Landmark Recognition

By

Mucahit Turhan
Kivanc Ersoy
Ertan Uysal
Ahmet Ocal

Report Delivery Date:
Report Version No: 1.0

TERM REPORT of
CENG415 Thesis and Seminar 1

Month, Year
11/2019

Thesis Advisor:
Nesli Erdogmus

BACHELOR OF SCIENCE

Department: Computer Engineering

İzmir Institute of Technology
İzmir, Turkey

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1. THE DESCRIPTION OF WORK

In recent years, the use of social media has increased too much and many photos are shared on social media during the. Therefore, we see many different pictures on both some websites and social media. And, there are no any information about location and what is this place called? Therefore, we can only look at the picture. We can not learn any information of the picture. If you are very curious, this situation can be very annoying. We think that this is a problem for curious humans so, we will try to solve this problem by developing some application which is easily used by humans. The application take a picture and analyse it to identify the which landmark is there? So, we will use landmark recognition technique which include images recognition and images classifications. This application may be attractive by people who love to travel. The main features of applications :

- Select image from media or take a picture and select it
- The app identify the landmark from picture then it shows informations about landmark such as where is it and what is the weather like there.

2. PROJECT PLAN

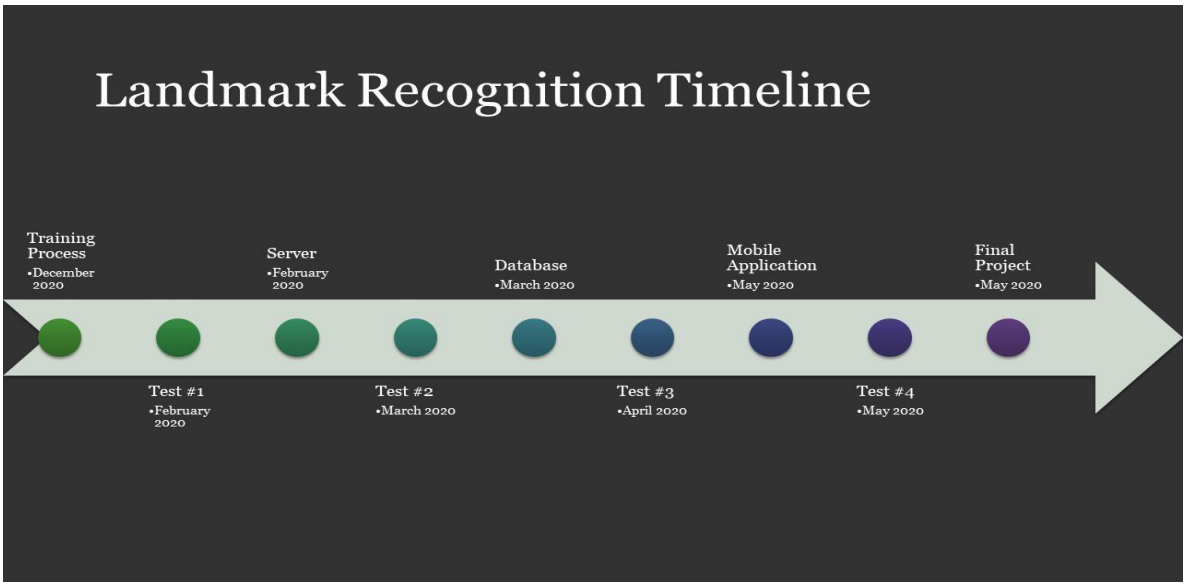
We planned this project to complete end of the second semester of this year.

Firstly, we made the ‘system analysis’ that is made to be able to analysis the system. Also to create the high level design, the feature set and logical structure are determined.

Secondly, we defined requirements. We identify our needs and do some research. We study onsimilar applications / websites, the problems which current landmark recognition systems has and new technologies to solve the current problems.

In the light of our researches, we generate a strategic solution for landmark recognition. Our project will be designed like an application. Java, Android Studio, Firebase , Servers and datasets will be used mainly.

Our schedule continues with the creating the model via dataset that we get from kaggle. While the model is getting ready, we will search about server side and get some ideas about GUI.
Last part of our development process is the documentation of our project.



2.1:Work package list

Work package No[1]	Work package title	Type of activity[2]	Lead participant No[3]	Lead participant short name	Person-months [4]	Start month [5]	End monthError ! Bookmark not defined.
01	Training Process	Model Creation	4	MT,KE,AO, EU	7	12/19	2/20
02	Server	Data Transfer	4	MT,KE, EU, AO	3	2/20	3/20
03	Database	Data Storage	3	MT,AO, EU, KE	4	3/20	4/20
04	Mobile Application	Presentation	3	EU, MT, KE	2	5/20	5/20

		TOTAL	16		

Table 2.2: Work package description

Training Process(01)

Objectives (must be measurable) Creation of the Model

Description of work Task 1: Finding datasets Task 2: Creating CNN Task 3: Training Task 4: Claiming The Model

Work Product (brief description) Dataset: Kaggle Neural Network: CNN

Validation/verification (strategy about satisfaction of objectives)

In order to create the model, landmark dataset and methods such as CNN are used.

Server(02)

Objectives (must be measurable)
Server Operations

Description of work

Task 1: Server Setup
Task 2: Sending data
Task 3: Recieving data
Task 4: Running script
Task 5: Server maintenance

Work Product (brief description)
Server
Scripts

Validation/verification (strategy about satisfaction of objectives)

Data manupilation and transportation

Database(03)

Objectives (must be measurable)
Designing database

Description of work

Task 1: Drawing ER diagram
Task 2: Database authentication

Work Product (brief description)
Firebase
Android Studio/Flutter

Validation/verification (strategy about satisfaction of objectives) Storing and getting information about the landmark.

