Conceptual Diagram

IDENTIFYING KEY CONCEPTS

1. The system shall allow users to <u>register</u> with u<u>nique credential</u>s.

2. The system shall <u>keep</u> the <u>data</u> of the registered users.

3. The system shall <u>provide</u> data and information about the fitness centres in Skopje.

4. The system <u>shall be available</u> on a stable web browser.

5. The software shall <u>be supported</u> on Microsoft .Net 4.8.

6. The system shall have the ability to be <u>presented</u> in one language

7. The system <u>shall have</u> a search option.

8. The system shall <u>provide</u> an experience sharing and feedback section
9. The system shall <u>provide</u> technical support services for resolving any technical issues concerning the user's accounts.
10. The system shall <u>backup and store</u> the recovered data in a network system.

Assigning concepts from the requirements to a category

Stakeholders: User, Admin
Function: Keep, Provide, Backup And Store
Data: Unique Credentials, Cached User Data
Hardware: Database
System: The Web App, .Net 4.8
Abstract concept: search option, nearest gym

Component responsibilities

Map
▶ ShowDetailedMap

UserManager
▶ RegisterUser
▶ LoginUser

FitnessCenters
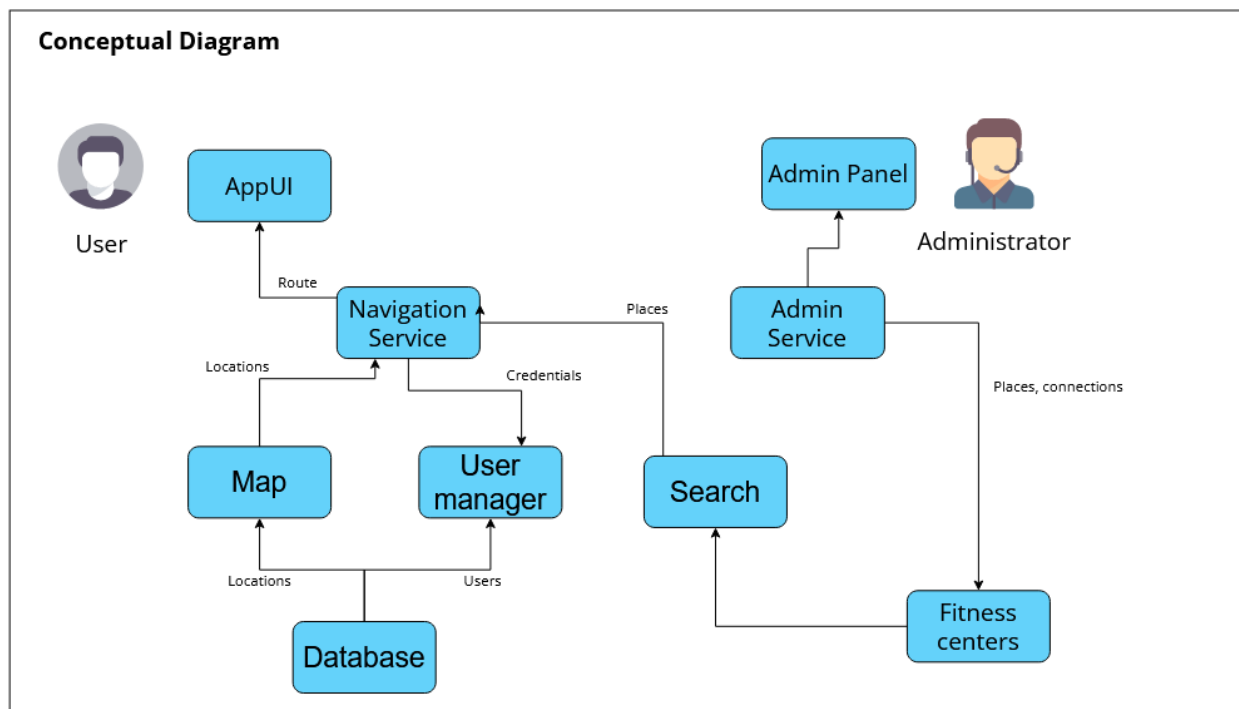▶ AddGym
▶ RemoveGym
▶ SearchGym

