GOutdoor

One stop service for outdoor activity recommendation

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Motivation and Objective

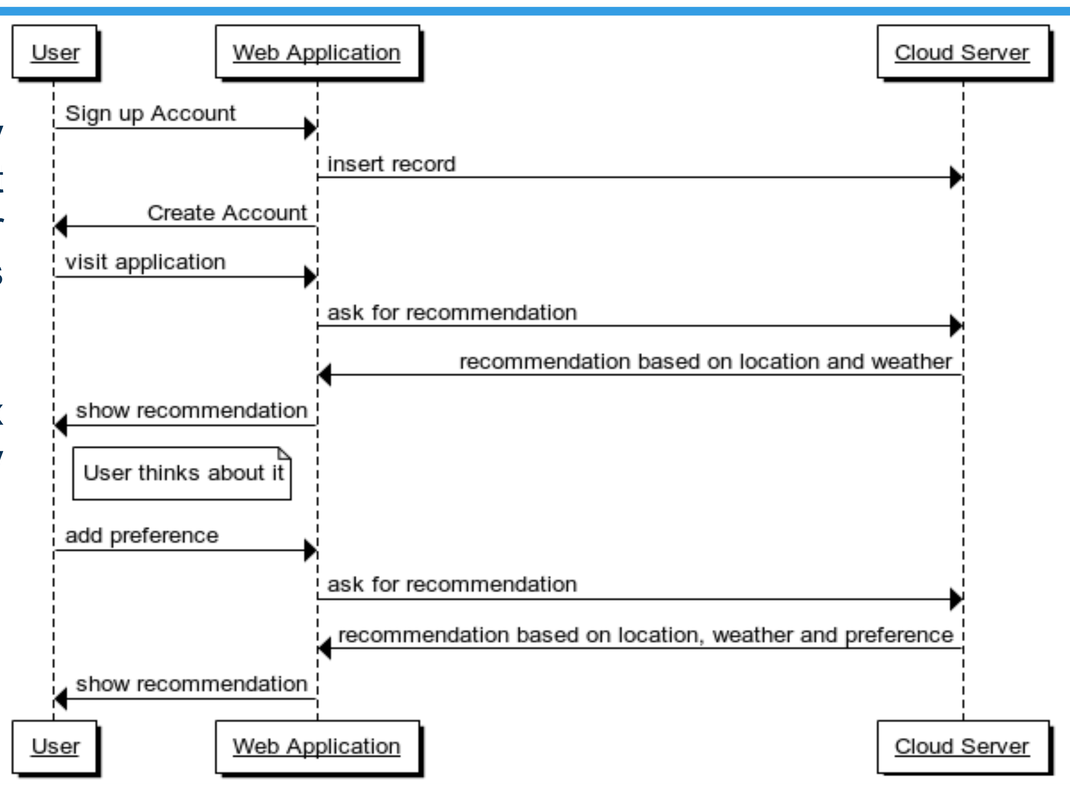
More and more people are realizing the importance of vivid and healthy lifestyle, for physical fitness, mental relaxation, colorful leisure time and memorable experience. They would like to go sports halls, hike at national parks, visit public reservoir or even go shopping centers. However, people may not be clear about what activities are attractive, which activities are nearby and available based on weather condition. There are a lot of websites or blogs that introduce those awesome activities in Singapore, but people have to search for them and make decision based on weather forecast by themselves. We realize that this is a good business opportunity in serving this group of people. Our objective is to develop an application, that can provide people who likes going outside with a customized recommendation about outdoor activity taking into consideration of weather condition, geographic location and personal preference.

Approach

GOutdoor is a cloud-based web application. User can access the application on any device with web browser. Once user visit the web application, a recommendation list about outdoor activities based on user current geography location and weather condition will show up. If user has preference on any specific activity such as swimming or basketball, recommendation list will be refreshed by preference.

