Department of Computer Science

Quaid-e-Azam University, Islamabad

Assignment 6

Event Hub

Prepared by:

Talha Wains (Leader)
Ahmad Masood
Muhammad Waleed
Ahmad Hassan

Submitted to:

DR. ONAIZA MAQBOOL

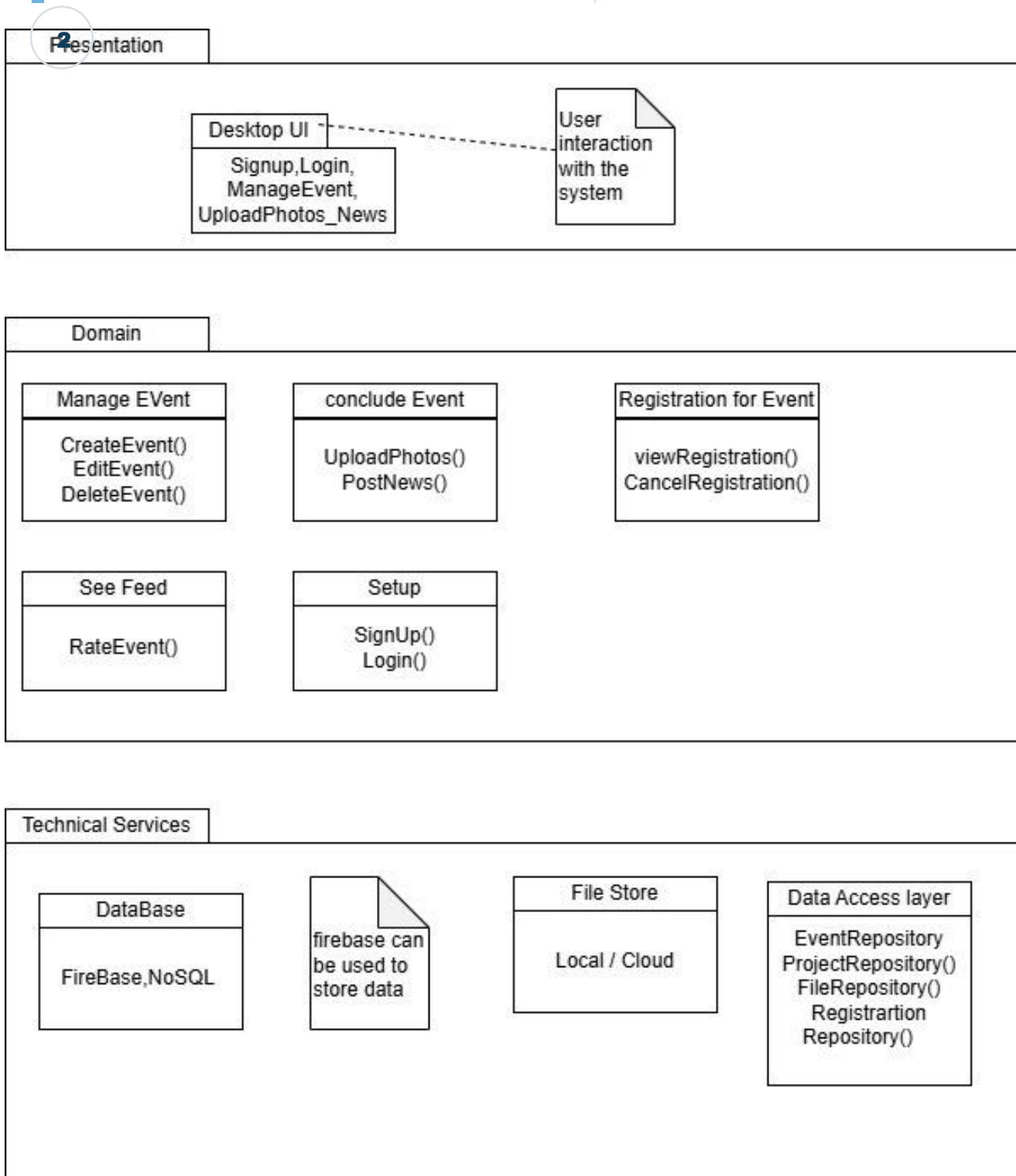15 April 2025

3-TIERED ARCHITECTURAL DIAGRAM

Event Hub

Created by	Group 15
Date Created	15-04-2025

Presentation

Desktop UI
Signup,Login,
ManageEvent,
UploadPhotos_News

User interaction with the system

Domain

Manage EVent
CreateEvent()
EditEvent()
DeleteEvent()

conclude Event
UploadPhotos()
PostNews()

Registration for Event
viewRegistration()
CancelRegistration()

See Feed
RateEvent()

Setup
SignUp()
Login()

Technical Services

DataBase
FireBase,NoSQL

firebase can be used to store data

File Store
Local / Cloud

Data Access layer
EventRepository
ProjectRepository()
FileRepository()
Registrartion Repository()

Architectural Diagram Description

The architecture in the attached image follows a three-tiered design: Presentation, Domain, and Technical Services, clearly separating concerns between the user interface, core business logic, and underlying infrastructure. This layered approach enhances modularity, maintainability, and scalability for a desktop-based event management application

1. Presentation Layer

This tier is responsible for user interaction. It contains all graphical interface components developed for a desktop environment, enabling users to access features such as Signup, Login, Event Management, and Photo/News Uploading.

Components:

Desktop UI:
Provides the primary interface for user interaction including signup, login, event management, and photo/news uploads.

Manage Event:
Handles creation, editing, and deletion of events within the system.

Conclude Event:
Allows users to upload event photos and post news related to concluded events.

Registration for Event:
Displays current event registrations and allows users to cancel their participation.

See Feed:
Enables users to view and rate events based on their experience.

Setup:
Handles user sign-up and login processes by verifying credentials and registering new users.

2. Domain Layer

This is the core of the application where all the main processing happens. It is organized into components reflecting key business processes:

Manage Event:

Responsible for handling the entire lifecycle of events, including creating new events, making edits to existing ones, and deleting events that are no longer needed.

Conclude Event:

Supports the finalization of events by enabling users to upload event-related photos and share summaries or news updates**.**

- 3 tiered architectural Diagram

Registration for Event:

Manages the registration process for events, allowing users to view their registration status and cancel their participation if required.

See Feed:

Enables users to browse through past events and provide feedback or ratings based on their experiences.

Setup:

Handles user-related operations such as creating new user accounts and authenticating returning users through the login process**.**

3. Technical Services Layer

This tier provides infrastructure support like data storage, reporting, and communication.

Persistence:

Event Repository, Project Repository, File Repository, Registration Repository: Data Access Objects responsible for interacting with the underlying database for each entity.

Utilities

Photo Storage Service: Handles upload and retrieval of images from local or cloud storage.

Notification Service: Sends system alerts or confirmations to the user interface.

Database:

Centralized NoSQL data repository (Firebase) accessed via repositories for persistent storage and retrieval**.**

Layer Interaction Summary

The Presentation Layer invokes services in the Domain Layer to carry out user-initiated operations such as event management, registration, and authentication.
The Domain Layer contains the core business logic and delegates data handling and external service tasks to the Technical Services Layer.
Communication flows from top to bottom (Desktop UI → Domain Layer → Technical Services Layer), ensuring a clear separation of concerns. Interfaces are used between layers to maintain abstraction, modularity, and ease of maintenance.

• 3 tiered architectural Diagram