**ENSF 480**

**FALL 2023**

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| **Principles of Software Design**  **ENSF 480** |
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| Date Lab Activity Submitted:  **DD / MM / 2023** |

***A Flight Reservation Web Application***

**Due date for PROJECT (lecture section TUE/THURS): Wednesday Nov 29, before (11:59 PM)**

**Department of Electrical and Computer Engineering**

**University of Calgary**

# Description of the System’s Architecture

## **Textual Description of the System’s Architecture:**

1. **Architecture Type:**The system is designed using a *GUI interface architecture*.
2. **Core Concept:** 
   1. The system is centered around a rich, user-friendly graphical interface that facilitates all user interactions with the web application.
   2. The GUI is designed to be intuitive and accessible, catering to a diverse user base including tourists, airline agents, and system administrators.

## **Client-Side:**

### Technologies and Frameworks:

**Front-End Development:** Utilizes GUI interface implementation.

**Responsive Design:** The GUI is designed to be responsive, ensuring optimal user experience.

### Functionality:

**User Interaction:** The GUI allows users to perform tasks like browsing flights, selecting seats, making payments, and receiving tickets and more.

**Visualization:** Features like graphical seat maps and interactive flight schedules enhance user engagement and understanding.

## **Server-Side:**

### Back-End Integration:

**Technologies:** A server-side language Java is used.

**Functionality:** The server handles business logic, processes requests from the client, interacts with the database, and sends responses back to the client using the GUI interface interaction, ensuring data consistency and user-friendly execution.

### Database:

**Technology:** A relational database, MySQL, stores and manages data such as user profiles, flight details, bookings, and transaction records.

**Functionality:** Stores all persistent data including user information, flight details, bookings, payments, etc.

## **External Services:**

**Payment Gateway:** Basic processing and checking payment information using Java.

**Email Service:** For sending tickets and receipts to users, Java implementation is used.

## **Graphical Presentation:**

The graphical presentation will illustrate these main components and their interactions. It will include the client, server, database, and external services, showing how they are connected.

