# MeetPlan Application Design Report

## 1. Introduction

MeetPlan is a user-friendly mobile application designed for scheduling meetings and gatherings. This design report thoroughly examines the design process, user experience, and technical specifications of the application.

## 2. Major Features

-Users can create a meeting and specify details (place, date, invitees, online/offline).
-Invitees can be selected from the friends list or from id-based search results.
-For non-online meetings, the creator chooses a location and the invitees can get directions to that location.
-After the meeting is created, participants and the creator can leave comments and annotations to the meeting session.
-Users can send and accept friend requests to anyone they want.

## 3. Technologies Used

The MeetPlan application is built upon a robust .NET architecture, ensuring a scalable and efficient backend system. The technical stack includes:

### 3.1 SwiftUI for User Interface:

Programming Language: Swift
UI Framework: SwiftUI
Maps Framework : MKMapKit
Caching User's data safely : Keychain Access

### 3.2 C# .NET for Backend Logic:

Programming Language: C# (.NET Core)
Web Framework: ASP.NET Core
Database Management: MSSQL Server
Data Layer (Data Access): Entity Framework
Web API Development: ASP.NET Web AP

## 4. Software architectures

### 4.1 Backend Architecture:

**Layered Architecture**:

Business Layer: Contains business logic rules.
Core Layer: Provides general business logic and infrastructure.
DataAccess Layer: Manages database operations.
Entities: Contains database objects and models.
WebAPI Layer: Provides the RESTful API that serves clients

### 4.2 Frontend Architecture

**Architectural Design:**

Utilizing MVVM architecture for organizing the logical structure of the application.
Incorporating URLSession for network communication.
Implementing a Generic Network Layer for abstracting API requests.
FileManager for caching data locally.