

Software Design Document

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Restaurant Ordering System

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ENPM809W - Project Phase 1

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1. Introduction

1.1. Scope

This project will be a web application software for ordering and reviewing food items of a restaurant. The system is designed to be a quick paced interface and help the customer decide and order the food for their meal. The ordering system will be completely automatic with almost zero interaction between the restaurant staff and the customers. The web application will help other customers in ordering food items from the restaurant by viewing previous customer ratings and reviews. In addition, all requirements documented in the SRS shall be implemented and addressed in the SDD.

1.2. Purpose

This document describes all the standards and design of the restaurant ordering system to be used by the developers to follow in the implementation phase. The SDD is an important reference not only for developers, but also for the testing programmers and editors of documentation. With the help of standards and specification described here, team members can be more efficient and successful in implementing the product

1.3. Definitions, Abbreviations and Acronyms

| | |
|-----------------|---|
| ER Diagram | Entity Relationship Diagram |
| Block Diagram | A diagram showing in schematic form the general arrangement of the parts or components of a complex system or process |
| Context Diagram | |
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1.4. References

IEEE 1016-1998 - IEEE Recommended Practice for Software Design Descriptions

1.5. Overview

This subsection briefly describes each of the remaining sections in the document. The rest of the document is organized as follows:

The next section describes in detail how the database schema of the Restaurant Ordering System will be. It highlights the main entities of the database as well as the relations between them via the Entity Relationship Diagram.

The third section describes various viewpoints from the design perspective. It includes various diagrams including the block diagram,

2. Database Design

This section provides the translation of the informational model contained in the Software Requirements Specification (SRS) into a relational database. The relational database will be composed of tables. Each table is a series of columns which represent individual data elements. The data records in the table form the rows. Each table has a primary key. Tables are related to each other by embedding the primary key from one table into another as a foreign key to implement the relationship. Foreign keys enable the relational database management system to enforce referential integrity. Referential integrity ensures that no row in a "parent" table can be deleted if it is still referenced in a row of a "child" table.

Our database design consists of 5 tables namely Orders, Users, OrderMapping, Food and Ratings. The OrderMapping table has two foreign keys which map to the order_id in the Orders table and food_id in the Food table. Similarly, the Ratings table has a foreign key food_id which maps to food_id in the Food table. This is how food items are linked to the orders and how ratings and reviews are mapped to the food items.

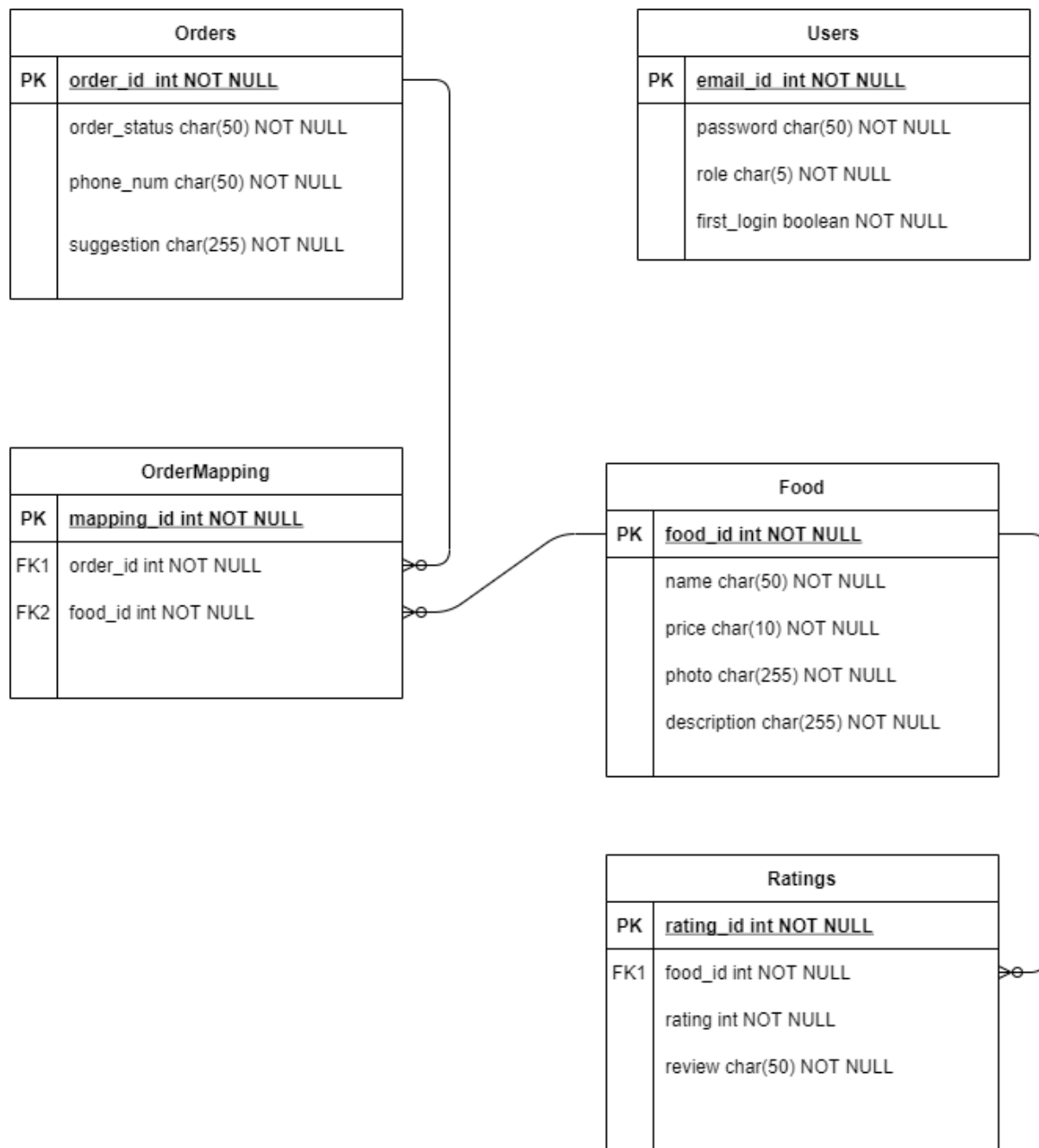


Figure 1 - ER Diagram

3. Design Viewpoints

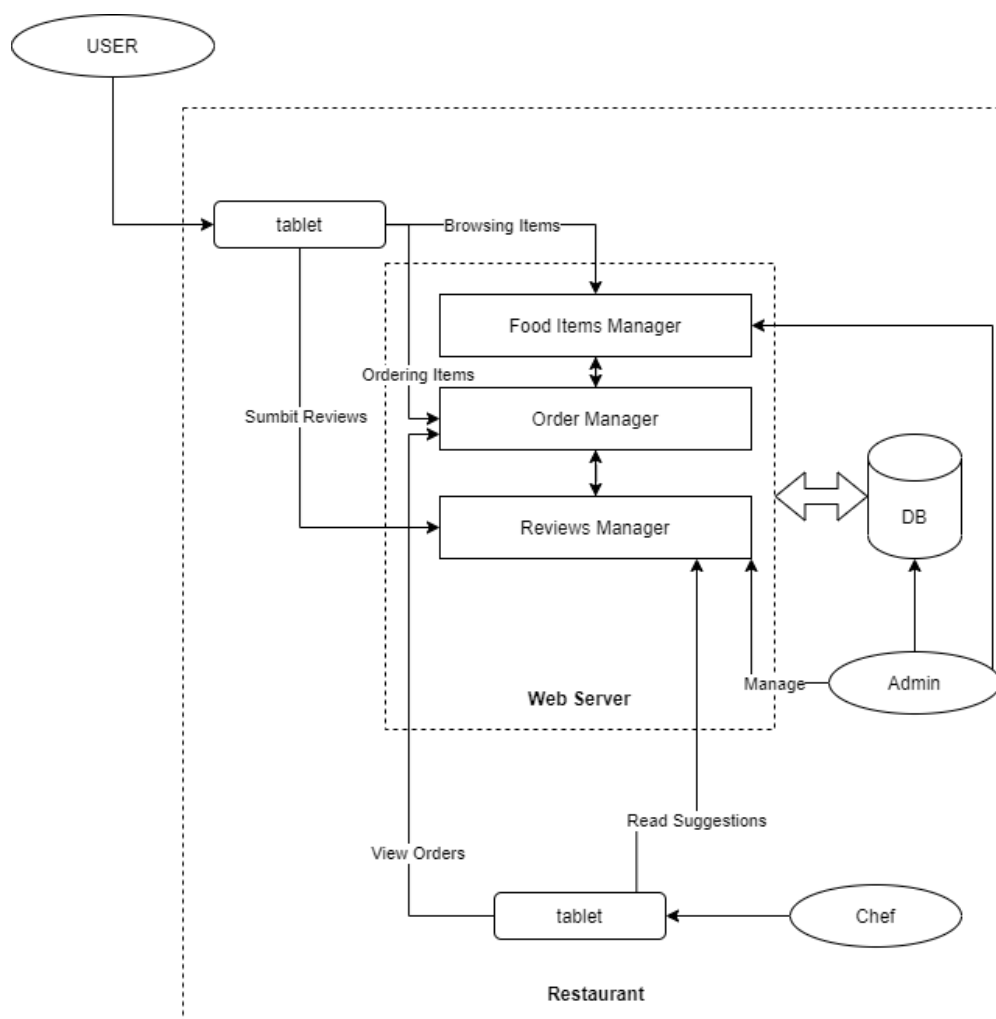
3.1. Introduction

This section describes various main design viewpoints of the Restaurant Ordering System along with some of the design concerns.

3.2. Context Viewpoint

This viewpoint of the Restaurant Ordering System illustrates the functions provided by the design subjects with reference to an explicit context. Functions, relationships, dependencies and interactions make up the services.

3.2.1. Block Diagram



There are 3 main actors for the system. The untrusted “user” will have to use the restaurant’s tablet as an interface to get access to the restaurant’s web server. The other two users are chef and admin who are part of the restaurant. The admin will have direct access to the web server as well as the database.

3.2.2. Context Diagram

