



**CEBU INSTITUTE OF TECHNOLOGY**  
**U N I V E R S I T Y**

# IT342-Section SYSTEMS INTEGRATION AND ARCHITECTURE 1

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## **FUNCTIONAL REQUIREMENTS SPECIFICATION (FRS)**

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Project Title: GRAB SNACK

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## 1. Introduction

### 1.1. Purpose

The purpose of this document is to describe the functional and non-functional requirements of the Grab Snack system.

### 1.2. Scope

Grab Snack is a simple food ordering application that allows users to register, log in, view a snack menu, place snack orders, select a preferred mode of payment, and log out.

### 1.3 Definitions, Acronyms, and Abbreviations

- FRS - Functional Requirements Specification
- ERD – Entity Relationship Diagram

## 2. Overall Description

### 2.1. System Perspective

Grab Snack is a web-based system that follows a three-tier architecture composed of a frontend user interface, a backend API, and a database.

### 2.2. User Classes and Characteristics

Authenticated User:

- Has a registered account
- Can log in and log out
- Can view dashboard and profile

### 2.3. Operating Environment

- **Frontend:** Web browser (React-based UI)
- **Backend:** Spring Boot (Java)
- **Database:** MySQL / PostgreSQL
- **Development Tools:** draw.io, Visual Studio Code, Web Browser

Specify the hardware, software, and tools required to operate the system.

### 2.4. Assumptions and Dependencies


- Users have access to the internet
- Users provide valid input during registration and ordering

- The system depends on a functioning database connection

### 3. System Features and Functional Requirements

Describe each major feature of the system and its functional requirements.

#### Feature 1: User Registration and Authentication

- Description: This feature allows users to create an account, log in to the system, access protected pages, and log out securely.  
Functional Requirements:
  - The system allow users to register using an email and password
  -  The system shall authenticate users during login
- The system shall restrict access to protected pages when the user is logged out



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#### 3.1. Feature 2: Snack Ordering and Payment Selection

Description: This feature allows authenticated users to browse snack items, place snack orders, and select a preferred mode of payment.

Functional Requirements:

- The system allow users to select a mode of payment
- The system shall store order and payment preference details

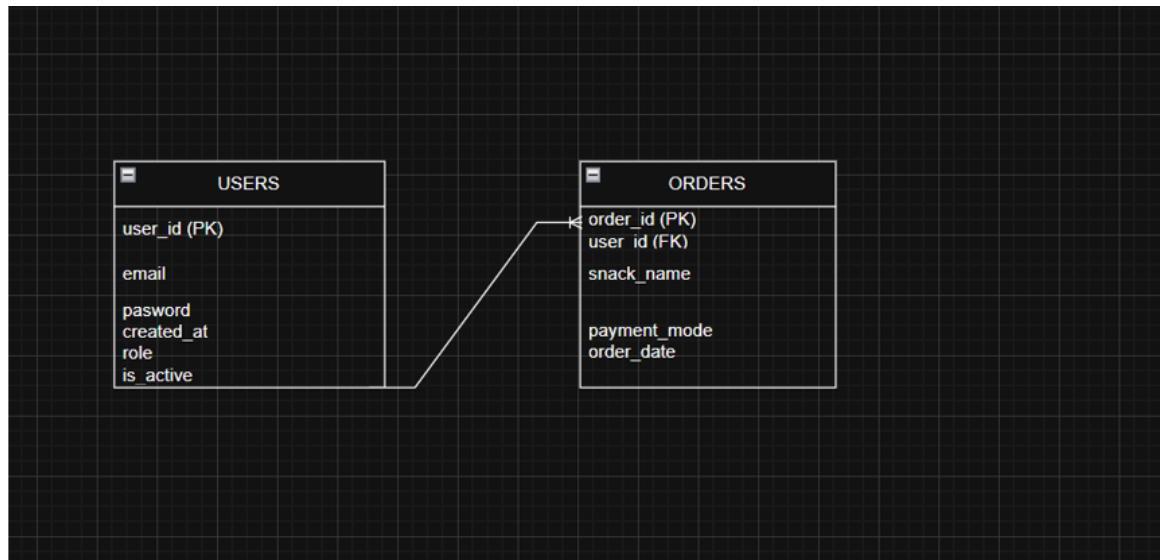
### 4. Non-Functional Requirements

- Security: User passwords shall be stored in encrypted form
- Usability: The system shall be easy to use for first-time users
- Performance: The system shall respond within acceptable time limits
- **Reliability:** The system shall ensure data consistency and integrity
- **Maintainability:** The system shall follow modular and clean design principles

