I listen my speaking agent reading book fragments as I walk by

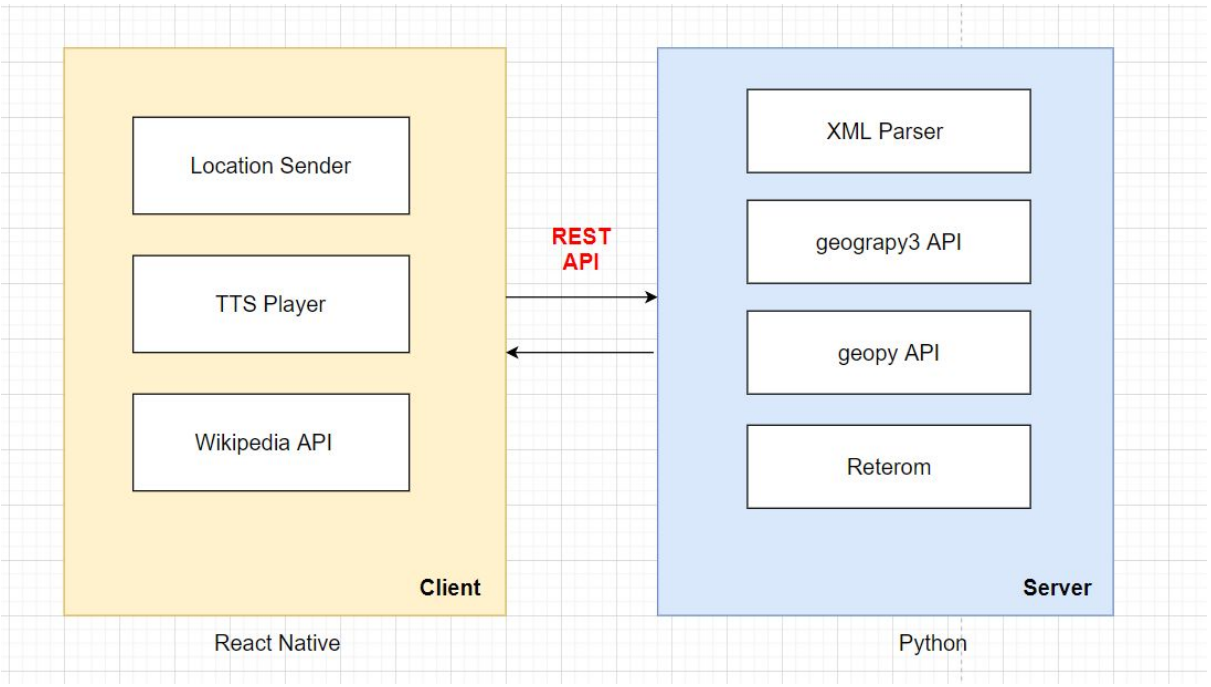
READING ASSISTANT

Chiperi Andrei (A1), Stoica Ioana Dana (A1)

Project's short description – project's goal*:*

The project has an XML file as input with some geographical entities and based on the actual location of the user's phone, we search the nearby locations wich can be found in the XML file, and the mobile application will read some informations about that place (informations from that XML).

Architecture:



The application is structured on client-server architecture:

The client – is the mobile app which send the location of phone to the server, and receive information about the location sent using REST API.

The server - here takes place the XML parsing, finding the locations from the generated text (using geograpy3 API), the transformation of the locations (words) into latitude and longitude (using geopy API) as well as calculating the nearby locations from the actual location of the user, received from the the client module.

Project's details

Motivation: We chose this project because it has an interesting idea and can be used in a cultural/ educational way. With the use of this app, the user can experience more realistically the fragments from that texts as well as finding more informations about some places.

Challenges: using of Reterom project and location finder;

State of The Art: we found useful the following articles:

- *MappingBooks*
- *https://towardsdatascience.com/geoparsing-with-python-c8f4c9f78940*
- *https://janakiev.com/blog/gps-points-distance-python/*
-

Objectives: to create an app that can be used in a cultural purpose.

Project management:

The project will not have a team leader. We work in equal modules, so we can call ourselves, together, a leader.

➔ Client side part – Andrei Chiperi
➔ Server side part – Ioana Dana Stoica

The client module has several sub-modules:

- Play audio file module - play in background audio files, avoid the sound stop due to application close;
- Call Google Text To Speech – call Google Translate API "to play" some dummy text;
- Design module – styles of application components;
- Send location module – send current location, speed, altitude of the mobile phone(we should use speed to avoid to use our application by using a car a bike, or something else);

The whole application is written in React Native, and it should be render for Android OS, and IOS .

The server module has several sub-modules:

- XML parsing;
- finding the locations from the generated text (using geograpy3 API);
- the transformation of the locations (words) into latitude and longitude (using geopy API);
- returning the nearby locations from the actual location of the user, received from the the client module;
- Reterom - transform text into speech;

The server module will be written in Python.

Detailed deadlines and milestones:

27th February 2020: State of The Art (the articles that we found most useful).

5th March 2020: Project's Architecture, Project Description.

Milestone 1: State of The Art.

12th March 2020: Client module implemented.

19th March 2020: parsing the XML file

26th March 2020: finding the locations from the generated text

2th April 2020: calculate distance between two locations (latitude/ longitude)

9th April 2020: find the nearby locations from the current location

16th April 2020: Server module implemented.

Milestone 2: Client and server modules implemented.

23th April 2020: using of a server to send the locations to the client module

30th April 2020: Client and server modules integrated.

14th May 2020: Further tests. Writing the documentation.

Milestone 3: Client and server modules integrated. Writing the documentation.

Qualitative measures: