**Project Title: “Language Learning System”**

**Project Team: 10**

**Project Members: Bilal Ahmed, Ahmed Albishri, Javed Talha, Abdul Aleem Khusro**

* Project Goal and Objectives
  + Augmented reality language learning tool.
  + To create an app which can identify the objects in an image, and then translate the object to the language that the user wants to learn. The user can also click on the object to hear the word for that object.
* Motivation
  + We want people to learn new languages, and the best way for that is to use this app and see what their everyday objects are called in the language they want to learn. Many a times we look at an object and say that what is that called in English, Urdu or in any other language. We look at the search engine and sometimes find similar word after a tiring struggle. So there’s a need of a system in which a user may be able to upload some photos of the object and instantly get to know what it’s called and hear the pronunciation.
* Significance/Uniqueness
  + Current language translation apps only have optical character recognition built into them to translate text to other languages. But very few apps can identify and translate everyday objects in real-time using image processing.

* Objectives
  + Annotate real-time video.
  + Translate the annotations to user’s preferred language.
  + To make the system learn about the type of images the user’s searching and then recommend the similar objects for example, a system learns that the a photo or video of a fruit (most occurred word in annotations) has been looked for so system will generate the related objects that are of same type and class. In this way user will get to know about more than one objects of same type.
* System Features
  + Recognize objects in an image.
  + Annotate the objects with the translated word.
  + Give option to hear pronunciation.
  + Calculate the search trend and teach that to the system so that future system searches are more refined and relevant.
  + Call an external API to find out the possible synonyms of the annotations so that user get to learn different words bearing same meaning in single session.
* Related Work:
  + CamFind is an app that identify any object and give more related information about this object, still this app does not support language translation for identified objects. [1]
  + Image identify this is also an image identification project, also does not support language translation for identified object. [2]

As a backup, we are planning on making the audio speech analysis system which can analyze the words spoken in certain speech. This can be done by using “Speech to text” API provided by google. All the annotations are then analyzed using spark engine and intensity of words along with other useful analytics can be extracted.

* Bibliography
  + [1] [www.camfindapp.com](http://www.camfindapp.com)
  + [2] [www.imageidentify.com](http://www.imageidentify.com)