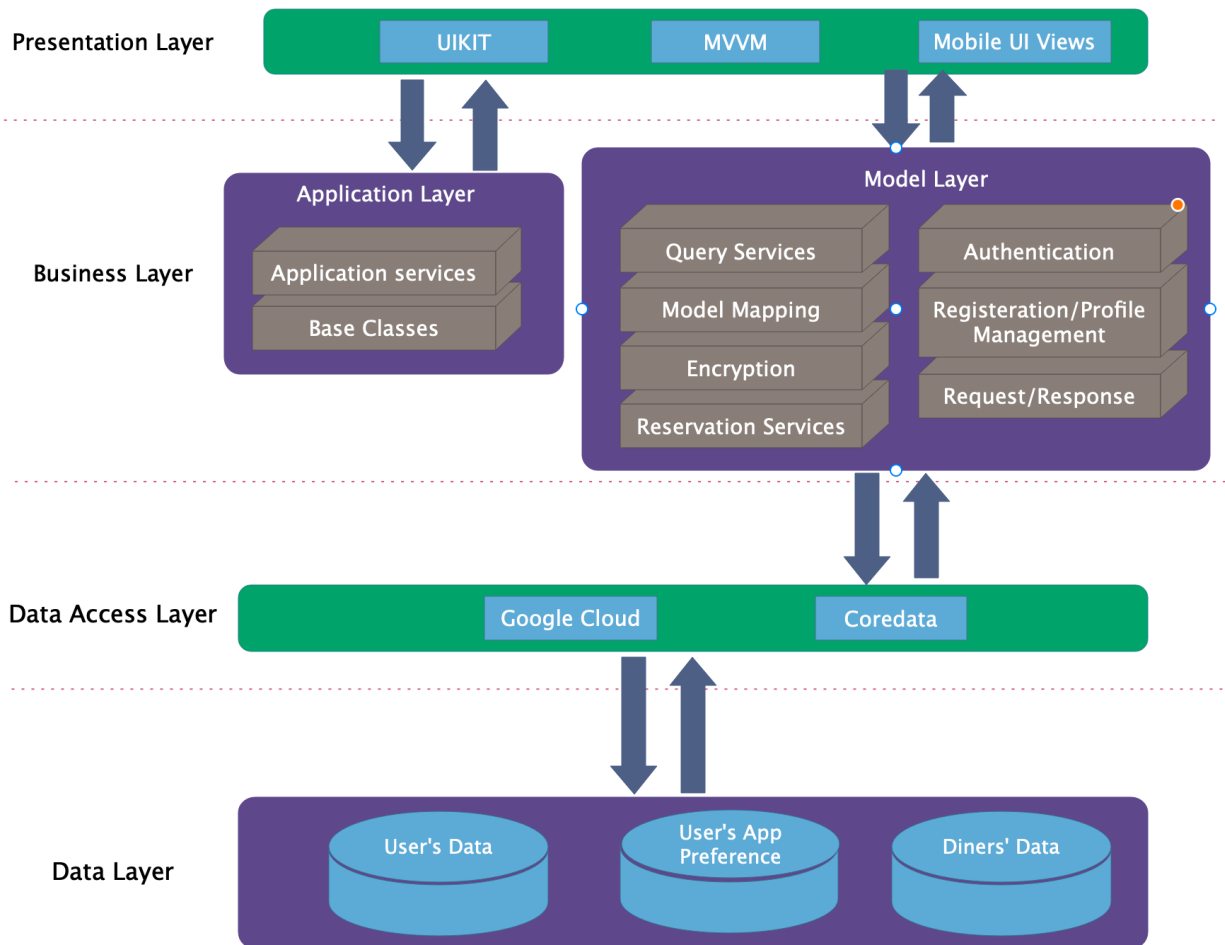# Fundamentals

Of

Software Engineering

Group - 1

Assignment - 3

Tuesday 17:30 - 19:00. Fall 21

Ian Cooper

Sayra Rodriguez

Jhaelon D Edwards Smith

September 21, 2021

Instructor R. Singh

P rovide detailed software architecture diagram for the proposed solution. Include all modules you will build and any other modules that you will use from other applications / APIs. (15 points)

W hat tools / technologies / frameworks you will use to implement the solution? Discuss in detail. (10 points)

Front-end: iOS application using Swift, and integrating with Google Cloud API for backend calls.

Back-end: Google Firebase Realtime Database to handle calls instantly, and more importantly, realtime database is going to be helpful with mutually exclusive part of the system, if tables are only available for one person, two people cannot reserve the same table configurations at the same time.

Framework: CryptoSwift is an encryption framework that is being used by companies like Bose for their transmissions between headphones and the phone. This framework will be used to encrypt calls/responses between the device and the server, as well as, encrypting user's information.

Others: for other requirements, iOS built in frameworks will be used, such as; Sign in with Apple(second option to register/login) provides users information that reside inside the phone eliminating the registration part of the app and credit card for no show charges, other provided frameworks are FaceID, TouchID, and Keychain(to store userLogin, if application was deleted, and installed later, keychain will provide user with login and password).

F ill in this table, provide as much details possible:

Group Member Name	What is your contribution?	Discussion Notes
Ian Cooper	iOS Architect, Designer, Engineer	Discussed frameworks, cloud services, designing the higher level architecture, and encryption models
Sayra Rodriguez	Engineer	Frameworks, iOS encryption frameworks that are available, and Keychain services
Jhaelon D Edwards Smith	Engineer	Basic Frameworks, API calls, and where and how to use FaceID or TouchID