Mobile Application(04)

Objectives (must be measurable) Present landmark information to user

Description of work Task 1: Design GUI Task 2: Connect database Task 3: Connect server Task 4: Permission (Connect camera/media) Task 5: Present result to user

Work Product (brief description) Android Studio/Flutter Smart Phone

Firebase
Server

Validation/verification (strategy about satisfaction of objectives)

Creating the appplication that will be used to recognize landmarks

Table 2.3 Summary of staff effort

Please fill Table 2.3, if your project has more than one student partner.

A summary of the staff effort is useful for the evaluators. Please indicate in the table the number of person months over the whole duration of the planned work, for each work package, for each participant. Identify the work-package leader for each WP by showing the relevant person-month figure in bold.

Participant no./short name	**WP1**	**WP2**	**WP3**	**WP4**	**Total person months**
Mucahit Turhan	1.5	1	0.75	0.5	4
Kivanc Ersoy	1.5	1	0.75	0.5	4
Ertan Uysal	1.5	1	0.75	0.5	4
Ahmet Ocal	1.5	1	0.75	0.5	4
Total	7	4	3	2	16

3. METHODOLOGY & ANALYSIS

3.1.1 Scope of the Project

Lots of people do not much information about images they see on internet or they take. We are developing a mobile application to help people get easier and faster information about these photos. By using machine learning techniques, the location of the photograph is determined and information about the location taken is presented to the user.

Photo-identification is done among thousands of photos.

3.1.2 Technical Feasibility of the Project

In order to build this application we will use following technologies:

- Tenserflow
- Keras
- PyTorch
- Firebase
- Anaconda

3.1.4 Operational Feasibility

Although there are similar mobile applications, we will be able to take part in the market due to the wide extent of the market. In the proposed system, better results will be obtained by increasing the size of the dataset from day to day. Information about images can be stored for future studies(like memory game for user.

3.1.5 Benefits of System

- Get information about images quickly and easily
- Provide reliable information to user
- Statistical data about places

3.2 The Process Model and Its Particular Adaptation

The first stage of the project is to determine the keystones and roles , prepare the timeline.Team members need to work more on Convolutional neural network method which has an important place in the project. After this point, modeling should be done using convolutional neural network and datasets. After the model is formed,classification is made based on image. After the classification, information about the photograph is taken from the database and presented to the user through the mobile application.

4. PLANNED SOLUTION/PRODUCT

4.1 Expected Result

Our main expectation is making the application work well without any error. Our target group is travellers and social media (instagram) fans that love to see/search about other people's photos that taken in landmarks.People who has the application will get information about the landmark in the photo.All target group will be happy with the easiest way of getting information about the landmark.

4.2 Tools and Technologies

Android Studio: A program to make the mobile application
Java: The language that will be used to code in android studio
Firebase: Informations about the landmarks we will be stored there
Server: Photos will be processes here to indetify the landmark
Smart Phone: Our application will be run here

5. RELATED WORK/SIMILAR SOLUTIONS

The application take a picture and analyze it to identify the which landmark is there? So, we will use landmark recognition technique which include images recognition and images classifications. This project is going to have these features but also going to have some differences from other apps and systems.

There is some other systems similar to our application like Google. Google has Google lens that is the most similar system to our application . The Google Lens technology relies upon your smartphone's camera to "see" what's around you and give you contextual information about your surroundings. Using the camera on your handset, Google Lens can scan a product, animal, text or something else in your environment and tell you what that object is . Consequently while Google lens found what object that is ,our application will found where that landmark is . there is no other system or app focusing landmark recognition .

6. IMPACT

There is no other application or system in the world . The application will be the only application that recognize landmarks ,also every person can use it easily , consequently we can impact the sector much better this way . People who use the application can learn new places and make cultural development.The application will develop more and more with the usage of peoples

7. REFERENCES

The references section contains a list of the documents that the author used while conducting the project. Each reference describes the source of a specific piece of information, and must provide enough information to allow the reader to access the document if he or she wants to refer to it.
The references are enumerated and appear in the same sequence as the information provided in the report.
There are different types of sources like journals, conference proceedings, magazines, manuals, theses and dissertations, books, and web pages. For these sources, there are different reference styles developed by different professional organizations and corporations. We have adopted IEEE reference style as it's generally preferred in the fields of engineering and computer science.
Although web references have become commonplace, caution should be exercised in its usage due to the volatility of on-line material. Whenever possible, at least until more permanent on-line sources become available, references to printed material are preferred over those to on-line material [2].

8. APPENDIX

Appendixes contain complex analyses, statistical information, manufacturer data, tabulated data, calculations, specifications, large drawings, photographs, detailed results on experimentation, cost comparisons and specifications, and in summary, any information that could interrupt the continuity of the report's lecture if placed somewhere else in the report. Sometimes, the appendixes section has more pages than the rest of the report [2].

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- Copying elements of another person's work, such as equations or illustrations that are not common knowledge, or copying or purposely paraphrasing sentences without citing the source; and
- Verbatim copying of portions of another person's work with citing but not clearly differentiating what text has been copied (e.g., not applying quotation marks correctly) and/or not citing the source correctly.

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