HTL LE⊙NDING

Project Proposal

Guideo - Audio Guide Platform

Project Name	Guideo - Audio Guide Platform
Project Leader	L. Engleder
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Revisions

Date	Author	Change
September 16, 2019	L. Engleder/P. Quoc/L. Wirth	First version
September 20, 2019	L. Engleder/P. Quoc/L. Wirth	Base information for each section; proofreading by P. Bauer
September 23, 2019	L. Engleder/P. Quoc/L. Wirth	Minor improvements and more details; proofreading by P. Bauer
September 27, 2019	L. Engleder/P. Quoc/L. Wirth/A. Leeb	writing on planing section
September 29, 2019	L. Engleder/P. Quoc/L. Wirth/A. Leeb	final version

Contents

1   Introduction

Guideo is a platform for users and creators of audio guides. Depending on the location the user can choose between a variety of guides, which in turn deliver an informative and highly interesting experience. Someone could for example travel around the city without any type of knowledge or guide and learn about a variety of subjects such as culture and history. Our app would also enable a simple way of adding guides to the catalog.

2 Initial Situation

Currently there are some ways people get information about their travelling destinations.

An established but also somewhat outdated way is to just read about it in a guide book or online. Buying a generic guide book and reading page to page can be a tedious task for most people. It takes hours to get into the often dry material and often results in holey knowledge of the city.

And the problem with online travel websites is the huge amount of unfiltered information which distracts from the really interesting things. Moreover there's no way to really enjoy these things in real-time and location based.

Another option for many people are tour guides and bus tours which promise to offer an educative personalized experience. When you consider their high prices many of these tours still happen to have a lot of inconveniences and problems. First of all, there is huge amount of people who are unable to take part in tours because of hearing impairment or a slower walking speed. An important thing to note is also the small pool of languages these services typically offer. Moreover it can simply be an awful experience to walk around in an awkward group of strangers who you have to adjust to.

For many museums the installment of an audio guide system can be a big financial burden. Most of all the purchase of old outdated hardware for high prices from specialized companies seems out of place in our modern connected world. Keeping enough of these things working probably requires a separate technician for maintenance. Moreover without regular inspection and cleaning, these systems fail basic hygienic standards.

Although there are archaic audio guides in use in museums there is still no way to enjoy them in a city in general. Our service would provide both locations with fitting guides.

3 General Conditions and Constraints

3.1 Framework conditions

We are not planning to spend any money except for the cost of a web hosting server. Additional budget are possible but not really wanted.

As the app was initially and is still imagined as a mobile app. We would develop the app with Angular, a front-end framework, capable of delivering cross-platform mobile solutions. For the server functionality we will use java or nodejs .

At the time of writing only one of our member gathered experiences with Angular, but we are expected to be taught Angular in the next months in school.

We wouldn't cooperate with any other project in our class but if there are museums showing interest in our project we would try to integrate their audio guides which are already in use. It would greatly expand our catalogue of guides and help us establish ourselves in the world of museums.

There are no commitments as of now. But we plan to contact some museums and galleries in the near future.

3.2 Technical conditions

We will develop the app with Angular and the server functionality in combination with IntelliJ.

Versioning will be managed over github.

There are currently only our 3 Laptops in use and no Server structure available. And 3 android mobile devices for testing.

We will use english when documenting and programming.

4 Project Objectives and System Concepts

In general, we aim to create audio guides, you could find in a museum, which are easily accessible through our app. Moreover you can also listen to them while exploring a city or walking through the zoo. Depending on the size of the catalogue in the specific location, one could choose which perspective he wants to hear about.

The users can listen to audio guides, if they are near a specific location. These audio guides will be provided from verified users (e. g. museums, cities, etc.) or community. When provided and used in a museum the Geo-location based system would be replaced with a tagging system more suited to such an environment.

To financially sustain ourselves we will use well placed advertisements and we will set a revenue for audio guide purchases. Also, we will offer a ad-free application in exchange of money but this does not mean that all audio guides on our platform will be provided for free.

Users that provide audio guides can get verified. Only verified audio guides must be within the regulations and rules. Non-verified audio guides won't be checked but they need to respect the rules. Users who intentionally provide misinformation, advertise products, etc. will be banned.

Users can leave a rating on the audio guides. Inappropriate, faulty or wrong audio guides can be reported by the community.

A notification will pop up if the user is close to a place or point where a verified audio guide was set, but only if the application is running. A pop up window will appear if the app runs in the foreground. Otherwise, the notification will show up on the status bar and in the notification inbox. But only for verified audio guides will a notification popped up. Non-verified audio guides will only be shown in the Explorer View.

In the Explorer View the user can explore all available audio guides (verified and non-verified) on a google maps like map. Alternatively there will be a list of audio guides structured around locations (e. g. Linz - Linz Kernzone).

Our aim is that most of the audio guides are cost-free and that our revenue stems from the purchase of audio guides and advertisements.

Our platform should also provide a payment system to make the purchase of specific audio guides (museums, zoos...) easy and intuitive.

5   Opportunities and Risks

The project could acquire popularity with many people who are visiting another country and want an easy way to learn about customs, culture and history. Also cities might be interested in this project in order to increase tourism due to the popularity of our audio guide catalog. It could also turn out successful as a creative platform for creators of this somewhat new medium. We are also exploring the possibility of selling these created guides. The user will be compensated fairly.

Another opportunity of expanding the app would be to simulate a audio-visual experience through the use of AR-technology. It could be employed in historical settings and sceneries. Although the idea is very interesting it would require far more development time and expertise in the field.

We could face the risk that our catalogue is too small to really consider it as an option.

One of the biggest risk would just be the absence of any traction and popularity among Museums, Zoos and the like.

6 Planning

6.1 Milestones

- Database Structure and Development
- Localization and Notifications
- Audio Guide Streaming
- Route Finding
- Account Login, Authentication and Management
- Tagging System
- Payment System
- Guide Creation System (Recording and Tagging)
- Archive + Rating + Reporting

6.2 Members

Name	Role
Lucas Engleder	Project Leader, Mobile Co-Master and Database Assistant
Patrick Quoc	Mobile master
Lukas Wirth	Seamodea
Alexander Leeb	Database Master and Server Assistant

Role Explanation:

- Seamodea
    - **Se**rver
    - **A**nd
    - **Mo**bile **De**sign
    - **A**rchitect

6.3 Resources

6.3.1 Human Resources

Our project is actually a school project which disables to really consider external programming help outside of our core team members. We wouldn't use this option anyway as we see this project not only as a project but as an opportunity to learn new things and try innovative technologies.

But regarding design, we are bearing in mind that our capabilities might be limited and in need of an overlooking eye. Possible candidates are colleagues in our school's design branch.

6.3.2 Licenses and Server

- License for Jetbrains' IntelliJ Ultimate Edition IDEA to develop Angular Apps.
- Microsoft's Visual Studio Code and Drifty Co.'s Ionic are under the MIT License.
- Database License

We are considering buying a server if our school isn't able to provide one. In the case of a possible purchase we would need a server with storage capabilities to accommodate our file space needs.

6.4 Project Management

- Start of project: 30th September 2019
- End of project: End of 5th grade

- First Prototype available: 24.02.2020 (First day of school after semester vacation)
- Begin of implementation work: 4th October 2019

- Big blocks of work

  - Database and Server Structure

  - Localization and Notifications

  - Audio Guide Streaming

  - Account Login, Authentication and Management

  - Route Finding and Google maps integration in general

- With enough dedication and without major problems in development we estimate it to be hard but quite possible

- As already mentioned we will need a server for our application.