### 5. System Models (Diagrams)

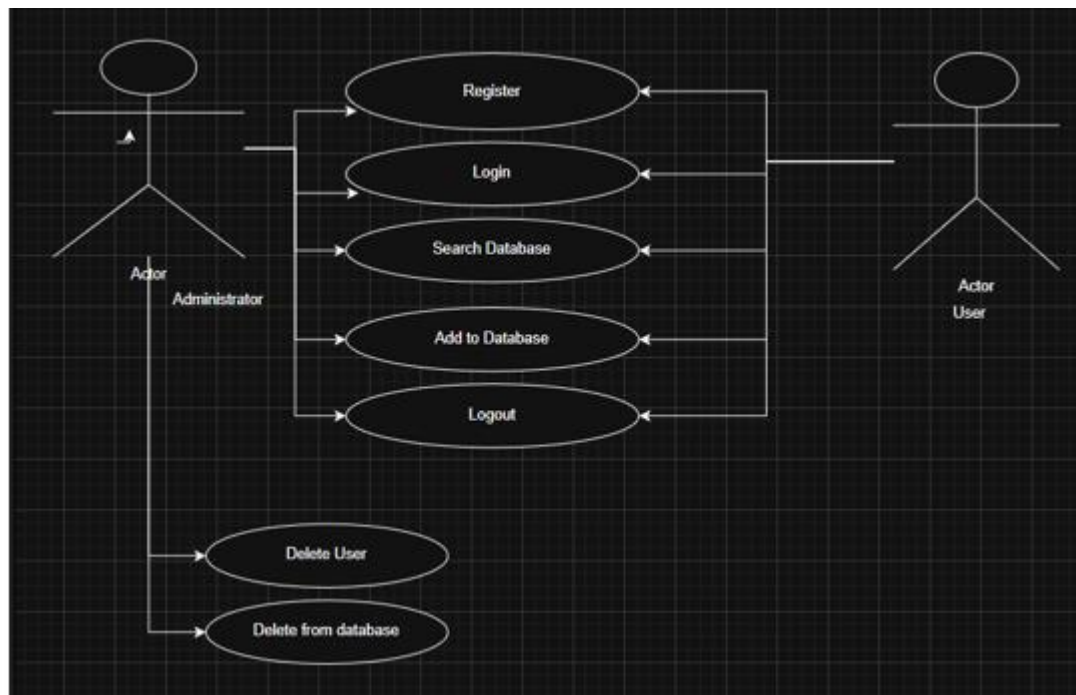
*Insert the necessary diagrams for the system:*

