

RunForIT

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Specification

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Vision

Problem description

For the purpose of this project, web application needs to be developed with the ability of deployment on both Android and iOS systems. The aim is to produce an application that will allow the users to create running events to meet with other runners at their level of experience and that the app will be able to keep the track of the speed and distance ran by the user, and notify the user on their progress using speech synthesis.

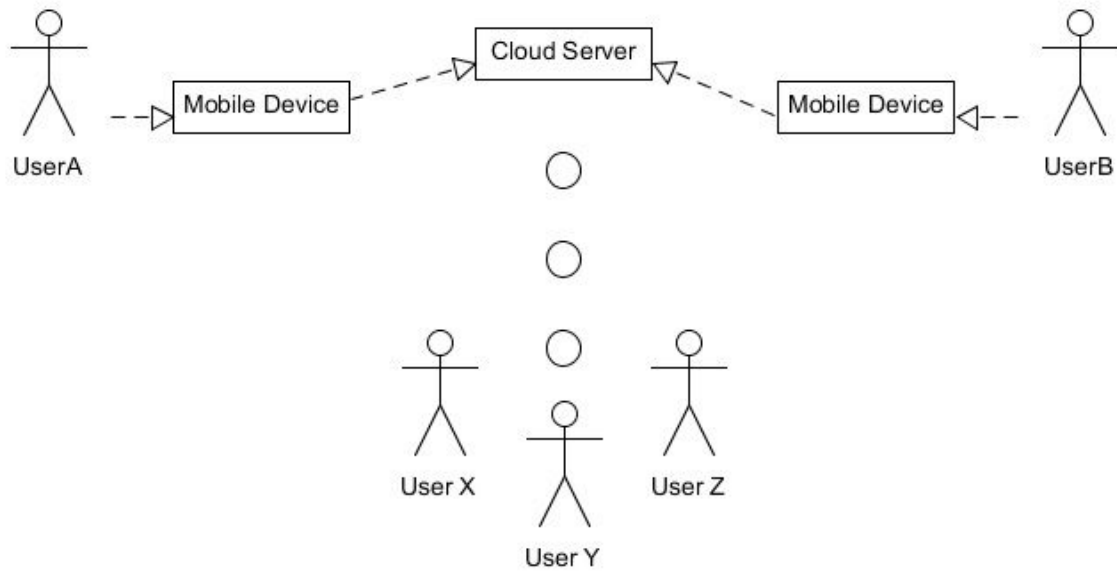
Proposed Solution

An application supported by Android and iOS platforms, downloadable from Google Play Store and the website dedicated to the app. The app will allow for the creation of an account using email address and password and possibly one of the selected social networks(Google+ or Facebook). Once the account has been created the user will be able to create an event using Google map API together with additional data(time, data and level of expertise). Also the user will be able to check for events in their local area and to go for a run using the built in functionality. The 'run' functionality will be collecting the user's current location, based on this data the app produce the information on the user's current speed and distance ran. The app will also inform the user if they should speed up or slow down depending on the current interval.

The basic principle behind this app that all the necessary information will be passed through the text to speech method so there will not be any need for the user to constantly check the status of the current training.

The app will be supported by a cloud backend service that will take care of the data storage and any server side calculations.

Context Diagram



Risks and Difficulties

- Risks
 - Lack of network service in some areas
 - Lack of user interest in the app
 - Multiple similar applications available
- Difficulties
 - Communication between mobile device and the cloud service
 - Limited time
 - Lack of any experience in selected programming language and technologies
 - Uploading data when the network is down/weak

