Chapter 3

Requirement Specification

3.1 Minimum Hardware Specification

CPU: Intel Atom or Higher, AMD A2 or higher

GPU: Integrated Graphics or higher

RAM: 512 MiB

Peripherals: Keyboard, Mouse, Monitor

3.2 Minimum Software Requirements

Operating System: Windows XP or higher, macOS X Snow Leopard or higher, Linux based Distro

Browser: Any browser with support for HTML5, CSS3 and JavaScript

Other Softwares: MySQL or MariaDB Database for storing data, A localhost server with a compiler for PHP.

3.3 Installing and Executing the Program

3.3.1 Installing XAMPP

XAMPP is a free and open-source cross-platform web server solution stack package developed by Apache Friends, consisting mainly of the Apache HTTP Server, MariaDB database, and interpreters for scripts written in the PHP and Perl programming languages. Since most actual web server deployments use the same components as XAMPP, it makes transitioning from a local test server to a live server possible.

XAMPP's ease of deployment means a WAMP or LAMP stack can be installed quickly and simply on an operating system by a developer. With the advantage of common add-in applications such as WordPress and Joomla! can also be installed with similar ease using Bitnami.

3.3.2 Using Apache HTTP Server

The Apache HTTP Server, colloquially called Apache, is free and open-source cross-platform web server software, released under the terms of Apache License 2.0. Apache is developed and maintained by an open community of developers under the auspices of the Apache Software Foundation.

The vast majority of Apache HTTP Server instances run on a Linux distribution, but current versions also run on Microsoft Windows and a wide variety of Unix-like systems. Past versions also ran on OpenVMS, NetWare, OS/2 and other operating systems, including ports to mainframes.

Originally based on the NCSA HTTPd server, development of Apache began in early 1995 after work on the NCSA code stalled. Apache played a key role in the initial growth of the World Wide Web, quickly overtaking NCSA HTTPd as the dominant HTTP server, and has remained most popular since April 1996. In 2009, it became the first web server software to serve more than 100 million websites.

3.3.3 Using the MariaDB Database

MariaDB is a community-developed, commercially supported fork of the MySQL relational database management system (RDBMS), intended to remain free and open-source software under the GNU General Public License. Development is led by some of the original developers of MySQL, who forked it due to concerns over its acquisition by Oracle Corporation in 2009.

MariaDB intended to maintain high compatibility with MySQL, ensuring a drop-in replacement capability with library binary parity and exact matching with MySQL APIs and commands. However, new features diverge more. It includes new storage engines like Aria, ColumnStore, and MyRocks.

Its lead developer/CTO is Michael "Monty" Widenius, one of the founders of MySQL AB and the founder of Monty Program AB. On 16 January 2008, MySQL AB announced that it had

agreed to be acquired by Sun Microsystems for approximately $1 billion. The acquisition completed on 26 February 2008. MariaDB is named after Monty's younger daughter, Maria. (MySQL is named after his other daughter, My.)

3.3.4 Adding the Project Files to the Server.

To start using Let's Watch, we first need to load the project into the localhost server, powered by Apache HTTP Server, by moving the project files to –

1. Windows –
    a. Navigate to C > Xampp > htdocs.
    b. Create a new Folder called Let's Watch.
    c. Move the project files into Let's Watch.
2. macOS –
    a. Using Spotlight search find the htdocs folder.
    b. Create a new Folder called Let's Watch.
    c. Move the project files into Let's Watch.
3. Linux –
    a. Navigate to /opt/lampp/htdocs
    b. Create a new Folder called Let's Watch.
    c. Move the project files into Let's Watch.

To run Let's Watch,

1. Open the Xampp Control Panel
2. Start the Apache Server by pressing the start button next to it. The text 'Apache' will be highlighted in green.
3. Start the MySQL Server by pressing the start button next to it. The text 'MySQL' will be highlighted in green.
4. Open any browser and navigate to the URL, **localhost/Let's Watch/login.php**

3.4 Normalisation

The tables in the database are expected to be in the Third Normal Form.

Third normal form (3NF) is a normal form that is used in normalizing a database design to reduce the duplication of data and ensure referential integrity by ensuring that the entity is in second normal form, no non-prime (non-key) attribute is transitively dependent on any key i.e. no non-prime attribute depends on other non-prime attributes and all the non-prime attributes must depend only on the candidate keys.

3NF was designed to eliminate undesirable data anomalies, reduce the need for restructuring over time, make the data model more informative and make the data model neutral to different kinds of query statistics.