

# Software Requirements Specification

For

## Professor Gusty Cooper's eCommerce Bike Shop

Version 1.0

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## 1. INTRODUCTION

### 1.1. Purpose

This document outlines and specifies the details of Professor Copper's eCommerce bike shop website. It outlines the requirements, functionality for users, and a framework for the entire project indicated by the client, Gusty Cooper. Functionality concerns are of paramount importance.

### 1.2. Intended Audience

The intended audience for this document are the client, the design team, and development team responsible for the implementation of project.

### 1.3. Project Scope

Professor Cooper's eCommerce bike shop is a website that will sell various bikes and bike related products. The system will be usable by anyone who connects to the site via the internet. By default, a user will be considered a guest customer. They will be able to create customer accounts to make return visits more convenient. Administrative users will have several categories, each of which having different levels of access. These range from simple employee accounts that can log hours worked, to mid-range admin accounts capable of adjusting product listings or retrieving employee information. Professor Cooper will have access to a Master-Admin account allowing him access to all pertinent company information.

The website will not be intended for international users; meaning only domestic shipping and one currency need to be accounted for.

### 1.4. References

Gusty Cooper, the client, provided all requirements discussed in this document.

### 1.5. Overview of Document

The document contains an overall description to explain user functions, system functions, and interface requirements. The document also contains the non-functional requirements, a cohesive list of what this system will not be able to do.

## 2. OVERALL DESCRIPTION

### 2.1. Product Perspective

Professor Cooper dreams of owning and operating a bike shop after retirement. As a first step he wants to create an eCommerce site that will allow people to buy his goods. We are assigned to create a version of this site that will demonstrate all the basic functions one could expect from online shopping sites like Amazon, or the sites of brick and mortar locations like Best Buy or Home Depot. This site will not include advanced security measures or use of HTTPS.

The site will be aesthetically similar to the previously mentioned sites, with some method for navigating categories and products, be it drop down or side bars, etc. Customers will have no issue finding the products they wish to purchase and should have no issue with setting up their purchase.

### 2.2. Product Functions

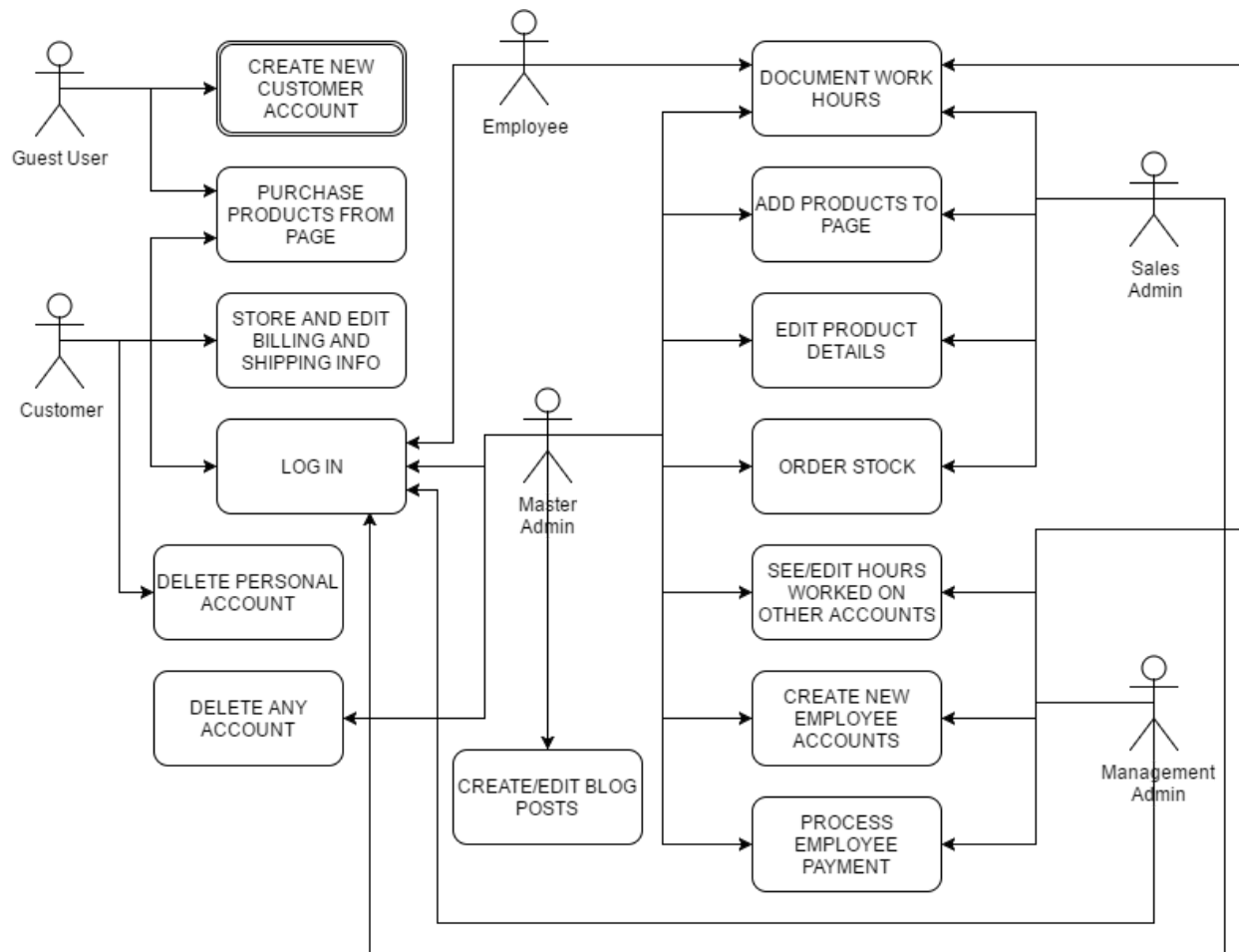
The key feature of this site is to facilitate the purchase of listed products. The site will allow customers to create accounts and store their billing and shipping information, thus allowing them for quick purchases on subsequent visits. The database of the website will also store employee information. Each employee account will have different levels of permissions and privileges, which are described in section 2.3.