### 5.1. ERD



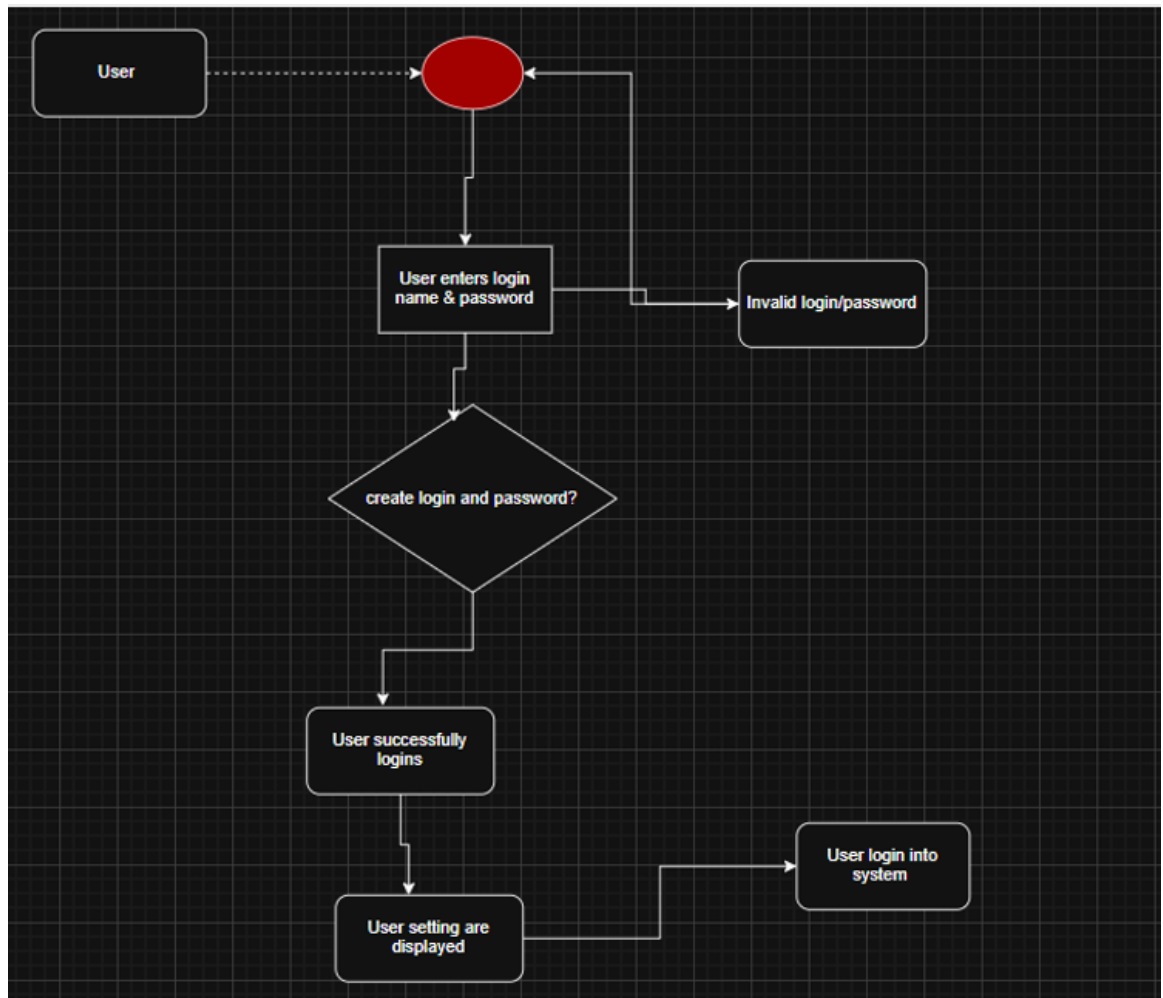
### 5.2.

#### Use Case Diagram



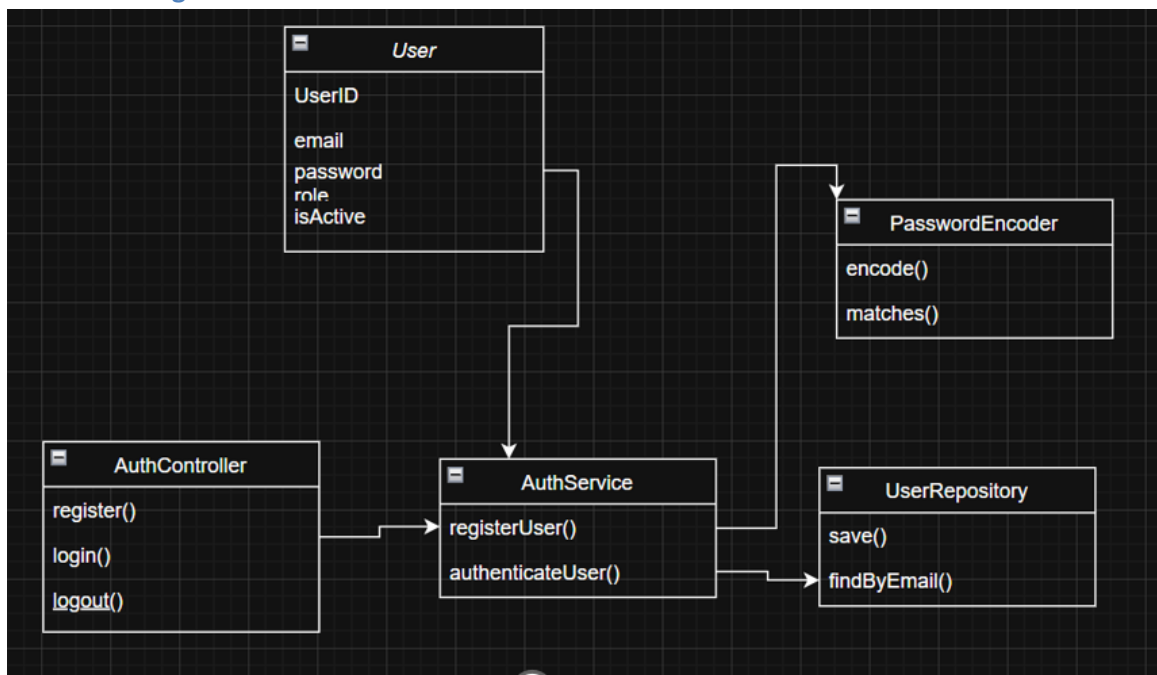
### 5.3.

