Course Code : **CSE 404**

Course Title : **Software Engineering and ISD Laboratory**

Project name : Bus ticket booking management system

Experiment no: 4

Experiment name: Application of Design Principle of our Project

Submitted To

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1. Introduction:

The design principles lay the foundation for creating user centered, functional and visually appealing software applications. This report delves into the extensive application of design principles within the context of an online bus ticket management system.

2. The significance of Design Principles:

Design principles act as guiding beacons, directing the creation of interfaces that not only look good but also deliver optimal user experiences

3. Application of Design Principles

3.1 Consistency and Unity

In the online bus ticket management system, consistency remains paramount. By using a unified design language, including a consistent color palette, typography and UI components across the application,

users are able to intuitively navigate and interact with different sections. This enhances familiarity and reduces the learning curve.

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3.2 Simplicity and Minimalism:

The principle of simplicity guides the presentation of information. A clean and minimalist design approach ensures that users are presented with only the ~~prose~~ essential details required for their interactions. By reducing visual clutter, the system prevents cognitive overload.

3.3 User-centered Design:

Understanding the target audience is pivotal. By developing detailed user personas and user scenarios, the system can be tailored to cater to the specific needs, preferences, and behaviours of users. This ensures that the interface resonates well with the intended user base, enhancing user satisfaction & engagement

3.4 Visibility & Feedback:

Clear and immediate feedback is crucial to user interactions. By incorporating visual cues that respond to user actions, such as button depressions and loading animations, the system provides users with confidence that their inputs have been acknowledged. This feedback mechanism fosters a sense of control and engagement.

3.5 Fitts's Law and Ease of Use:

Leveraging Fitts's Law, commonly seen in the size and placement of interactive elements, ensure that frequently used components are larger and more accessible. This design principle acknowledges the physical limitations of human movement.

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3.6 Hierarchy and visual Organization -
Implementing a well defined visual hierarchy ensures that users can swiftly navigate the interface. Through strategic use of sizing, color color contrast and placement important elements draw attention while maintaining an organized flow of information.

3.7 contrast and Readability.
Employing sufficient color contrast between text and background enhances readability. This practise ensures that information is accessible to users with varying visual abilities. A harmonious contrast ratio contributes a comfortable reading experience.

3.8- Feedback and Error Prevention:
Swift feedback mechanisms are embedded to keep users informed about the outcomes of their interactions. During the booking process, validation steps help prevent errors by guiding users to provide accurate and complete information

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4) Components of the Application:

4.1) Home page

The home page serves as the entry point, offering an organized display of available routes and buses. By employing a visually clear search bar and prominent nevigation elements user canbe encourged to seamlessly initiate their journey through the system.

4.2) Bus detail page

The bus detail page is designed to provide comprehensive information about each bus type, including features, seating arrcangements and amenities. User can conveniently explore available seats and their preferences, creating an ~~eg~~ engaging and informative experience.

4.3) Booking Process

A streamlined and user-friendly booking process guides users through the steps of selecting seats, entering passenger details and confirming booking.

Each step is designed to be intuitive, ensuring that users can comfortably complete the transaction.

4.4) Ticket Confirmation and User Dashboard

Upon successful booking, a detailed ticket confirmation page provides users with all relevant information. Additionally, a user Dashboard allows users to access their

- booking history
- Manage their profiles
- seek assistance
- Reforcing a sense of ownership and control

Conclusion

The application of design principles within the online bus ticket management system showcase the fusion of aesthetics, usability and functionality. Through adherence of principles such as consistency, simplicity and user-centered design and effective feedback mechanism, the system offers a user experience that is both satisfying and efficient. The considered application of these principle serves as a testament to the commitment towards creating a system that is not only visually appealing but also genuinely user-centric. As a result, the online bus ticket management system stands poised to deliver seamless interactions and cater to the diverse needs of its users.