### 2.3. User Classes and Characteristics

#### I. Non-Registered Customer (Guest)

- A. Order products from the page
  - B. Register a new account
- II. Registered Customer
    - A. Order products from the page
    - B. Store billing/shipping information
    - C. Edit personal Information
- III. Employee
    - A. Document work hours
- IV. Management Admin
    - A. Document work hours
    - B. See other's hours worked
    - C. Edit other's hours worked
    - D. Process employee billing
    - E. Create new employee accounts
- V. Sales Admin
    - A. Document work hours
    - B. Add products to the page
    - C. Change details of products
- VI. Master Admin
    - A. Ability to perform all other admin tasks
    - B. Ability to create new Admin accounts

### User Diagram



#### 2.4. Operating Environment

The goal of this software is to make the purchase of biking products an easy process. It will support multiple customers being connected simultaneously.

#### 2.5. Design and Implementation Constraints

- Timeline

The client would like the site functional by the end of the semester. This gives the development team 10-11 weeks to complete it. With the client having a hosting server already, the development team needs to create a functional website and a database that can

store relevant information. These tasks should be completed within the allotted time frame.

- **Hosting Server**

The client expects the team will work on the website source code using a github or bitbucket, so it may be transferred to the working server later.

- **Database**

A database will be needed to store user information of all types. It will also store work time data of employee/admin accounts. This could potentially consume a lot of memory, as there are sure to be very many customers and a large number of products. Different aspects of the database will be accessible to admin accounts. This will allow them to maintain the database over the course of business.

- **Security**

There are a number of account types including customer, employee, and administrative accounts. Each account will require a username and password to log in. Passwords will need to be updated once every 90 days. SQL injection is a concern here. To minimize this risk, password and username sizes will be limited.

## 2.6. Assumptions and Dependencies

- The website will only function when the Server is running.
- The website should be accessible from any OS.

## 3. EXTERNAL INTERFACE REQUIREMENTS

### 3.1. User Interfaces Graphical User Interface

The client has not given any particular GUI requirements for the design team to follow. It depends on

the creativity of implementation team to come up with their own GUI design. Overall, the website will following pages.

#### I. Home Page

As soon as the user enters the website URL, system will open the homepage of the website. As per the client specifications, home page will contain an image slider. It will also contain a navigation bar, which will have three options for users to select from: sign-in/sign-up button, product button, and blog button.

Clicking the image slider takes the user to the page of sales and promotions. Product button will create the drop-down list of categories where each category will have a category page. Clicking the blog button will take the user to the blog page and sign-in/sign-up button to its related page.

#### II. Sales and Promotions Page

Sales and promotions page will show the latest sales or promotions.

#### III. Blog Page:

Blog Page will show the titles of the adventure stories of client, which will further take the user to those posts.

#### IV. Sign-in/Sign-up Page

This Page will show the user two options, sign-in and sign-up. Choosing the sign-in option will take the user to Sign-in page and Sign-up option will take the user to sign-up page.

Sign-in page will open up the input form for login credentials to be entered. According to the entered login credentials, system decides the type of user and user's privileges (permission of each user is explained in section 2.3). Sign-up page will ask the



account creator's information and will create the account.

#### V. Category Page:

Selecting the category from drop-down list will take the user to the page containing items of that category. Selecting the item from the page will further take the user to that item page.

#### VI. Item Page:

Item Page will contain picture, description, price, variation selection (color, size, etc.) and reviews of the item. This page will give the option of adding the product to the cart, from where the purchase will be possible.

