Software System Design Document Specification

Template

Fall 2019

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1. Introduction

Provide application background information. Discuss the design approach and philosophy.

Our team is building an online shopping platform- Freedom that uses MySQL, ExpressJS, ReactJS, and NodeJS(MERN). This stack gives us more flexibility to create a uer-friendly website in a short time with reusable components i.e. objective oriented programming. There are plenty existing and similar cases; we could review some of them, and then modify and improve their functionality with our content. The Website will be managed by the admin of the application which will have their own login information which gives the admin more interaction within the website so the admin can do basic CRUD functions.

Admin will be able to:

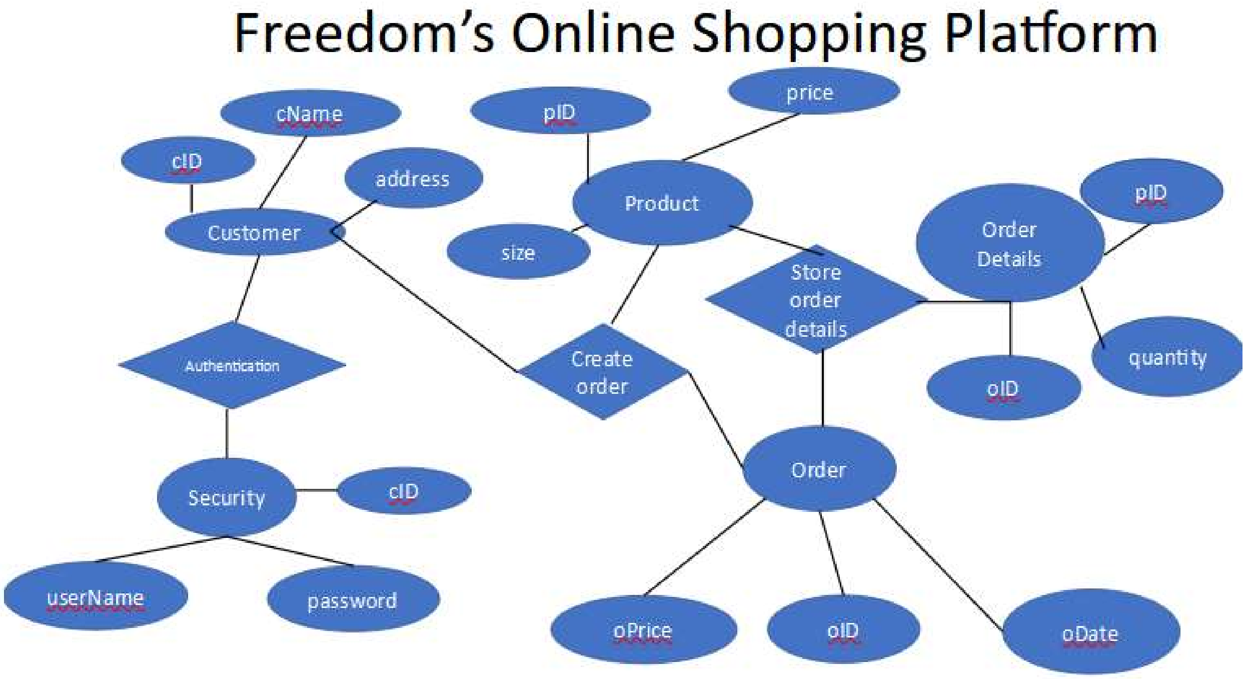
- Create new shopping post
- Read all reviews of most popular items and least popular items
- Update Item information like price or description
- Delete shopping post

2. Application Architecture

Describe application components, structures and interconnections. Provide information for major component functions and major technologies used on the application.

ReactJS provides us a very hand-on application called create-react-app. Basically, we have developed our website by adding and extending it. React is a declarative, efficient, and flexible JavaScript library for building user interfaces. It lets you compose complex UIs from small and isolated pieces of code called “components”.[1] Specifically, there are Auth, CreateOrder, and StoreOrderDetails.

[1] https://reactjs.org/tutorial/tutorial.html



3. Required System Functions

Specify what functions your application is required. This is to translate the business functions from business terms into application system terms. For example, a business required function could be registering a course for an enrolled student. The system functions that support this business function include user login, data entry, data storage etc… You need to describe each system function in terms of what the application system is going to do and how to do it without considering of detail implementation.

Based on the business requirements between project manager, business analysis, and engineers, there are requirements that are open design with minimal text, company information pages with external links like social medias, and products information i.e product id, price, and 3rd party name. Therefore, we design a user signup/login section, cart system to hold a user's possible purchases, and checkout system.

- signup/login section: there are a few outside libraries can combine with React component; they are Auth0 or JWT. We are experiencing with JWT currently.
- about us: this is a static page that will display information about Freedom, and general information regarding to but not limited to customer services, embedded logo and links to different social media accounts.
- cart system: interacting with server-side, third-party payment library, and database. This is the most complicated part and core functionality for our website. We use Postman to test each API like fetching data. Current router we have are:

    /getallproduct

/getProduct/:id
/delProduct/:id
/insProduct
/updProduct
/getallcustomers ……

4. User Interface

Describe how users interact with the application system. One way to do this is to describe use cases. For example, one of the use cases can be "User Login". Then you can user interface prototype (screens) to describe how user login the system by steps.

5. System Components

List of system components or modules, their functions and how they interact with each other.

Name	Function Description	Input Data	Output Data	Dependencies

6. Database

ER Data Mode, Database Schema or list of tables

7. Required Software and Hardware

Appendix – If any.