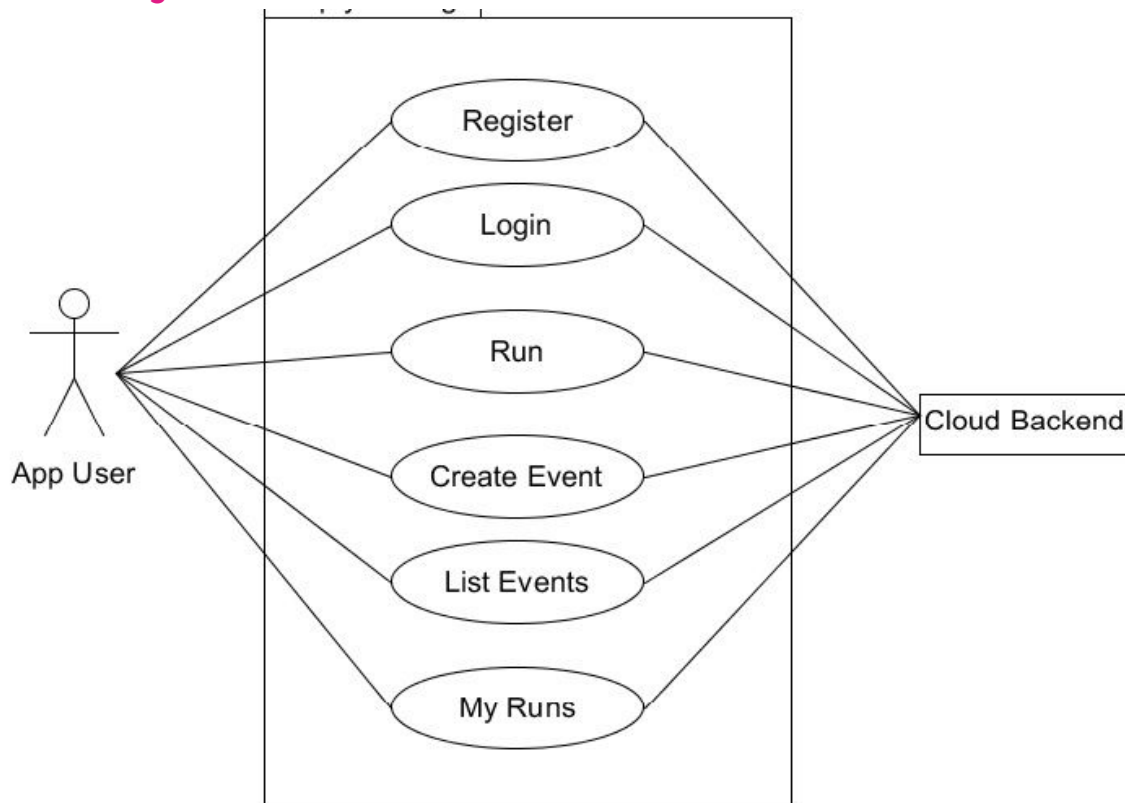
Main functionality

- Account creation
- Create running events
- List events in users area
- Run Tracking
- Information passed through voice
- Display current weather information in your area

Target Audience

All the chosen technologies allow the app to be used worldwide, the only drawback is that the app will be only available in english language. The app will be targeted towards any runner no matter how experienced they are

Use case diagram



Brief use cases

Name: Register

Authors: App User, Cloud Server

Description: This use case begins when the app user wishes to register. The user chooses a "Login" option from the side menu. Once the window is loaded the user is asked to enter e-mail address and password. When the data is submitted using "Sign Up" button and validated the user account is successfully created.

Name: Login

Authors: App User, Cloud Server

Description: This use case begins when the app user wishes to register. The user chooses a "Login" option from the side menu. Once the window is loaded the user is asked to enter e-mail address and password. When the data is submitted using "Sign In" button, the server validates the data. When the server returns true, the user is granted access to the application.

Name: Create Event

Authors: App User, Cloud Server

Description: This use case begins when the app user wishes to create a running event. The user chooses a "Map" option from the side menu. Once the window is loaded the user is can tap on the map of their current location to place a marker. Once the marker has been placed the submit button can be pressed. Once the button is pressed a fill in form is presented to the user. The form takes in time and date of the event and the level of expertise. Once all the necessary data is entered the event is successfully created and the user is returned to the main screen.

Name: List Events

Authors: App User, Cloud Server

Description: This use case begins when the app user wishes to list the events in their local area. The user chooses a "Map" option from the side menu. Once the window is loaded all of the data available on current events is displayed on the map with all the additional data present.

Name: Run

Authors: App User, Cloud Server

Description: This use case begins when the app users wishes to start his/hers training session. The user selects a 'run' option from the side menu. Once the window is loaded the user can tap 'start' option. Once the button has been pressed the countdown begins and the location tracing begins, the app calculates the distance and speed live and the data is presented. If the algorithm decides that the user speed is too low or to high the according information is presented to the user, once the session is completed the user can press 'stop' button. Once the button is pressed the data is uploaded to the database or to the local storage depending on the situation.