#### Activity Diagram

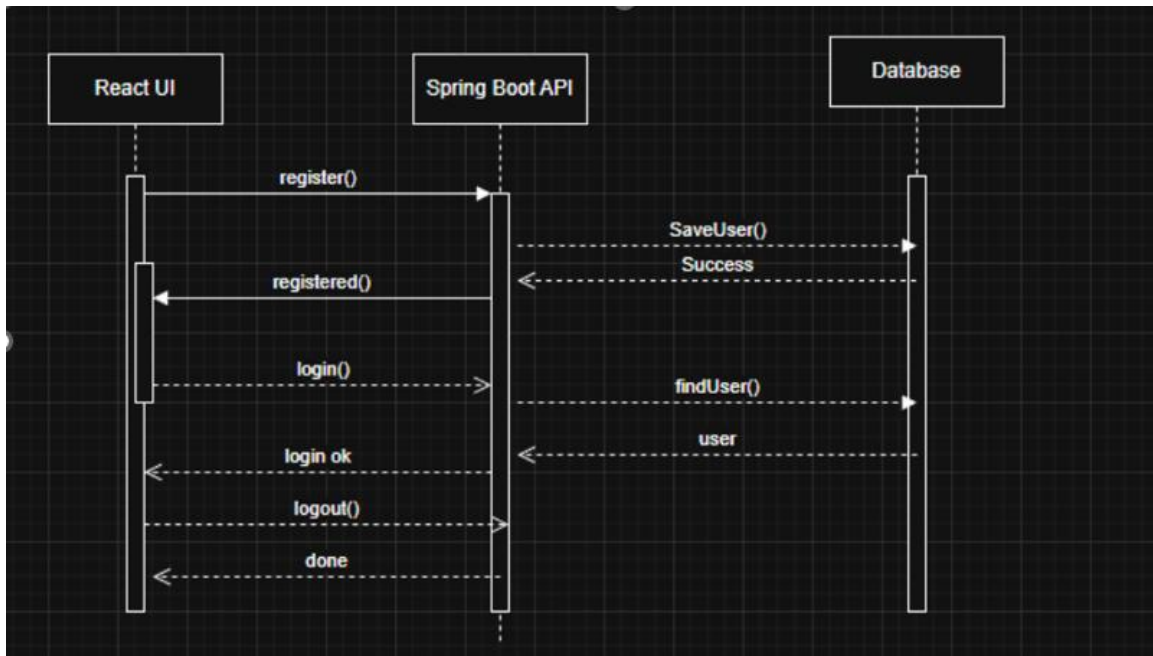


5.4.

#### Class Diagram



### 5.5. Sequence Diagram



## 6. Appendices

This document serves as the basis for the design and implementation of the Grab Snack system. All requirements outlined in this document are aligned with the objectives of the Systems Integration and Architecture course.