INTERNSHIP PROGRAM
2023

SOFTWARE DESIGN SPECIFICATION
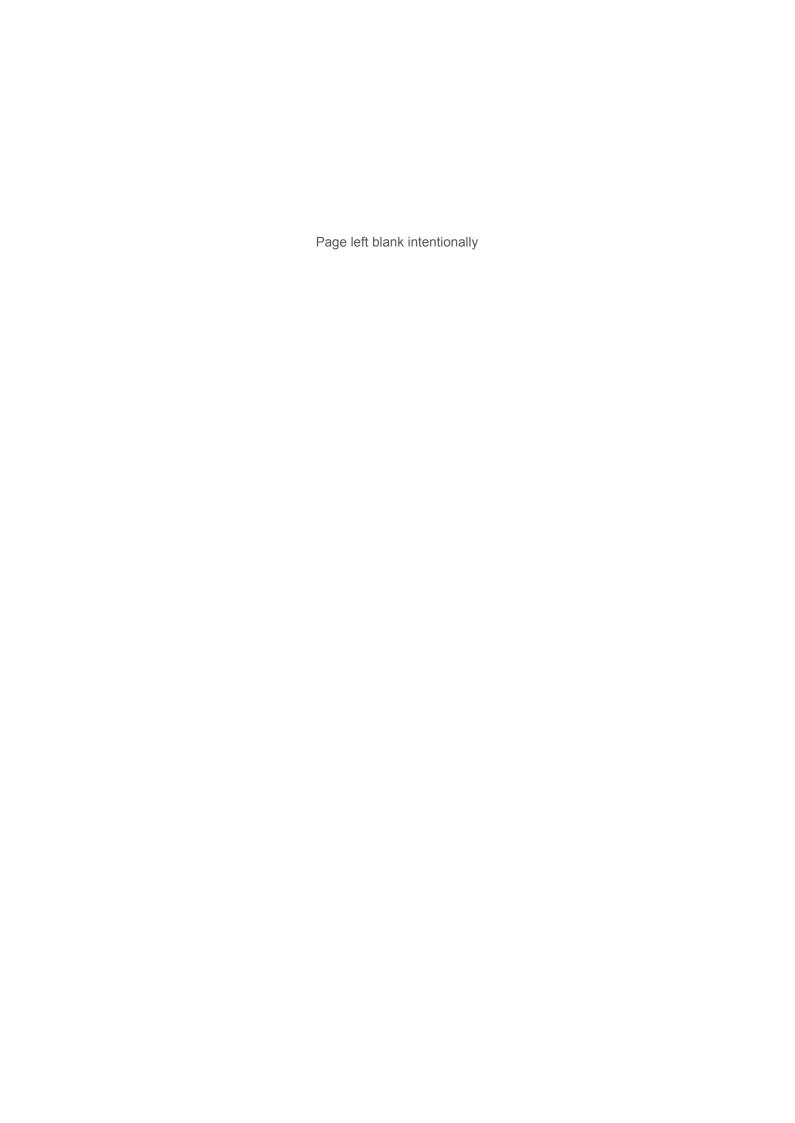
Android Development

Android App for Information sharing and Engagement with the audiences of Cloud Councelage Pvt.Ltd

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1   PURPOSE

This Software Design Specification (SDS) Document outlines the architecture and design considerations for the Cloud Counselage Compass mobile application. The purpose of this document is to provide a detailed breakdown of the project's components, their purposes, and how they will be implemented. It will serve as a reference for development and validation of the final product.

1   PROJECT SCOPE

The Cloud Counselage Compass app aims to provide information sharing and engagement capabilities for Cloud Counselage Pvt. Ltd. The app's features include user authentication, profile management, real-time chat using a chatbot, and integration with external services. It is designed to offer a user-friendly and interactive experience.

2   SYSTEM OVERVIEW

The system consists of several key components, including:

Splash Screen: Displays a visually appealing splash screen with Cloud Counselage branding.

Sign-up Fragment: Allows users to register with their profile information, including an optional profile picture.

Sign-In Fragment: Enables users to log in using their email and password or via social media accounts.

Home Fragment: Display the general information about IAC.

Profile Fragment: Displays user profile details, including email and username, and provides an option to change the profile picture.