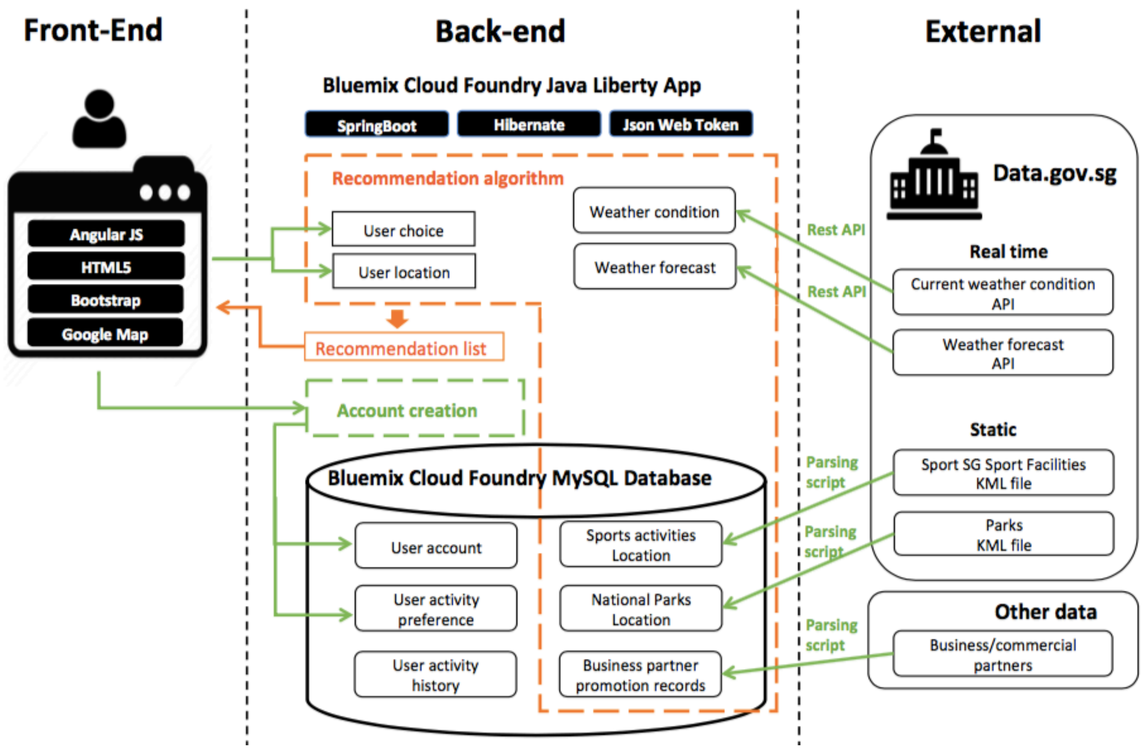
The cloud platform used in GOutdoor is IBM Bluemix. Serviced used on bluemix contains: clearDB managed mysql database for database storage and query execution; bluemix cloud foundry java liberty application for back-end server.

IBM Bluemix CLEARDB .java liberty

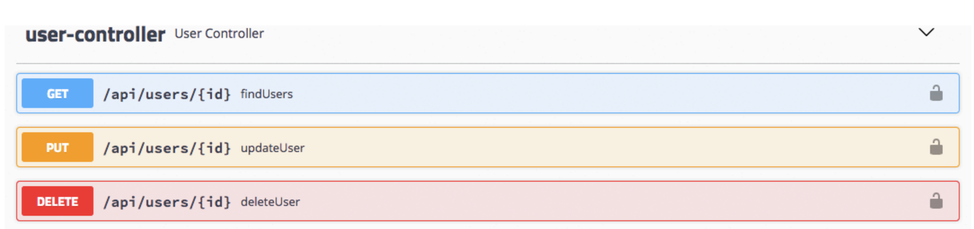


Implementation

The whole structure of GOutdoor is shown below:

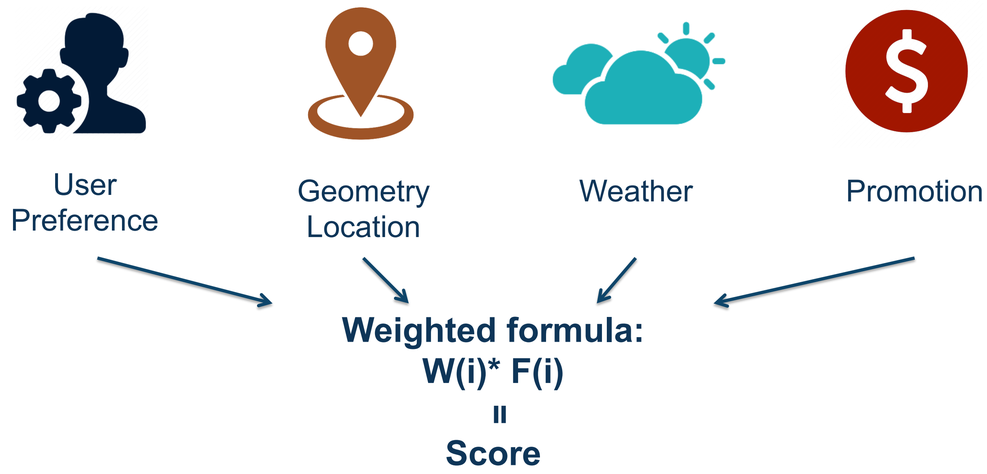


API Documentation using swagger framework is available at https://cs5224.au-syd.mybluemix.net/swagger-ui.html



Backend of GOutdoor is achieved by Liberty for Java and frontend is built on Angular.js framework. In backend, spring boot is used for web service, Hibernate is applied for object relationship mapping and Json web token is used for authentication.
External data source used in this app contain real-time weather condition, sports facilities at SG, parks at SG, shopping malls or private gems, activities if any.

Recommendation ranking algorithm:
The app will provide a list of recommendation of activities, and this list is order by the scores generated from ranking algorithm. The ranking algorithm is a weighted formula which take below factors in consideration:



Revenue Model

To generate revenue out of GOutdoor, a free platform for everyone, we focus on three major aspects: advertisements, partnership commission, and potential market insights. Advertisement is a service offered to partner facility operators to promote their activities on the GOoutdoor website. We could also receive some commission fee by working with partners to run promotion events on GOutdoor, by offering exclusive discount options or other benefits to our platform users. Once the user base is large enough, user data would generate tremendous market insights that we could potentially offer relevant paid services to other institutions.