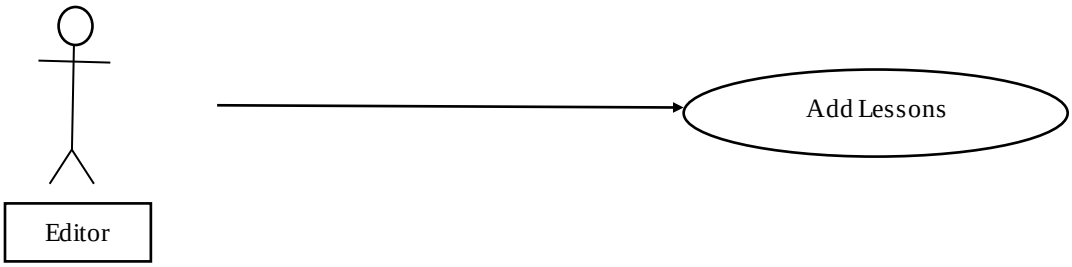


Figure 3 - Editor Use Cases

Use case: Post Lesson
Diagram:



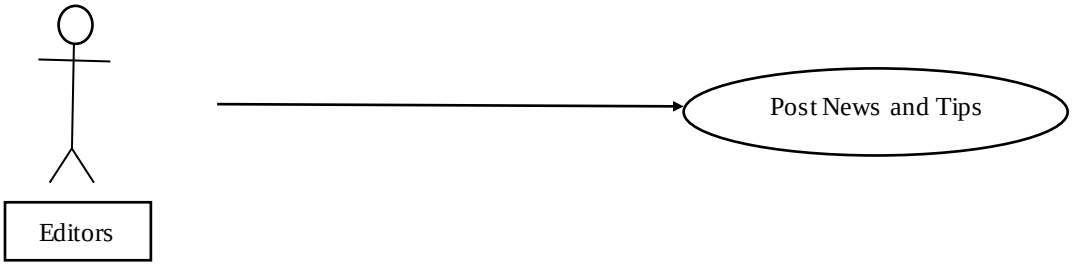
Brief Description
The Editor can add and update the lesson on Website for users to practice..

Initial Step-By-Step Description
Before this use case can be initiated, the Editor has already accessed the main page of the Editor Manager.

1. The Editor selects to *Add/Update Lesson*.
2. The system presents a choice of adding or updating.
3. The Editor chooses to add or to update.
4. If the Editor is updating a new lesson, the system presents a grid filling in with the information; else the system presents a blank grid.
5. The Editor fills in the information and submits the form.
6. The system verifies the information and returns the Editor to the Editor Manager main page.

Xref:

Use case: Post News and Tips
Diagram:



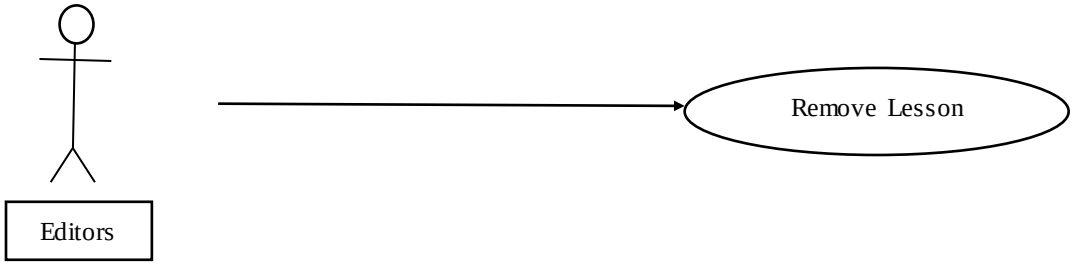
Brief Description
The Editor can post a news and tips on the website to provide information to users.

Initial Step-By-Step Description
Before this use case can be initiated, the Editor has already accessed the main page of the Editor Manager.
1. The Editor selects to Post News and Tips.
2. The system presents the form for editors to fill the information about the tips and news.
3. The Editor updates and submits the form.

4. The system verifies the information and returns the Editor to the Editor Manager main page.

Xref:

Use case: Remove Lesson
This use case is for editors can remove the lesson on the Website.
Diagram:



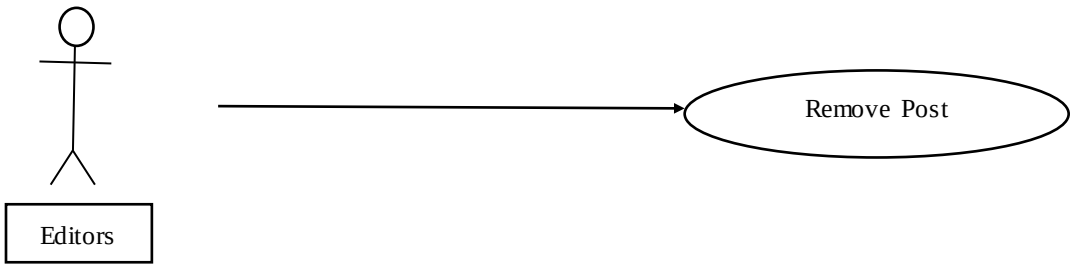
Brief Description
The Editor removes a lesson from the website.