Search
▶ SearchPlaces

AppUI
▶ ShowListofNearbyGyms
▶ DisplayMapWithGyms
▶ DisplayGymInformation

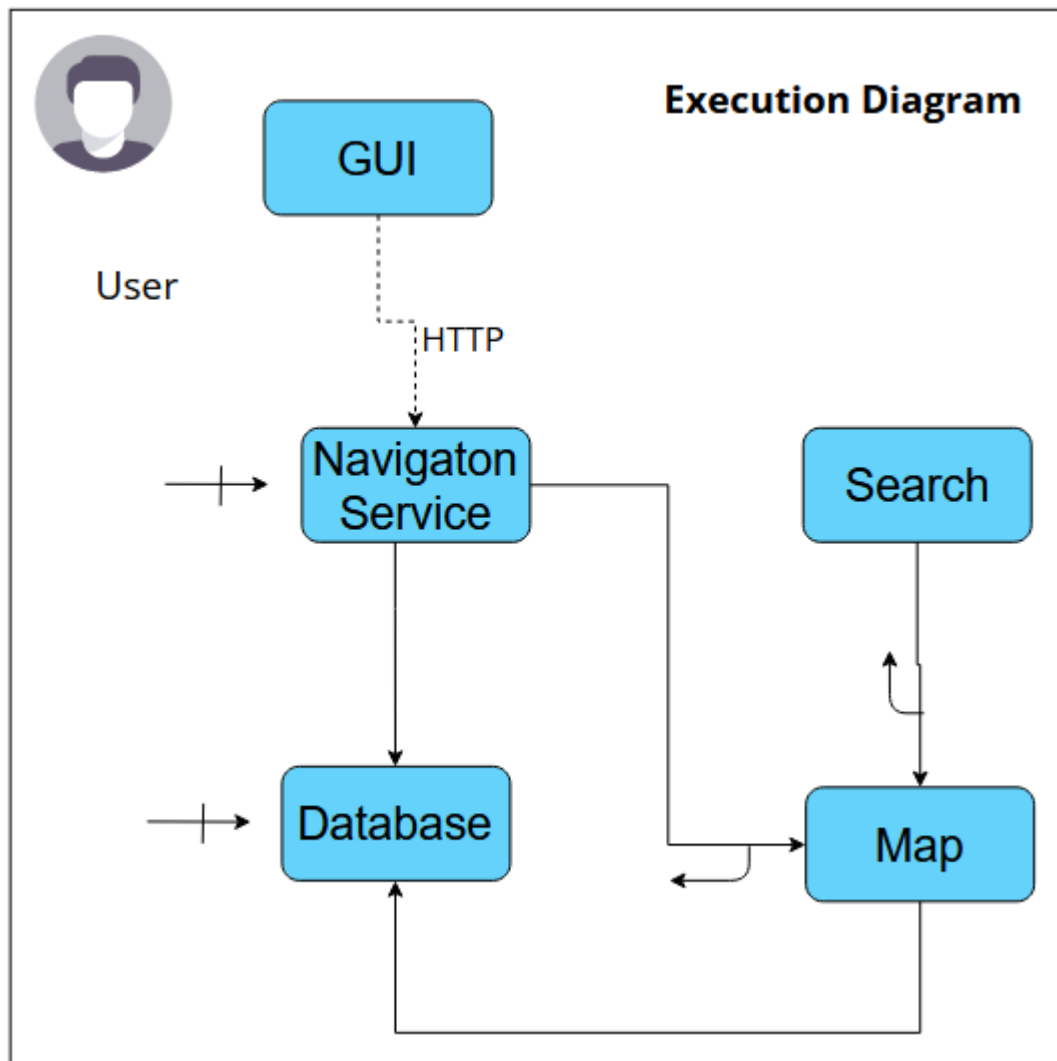**AdminPanel**
▶ ListPlaces
▶ ListConnections

NavigationService
▶ RecommendNearestGyms
▶ DistanceComputed

AdminService
▶ AddGymLocation
▶ RemoveGymLocation

Conceptual Diagram

User

AppUI

Admin Panel

Administrator

Route

Navigation Service

Places

Admin Service

Locations

Credentials

Places, connections

Map

User manager

Search

Locations

Users

Database

Fitness centers

Execution diagram

Through the GUI, the user of the application has access to the list of nearest gyms in town and some information about them, including their locations on map. This data is kept in a SQL Database. Also, the personal data about each user is kept in the database. If the desired gym is not shown on the list, the user has an option to search the database or the map using the name of the gym. On the map, the location of all the gyms from the list are shown.

Implementation Diagram

The Web Application is created with the .NET 4.8 technology using the MVC pattern. The Client (User) can interact with the application through a web browser and can request/create information that is kept in a database.
The application communicates with the database through an SQL Server when there is a need to read/write data.

**Implementation
Diagram**

Client

Web Browser
(XHTML, CSS, AJAX, Javascript)

Application

.Net MVC Components

SQL Socket

SQL Server

Data