Name: My Runs

Authors: App User, Cloud Server

Description: This use case begins when the user wishes to list his/hers previous runs. The user selects 'myRuns' option from side menu. Once the window is being loaded all of the necessary data is being fetched and placed in the list where the user can choose which runs does he/she wants to see. Once the desired run id is selected all of the data matching this run id is fetched and displayed. This use case ends when the user is successfully presented with all the desired tun data.

Detail use cases

Name: Login

Authors: App User, Cloud Server

Description: This use case begins when the app user wishes to register. The user chooses a "Login" option from the side menu. Once the window is loaded the user is asked to enter e-mail address and password. When the data is submitted using "Sign In" button, the server validates the data. When the server returns true, the user is granted access to the application.

Main success scenario:

1. The app user chooses an option Login from side menu
2. The system retrieves the login modal form
3. The system requires the user to enter his/hers login information
4. The app user submits the data using 'sign in' button
5. The system validates the data entered
6. The system detects no validation errors.
7. The system authenticates the user.
8. The system informs the user that the changes have been successfully saved.
9. The system returns to main menu.

Alternatives:

- 6.A The system detects an error.
- 6.B The app user is asked to reenter the data.
- 6.C The app user re-enters the data.
- 6.D Go back to step 4

Name: Create Event

Authors: App User, Cloud Server

Description: This use case begins when the app user wishes to create a running event. The user chooses a "Map" option from the side menu. Once the window is loaded the user can tap on the map of their current location to place a marker. Once the marker has been placed the submit button can be pressed. Once the button is pressed a fill in form is presented to the user. The form takes in time and date of the event and the level of expertise. Once all the necessary data is entered the event is successfully created and the user is returned to the main screen.

Main success scenario:

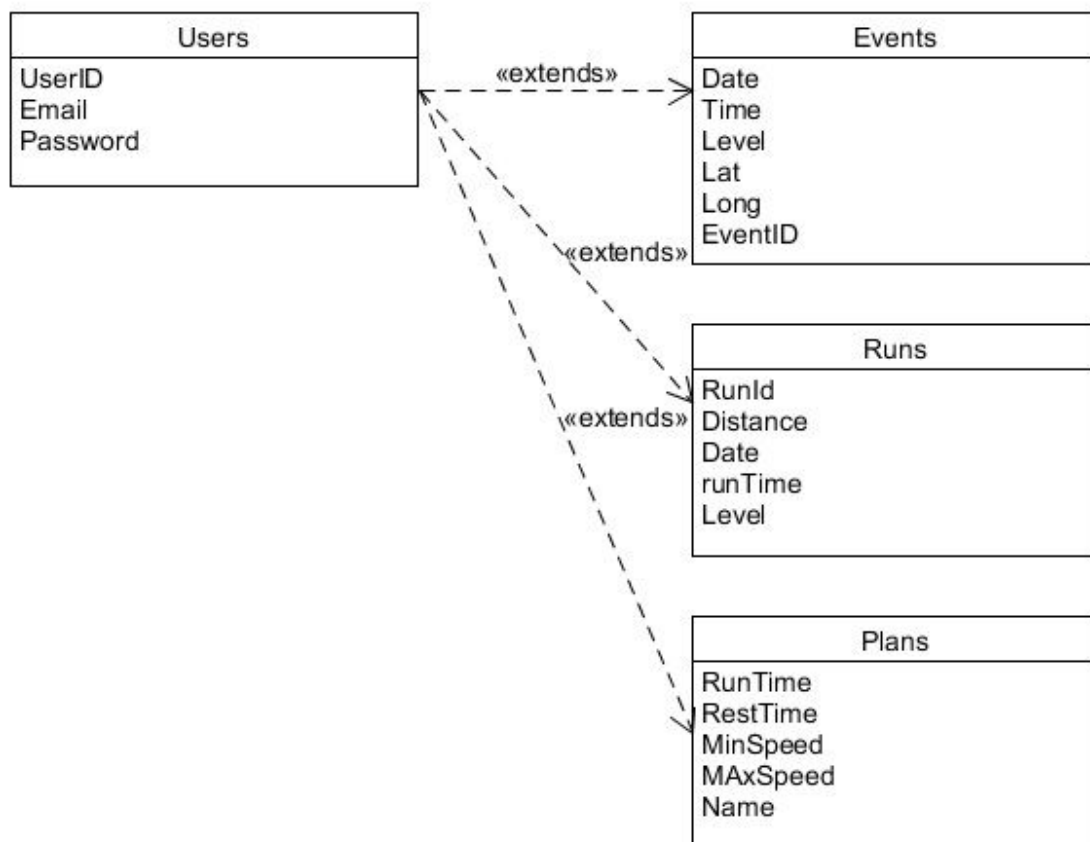
1. The app user chooses an option Map from side menu
2. The system retrieves the google map setting
3. The app user is presented with the map of his/hers current location
4. The user taps on the location where the event is to be created
5. The user submits the data through submit button
6. The system retrieves fill in form
7. The app user is presented with the fill in form
8. The app user enters required data(time, date and level)
9. The app user submits the data
10. The system validates the data entered
11. The system detects no errors
12. The system stores the data in the database
13. The system returns the user to the main screen