Initial Step-By-Step Description
Before this use case can be initiated, the Editor has already accessed the the main page of the Editor Manager.

1. The Editor selects to remove a lesson from the active database.
2. The system provides a list of lessons with the status of each.
3. The Editor selects a lesson for removal.
4. The system removes the lesson from the active lesson database and returns the Editor to the Editor Manager main page.

Xref:

Use case: Remove Post
This use case is for editors can remove the lesson on the Website.
Diagram:



Brief Description
The Editor removes a post from the website.

Initial Step-By-Step Description

Before this use case can be initiated, the Editor has already accessed the main page of the Editor Manager.

1. The Editor selects to remove a post from the active database.
2. The system provides a list of posts with the status of each.
3. The Editor selects a post for removal.
4. The system removes the post from the active post database and returns the Editor to the Editor Manager main page.

Xref:

2.3 User Characteristics

The User is expected to be Internet literate and be able to use a search engine.

The Editor is expected to be Windows literate and to be able to use button, pull-down menus, and similar tools.

2.4 Non-Functional Requirements

- The system operates smoothly and responsively on localhost with high speed.
- The system run efficiently without a waste of memory and data of users' devices.
- The system can function properly on any platforms which supports and possess the web browsers like Chrome, FireFox, Internet Explorer.
- The system uses API Facebook, therefore requiring the security for users' information and enforce and secure users' information from bad deed.

3.0 Requirements Specification

3.1 Functional Requirements

3.1.1 Do Typing Exercise

Use Case Name	Do Typing Exercise
XRef	Section 2.2.1, Do Typing Exercise
Trigger	The User selects a basic lesson or a paragraph type.
Precondition	The Editor has accessed the "Lessons" or "Practice" page.
Basic Path	1. The system accesses the database and presents a web page with the corresponding typing exercise and a dialog that tells the user to press Enter or click "OK" to start typing.

	2. The User press Enter or click "OK". The dialog disappears, revealing the typing exercise, along with a keyboard guide and the user's statistics (CPM, accuracy, time elapsed). 3. The system highlights the current character, its corresponding key on the keyboard and its hand position. 4. The User types a letter and the system highlights the next character if the letter typed is correct. 5. The User repeats step 4 until every character of the exercise is entered correctly. 6. The system shows a dialog to tell the user that the exercise has ended. 7. The system updates the database with the user's result. 8. The system presents the user with an option to go back (which will take the user to the use case … or …).
Alternative Paths	In step 4, if the User enters an incorrect character, the system highlights the current character to reflect the error. In step 8, if the User chooses the option to practise again, the use case is repeated. If the User chooses to share his/her progress on Facebook, the system takes the user to the use case … (Share on Facebook).
Postcondition	The User's results are added to the database.
Exception Paths	The User may abandon the exercise at any time.
Other	None.

3.1.2 Share on Facebook

Use Case Name	Share on Facebook
XRef	Section 2.2.1, Share on Facebook
Trigger	The User selects "Share on Facebook".
Precondition	The User has signed into the system and completed a typing exercise.
Basic Path	1. The system presents a dialog that prompts the user to share a post on Facebook. 2. The User enters the content of the post he/she wants to share. 3. The User selects where to share the post from a list. 4. The User presses "OK" and the post is displayed
Alternative Paths	
Postcondition	A post is added to the User's Facebook account with a link to the Typing Tutor website.
Exception Paths	The User may cancel the operation at any time.
Other	

3.2 Detailed Non-Functional Requirements

3.2.1 Logical Structure of Data

The data descriptions of each of these data entities is as follows:

User Entity

Data Item	**Type**	**Description**	**Comment**
User ID	Integer	ID number of user	Used as key for the user
Email	Text	The email of user	Through this the user will log in the website
Join Date	Date	The day the user sign up	

Text Entity

Data Item	**Type**	**Description**	**Comment**
Text ID	Integer	ID number of lesson	Used as key for the lesson
Source	Text	The source of the text	
Type	Char	Basic or Advance	
Length	Integer	The length of the lesson	

Log Entity

Data Item	**Type**	**Description**	**Comment**
User ID	Integer	ID number of user	
Text ID	Integer	ID number of lesson	
Time	Integer	The time the user begin the lesson	
CPM	Integer	The CPM of the user at that time	
Accuracy	Integer	The accuracy of the user	

3.3 System Evolution

In the future, the system should upgrade some features from stakeholders as well as the demands from the users of the system. These added features and improvements mainly are the changes due to the software evolution. Some anticipated changes are described in the following:

- The addition of the lessons and practice paragraphs for advanced users.
- The game-based lessons should be a value to the system thereby attracting more users as well as retaining the existing users on the system.
- We also improve the user experience by update more themes and skins for users.
- The overall ranking system for all users according to their weekly and monthly performance as well as overall performance on the system.
- Typing tutoring lesson for programming that may programmers can practice to accelerate their programming skills and performance.
- The new keyboard features will also be added to adapt the local regions.
- The system will be so well-known that results users have here could be put on their resumes

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