#### VII. Cart Page:

Add to Cart Page will have the product checkout option, which will connect this page with guest Checkout page, or account checkout page with each page containing the input form.

### 3.2. Hardware Interfaces

The application requires a server in order to run the website. Any computer or smart-phone with a stable internet connection is required to access the website.

### 3.3. Communication Interfaces

The system will be able to communicate with the email service to send promotional offers and latest sales to registered customers. It will also send email receipt to registered and unregistered customers.

## 4. SYSTEM FEATURES

### 4.1. Creating accounts

## I. Description

The ability to create a variety of different account types is paramount to the functionality of the site. Customer and employee accounts will have the most limited functionality, with admin roles having greater permissions.

## II. Process

### A. Customer accounts

1. User enters unique email
  - a) The user will be warned and asked to try again if email is taken
2. User will enter password
  - a) The user will be warned and asked to try again if password is invalid
3. User will re-enter password
  - a) The user will be warned and asked to try again if password do not match
4. Information will be stored in database

### B. Employee accounts

These accounts can only be created by management admins and the master admin. A username and password will be selected for the employee.

### C. Admin accounts

These accounts can only be created by the master admin account. A username and password will be selected for the employee.

### D. Master admin account

Only one such account should exist; and it will be created as part of the software implementation.

## III. Functional Requirements

- A. Data must be able to be modified

- B. Data must be stored in a database
- C. User information needs to be accessible to the system

#### 4.2. Logging into system

##### I. Description

This feature will allow users to access their respective tools. It will allow the system to identify logged in users, and give them access to the tools they are allowed.

##### II. Process

- A. User enters email address
- B. User enters password for their account
- C. System references Database to ensure a match
  - 1. If no match is found, user is informed
- D. If match is found, user is logged in

##### III. Functional Requirements

- A. User emails must be unique
- B. Data must be modifiable
- C. Redirect to Create Account
- D. Password reset option

#### 4.3. Making purchases

##### I. Description

Registered and unregistered customers will have the ability to collect and add products to a online "cart." Once shopping has been completed the customers will proceed to the checkout page and complete their transaction.

##### II. Unregistered Customer Process

- A. User enters name
- B. User enters email
- C. User enters billing information

- D. User enters shipping information
- E. User confirms order summary
- F. System sends confirmation information to customer
- G. System sends selective information to relevant departments

### III. Registered Customer Process

- A. User logs into system
- B. User confirms order summary
- C. System sends confirmation information to customer
- D. System sends selective information to relevant departments

### IV. Functional Requirements

- A. System must generate confirmation email with order summary
- B. Confirmation email must be sent to correct user email

## 5. NON-FUNCTIONAL REQUIREMENTS

### 5.1. Performance Requirements

- I. The site shall support multiple simultaneous users
- II. Pages should load in 2-4 seconds maximum

### 5.2. Database Requirements

- I. Database shall support at least 2000 registered customers
- II. Database shall support at least 20 employee
- III. Database shall support at least 100 products

### 5.3. Security Requirements

- I. User passwords must not be stored in plain text
- II. Database can not be susceptible to SQL injection

### 5.4. Software Quality Attributes

- I. The system will support daily input of employee total hours for the work day

#### 5.5. Business Protocol/Intended Audience

- I. Intended Audience will target the U.S. market and not the international market

### 6. NON-REQUIREMENT

#### 6.1. General Non-Requirements

- I. Monitor inflows sales
- II. Monitor outflow sales
- III. Track profits
- IV. Track salaries output
- V. Target specific registered customers for promotions
- VI. Suggest products to both registered and unregistered customers based on related searches
- VII. Support return transactions
- VIII. Support exchange transactions

#### 6.2. Security Non-Requirement

- I. Encrypted user account data
- II. HTTPS certified
- III. System will not require use of CAPTCHA to create account
- IV. Passwords will not expire

**APPENDIX A: GLOSSARY**

- CAPTCHA - **C**ompletely **A**utomated **P**ublic **T**uring test to tell **C**omputers and **H**umans **A**part
- SQL - **S**tructured **Q**uery **L**anguage; a purpose built language designed to aid in creation of databases
- HTTP - **H**ypertext **T**ransfer **P**rotocol
- HTTPS - HTTP - **S**ecure
- Administrator (Admin) - Accounts with special, elevated privileges allowing them to manipulate the database and other accounts
- OS - **O**perating **S**ystem
- GUI - **G**raphical **U**ser **I**nterface

**APPENDIX B: MEMBER CONTRIBUTIONS**

- Tyler Moore - Table of contents creation, repair and maintenance; Sections 1, 2, 3, 4, APPENDIX A
- Laila Shaikh - Sections 2, 3, 5, APPENDIX A, editing of document
- Chelsea Irizarry - Sections 4, 5, 6