Road Trip Planner - An Applied Problem

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Author's Note

For this course i will be developing an application that would try to address an applied problem. Problem of interest is allowing a user to make efficient decision making by providing holistic information from various data sources.

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To take my degree to a logical conclusion I want to do a project that will implement different aspects of the computer science that I have learned through the course of my degree. I will be doing an Applied research effort aimed at solving problems and developing new processes or techniques to solve these problems. I believe that solving a practical applied project will be the best way to learn and implement the fundamentals of software design in real business scenarios. I plan on developing an application that will help users plan for their road trips. Application's target demography will be young and tech savvy users who want to make a thought-out approach to planning road trips.

Problem I am thinking about is the Road trip planning, we all have been in a position where we want to take a road trip but will have to jumble many different information sources like what's the weather like on the way and at the destination, where should we plan the sop overs and what all activities we can plan along the way, but doing so takes lots of planning, looking up information from various sources. I plan to develop an easy to use android app for my project, with future provision for an IOS and Windows market place versions too. Application will primary be focused in USA region with future scope of expanding it to other regions and countries.

Application will allow user to access different information such as weather and road conditions, attraction and scenic routes along the way, places to stay, camp or take a quick shower and best places to eat along the route. Will also provide information about best places to take a pit stop for vehicle repairs. Application will be providing suggestions based on the user's preferences, and making decision by pooling information from various APIs. Application will make it easier for the user taking away the hassle of juggling various applications and websites to make decisions. Furthermore, application will allow the user to team up with their friends, share trip plans, playlists

and instant messaging among themselves. Users will be able to share the trip moments with others via social media applications such as Facebook, twitter and Instagram. Friends can even split the expenses for the trip via the app making it easier to manage trip expenses.

There are various applications that provide different services like weather data, maps, navigation, hotel and restaurant information individually but could not find any application which provide these in one place. I plan to provide the users with a platform where they have access to all the information at one place.

Application will require a throughout understanding and implementation of some advanced graph (map) traversing algorithms, database management and web development We could use some market research to get more details about the target audience and available market size. However, those things are out of the scope of the project and not directly related to our subject of interest, we would focus only on the technical aspect of the app development.

Application will have different aspects that will be required

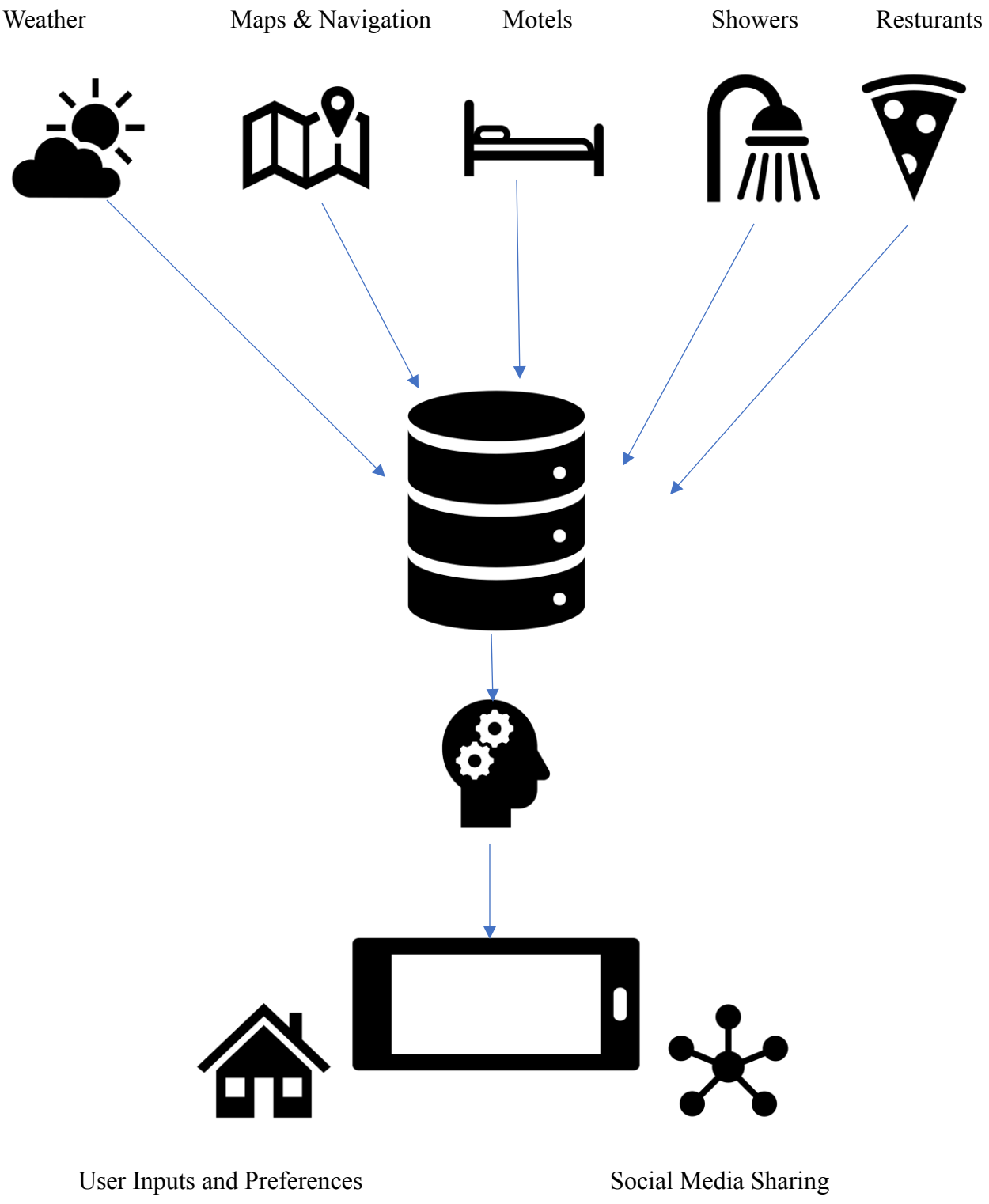
1. Front End and User interface
2. Backend
3. Database

Challenges that we foresee will be

1. Protecting user information - Authentications and Authorizations
2. Finding reliable data APIs
3. Fetching data from various Data API services such as Maps, Weather, Yelp etc.
4. Interfacing with external social media applications

It seems to be excessively ambitious project which will require a great deal of coordination and cross commits. We might have to expand or contract on some aspects to make the application

viable in the time frame. Please refer to a brief over view of the application provided as a block diagram on the next page.


Weather
Maps & Navigation
Motels
Showers
Resturants
User Inputs and Preferences
Social Media Sharing

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