Administrator Manual

*Project Planner*

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## 1. **Introduction**

### 1.1 Purpose of This Document

The purpose of this document is to provide instructions on installation, maintenance, and troubleshooting of the *Project Planner* application. It is intended to be read by system administrators only, as end-users may not have sufficient access or technical knowledge necessary to perform system installation.

### 1.2 References

1. *Project Planner* System Requirements Specification

2. *Project Planner* System Design Document

3. The PHP Group (2017). *PHP: Hypertext Preprocessor*. Retrieved from

“http://php.net”

4. Apache Software Foundation (2017). *The Apache HTTP Server Project*.

Retrieved from “http://httpd.apache.org/”

5. Apache Friends (2017). *XAMPP Installers and Downloads*. Retrieved from

“https://www.apachefriends.org/index.html”

## 2. **System Overview**

The following section describes the intended use of *Project Planner* as well as its hardware and software requirements.

### 2.1 Background

The *Project Planner* application is a project tracking and estimation tool designed to provide employees with a clear estimation of a project’s total cost and number of hours to complete. These projects are divided into phases, which act as grouping categories for the project’s tasks. Each task has an associated cost and time to complete, which affects the project’s total time and budget. Employees may create tasks only once they have been assigned to a phase, which also allows managers to keep track of which employees are assigned to which tasks.

Please refer to the *Project Planner* System Requirements Specification, Section 1.2, for additional information on the purpose of the product.

### 2.2 Hardware and Software Requirements

Because *Project Planner* runs in a PHP-based web environment, it supports all major operating systems (Windows, MacOS, Linux, Solaris, etc.). Very little configuration is required, but *Project Planner* is not an executable, and requires a host server. This server must run, at a minimum, PHP version 5.5, and the PHP MySQLi extension must be installed. In addition, the server must also host a MySQL database.

It is highly recommended to run *Project Planner* using the XAMPP platform or another comparable Apache distribution. XAMPP support Windows, MacOS, and Linux, and contains PHP version 7.11 and a MySQL database built-in. To host a server from scratch, it is recommended to host *Project Planner* using an HTTP daemon like Apache, but it is assumed that an administrator intending to install *Project Planner* on a custom web server will have already configured the environment and installed PHP.

## 3. **Administrative Procedures**

The following section describes the installation and maintenance procedures for *Project Planner.*

### 3.1 Installation

Please note that the installation procedures covers in detail only the process of installing *Project Planner* using XAMPP. It is assumed that administrators intending to install the application on a custom server will have already set up the server to their liking.

#### 3.1.1 Installing XAMPP

The XAMPP downloads page provides installer applications. Please download and run the appropriate installer from “https://www.apachefriends.org/index.html” (Apache Friends 2017). The XAMPP installer will install and configure Apache, MySQL, PHP, and PHPMyAdmin; FileZilla, Mercury, and Tomcat may also be installed, but are not required.

#### 3.1.2 Configuring a Database Account

Once the XAMPP control panel has launched, click “Start” on both the Apache and MySQL rows to start the server. Next, click “Admin” on the MySQL row to launch PHPMyAdmin in an internet browser. On the PHPMyAdmin homepage, click the “User Accounts” tab, and then click “Add User Account”. Please note that certain database privileges are required to use *Project Planner*. It is not recommended to grant ALL privileges to the new user account. At the minimum, the user account must have the the privileges SELECT, UPDATE, INSERT, DELETE, CREATE, ALTER.

Please record the username and password of this new account, as it will be needed for the *Project Planner* first-time setup.

#### 3.1.3 Installing *Project Planner*

All of the *Project Planner* system files are included in the “bin” subdirectory within the *Project Planner* installation archive. Simply copy the contents of “bin” into the location from which the application will run. Please note that *Project Planner* does not have to be installed in the server’s document root, provided its installation folder is reachable from the server’s URL. To find the root directory created by XAMPP, click on the “Explorer” button on the XAMPP control panel, and navigate to the “htdocs” subdirectory. It is recommended to create a directory within “htdocs” for the *Project Planner* system files, the name of which does not matter. For example, if the newly-created “projectplanner” directory within “htdocs” contains two directories, “classes” and “scripts”, and an “index.php” file, the installation was successful.