Chat Fragment: Incorporates a Dialog Flow chatbot for user queries and provides supportive   replies.

3   DESIGN CONSIDERATIONS

This section describes requirements, assumptions and dependencies to be addressed to devise a complete design solution.

3.1   Requirements
- The design should adhere to the requirements specified in the Software Requirement Specification (SRS) document.
- Components must be designed to be intuitive and user-friendly.

3.2   Assumptions
The availability of a stable internet connection is assumed for real-time chat

functionality

3.3 Dependencies

The app relies on external services such as Firebase for authentication and real-time database storage.

4 SYSTEM ARCHITECTURE

The software system architecture defines how components are organized and communicated. The Cloud Counselage Compass app architecture includes:

- ❖ User Interface (UI): Responsible for presenting user interfaces for login, sign-up, home page, and chatbot interactions.
- ❖ Hardware Interfaces: Integrates with device components (e.g., camera) for optional profile picture capture.
- ❖ Software Interfaces: Interfaces with Firebase for authentication, real-time database storage, and data retrieval.
- ❖ Social Media Integration: Incorporates APIs or SDKs for enabling login and sign-up through social media platforms.
- ❖ Error Handling Interfaces: Defines error handling, including codes, messages, and responses.

4.1 Architectural Strategies

The major components of the system architecture include:

1. Authentication
2. User Profiles
3. Chatbot Integration
4. Database Management
5. User Interfaces

5 DETAILED DESCRIPTION OF COMPONENTS

Identification	Splash Screen
Type	Activity
Purpose	Display the initial splash screen with branding.
Subordinates	NA
Dependencies	NA
Interfaces	NA
Resources	Resources for displaying the splash screen.

Processing	Display the splash screen for a set duration.
Data	NA

Identification	Sign Up Fragment
Type	Fragment
Purpose	Allow users to register with profile information.
Subordinates	Authentication Activity (AuthActivity)
Dependencies	Auth Navigation Controller
Interfaces	User input fields for registration.
Resources	Database access for storing user information.
Processing	Validate and store user data.
Data	User name , email ,password

Identification	Sign In Fragment
Type	Fragment
Purpose	Enable user login via email and password or social media accounts.
Subordinates	Authentication Activity (AuthActivity)
Dependencies	Auth Navigation Controller
Interfaces	User input fields for login, also social login options.

Resources	Firebase for authentication.
Processing	Authenticate users based on input credentials.
Data	Login credentials provided by user

Identification	Home Fragment
Type	Fragment
Purpose	To show the general informations of IAC
Subordinates	HomeActivity
Dependencies	NA
Interfaces	NA
Resources	Normal general Information Gathered form internet
Processing	NA
Data	NA

Identification	Profile Fragment
Type	Fragment
Purpose	Display user profile details and provide options to change profile picture.
Subordinates	HomeActivity
Dependencies	Home Navigation Controller
Interfaces	User profile data display and options for profile picture change.

Resources	Database access for user profile data.
Processing	Display user data and handle profile picture changes.
Data	User Credentials Username and email id with profile picture

Identification	Chat Fragment
Type	Fragment
Purpose	Implement chat functionality with a Dialog Flow chatbot.
Subordinates	HomeActivity
Dependencies	Home Navigation Controller
Interfaces	Chatbot interface for user queries.
Resources	Dialog Flow for chatbot communication.
Processing	Handle user queries and chatbot responses.
Data	Chat between user and Dialog flow.

6 INTEGRATIONS

The Cloud Counselage Compass app integrates with the following:

Firebase Authentication and Realtime Database:

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- Integration Method: Firebase SDK
- Communication Protocol: HTTPS
- Data Format: JSON
- Authentication and Authorization: Firebase Authentication
- Data Flow: User authentication, profile data storage, and chat messages are synchronized with Firebase services.
- Error Handling: Firebase provides error handling and exception mechanisms.

Dialog Flow for Chatbot:

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- Integration Method: Dialog Flow API

- Communication Protocol: HTTPS
- Data Format: JSON
- Authentication and Authorization: Dialog Flow API credentials
- Data Flow: User chat messages are sent to Dialog Flow for natural language processing and receiving responses.
- Error Handling: Dialog Flow API handles errors and responses.