Alternatives:

- 11.A The system detects error in data format entered
- 11.B The system alerts the user with the error
- 11.C The user re-enters the data
- 11.D Go Back to the step 10

System sequence

Initial database



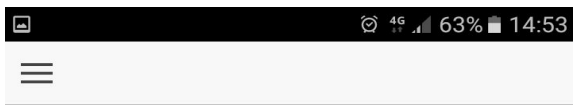
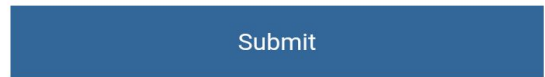
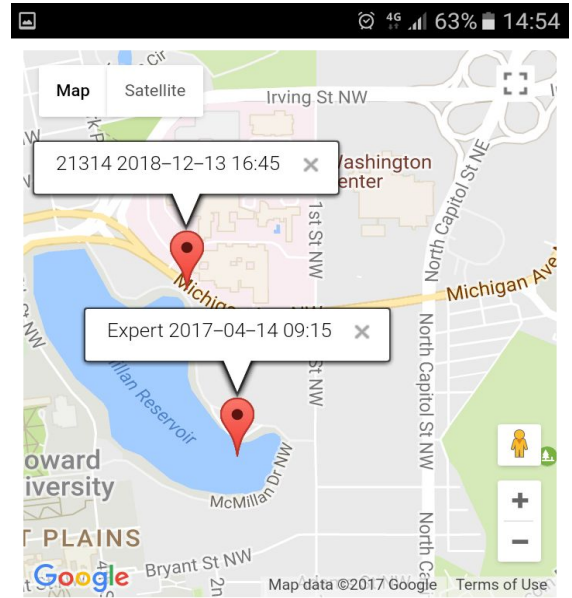
GUI



Athletes dressed in red are more likely to win events than athletes wearing any other colour.



12° Celcius(light rain)



Update Scores

234825386

260648794

416408791

453860327

543036766

563071558

607712585

751829103



Update Scores

543036766

765204514

Date 04/01/2017
Level Beginner 712585
Run Time 6
Distance 0

751829103

OK

765204514

843670708

900069564

bartoszzur@gmail.com

5

0:0:0

0

m

0

km/h

Start

Stop

Login

email

Password

Log in

Sign up

Log out

Level

Time

Date

Submit

Supplementary Specification

Functionality

- Errors must be logged

Usability

- The application must work on Android 5.0+ smartphones
- The application must work on iOS 10+ devices
- All the necessary tutorial data must be presented on the website

Performance

- New run data has to be synchronised with the server database
- Map population should not take more than 5 seconds.
- The retrieval of the past runs should take less than 2 seconds
- The application must provide a lag free experience for 50 users at the same time
- The geolocation data should be gathered every 1000 ms to 2500 ms

Reliability

- Regular database backups must take place
- Administrator must have a web access to the backend service from anywhere
- Once live, the user should be able to use the app anytime they wish

Supportability

- The system must be ready for potential future expansion
- System should be reviewed on weekly or monthly basis.

Security

- The system must use HTTPS protocol to protect personal data.
- The system must keep user data private and app owners cannot disclose it with third parties.