#### 3.1.4 *Project Planner* First-time Setup

Once *Project Planner* is installed, connect to the application using an internet browser. For example, if the application was installed in a directory named “projectplanner” within XAMPP’s “htdocs” directory, connect to “http://localhost/projectplanner”. The application will attempt a database connection (which should fail on the first run) and automatically redirect to First-time Setup. This page will prompt for database credentials - server hostname, username, password, and database name. Enter “localhost” for the server hostname and the username and password of the user account created in Section 3.1.2 as the database username and password. Finally, enter any name as the database name, as this database will be created. Upon clicking “Submit,” all of the necessary tables, keys, and constraints will be automatically created. Use the PHPMyAdmin control panel to verify the database has been properly created.

Next, the application will redirect to the second step: creating the initial manager account. Enter the manager’s contact information (it is assumed the initial manager account will belong to the system administrator) and click “submit.” The application will finally redirect to the Login screen, indicating that First-time Setup was successful.

#### 3.1.5 Installing on a Custom Server and/or with a Custom Database

It is assumed that the system administrator already knows how to install and configure an Apache (or similar HTTP daemon) server with PHP and the PHP MySQLi extension. For additional information on Apache installation and configuration, please see the Apache documentation at “http://httpd.apache.org/docs/2.4/install.html” (Apache Software Foundation 2017). For installation of PHP on the Apache server, please see the PHP documentation at “http://php.net/manual/en/install.php” (PHP Group 2017).

### 3.2 Routine Tasks

Manager accounts are required to perform the majority of functions available within the *Project Planner* applications. Only managers have the ability to create edit, and delete projects and phases. Employees can edit and delete only the tasks they create. Additionally, only managers can assign employees to phases, and employees will not be able to see projects on the home screen until they have been assigned to at least one phase.

User accounts cannot be edited or deleted by anyone other than the user to whom the account belongs, but users cannot change their own account’s role. Managers are required to grant manager functions to an employee, or revoke manager functions from another manager. Managers cannot revoke manager functions from their own account.

### 3.3 Periodic Administration

It is recommended to periodically backup the database to prevent data loss. With XAMPP, the database can be backed up by entering the PHPMyAdmin control panel and clicking the “Export” tab.

### 3.4 User Support

For additional *Project Planner* support, please contact a Team Hailstorm member via email. During daytime hours, we will reply within one to two hours.

## 4. **Troubleshooting**

The following section describes the process of identifying and reporting problems with the *Project Planner* application.

### 4.1 Dealing with Error Messages and Failures

*Project Planner* has been extensively tested and no errors or warnings have appeared during normal operation. However, in the event something goes wrong, the page on which an error occurred will not display. In its place will be an error message describing the error details and identifying the line in which file the error occurred. Most commonly, the error will pertain to the function mysqli\_connect, stating either the hostname is unknown or a connection failed. If this is the case, please ensure the database is both running and reachable. For all other errors, please copy and paste the error details into an email to be sent to Jacob Lutz at the email jlutz1@umbc.edu. During daytime hours, a reply should be sent within one to two hours.

### 4.2 Known Bugs and Limitations

At the moment, only one remaining problem with the system is known. On all creation and editing forms, users may be able to submit text data in place of a phone number, with no character limit or input validation. If non-number data is entered, the phone number will be inserted into the database as “0”. This is because the phone number input field is of type “tel,” which is not yet supported in most internet browsers and therefore falls back to type “text.”. As the “tel” type is adopted, this limitation will become less common.

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## Appendix B – Document Contributions

Jacob Lutz oversaw the creation of the Administrator Manual, document formatting, and editing for grammar consistency. All team members contributed to the installation process and collaborated to find remaining bugs in the application before release.