

Project members: Eric Ernst, Isaac Reath, Jason Gregory, Todd Lock, Gino Notto

Problem statement: A Kinect-based sign language recognition system, which would convert standard sign language to text, and perhaps text then to speech. This must be a multi-use application for the deaf, to include many forms of sign language and gesturing.

Questions to address:

1a) Choose a proper title for your project.

A) Sign Out Loud.

1b) Write an overview of the project including the introduction, problem statement, and the objective.

A) Our team would like to develop a project that would enable deaf people to get more involved. The problem statement revolves around the idea of a camera-based sign language recognition system that would be in use for the deaf for converting sign language gestures to text and then text to speech. Our objective is to design a solution that is intuitive and simple. Communication for the majority of people is not difficult. It should be the same way for the deaf.

2a) Most of the projects work for a specific population... try to mention them and why your project is useful for them.

A) Our project will be aimed mainly at deaf people but it can also be used as an educational system if someone would like to learn sign language off a kinect-based program to get involved. For deaf people, it could help them communicate with others or navigate the Xbox One by just using sign language.

2b) How will it improve their quality of life?

A) The majority of people do not know sign language yet.

3a) Mention the benefit of your project.

A) Our project will be able to assist deaf people in managing sign language skills.

3b) How will it improve the quality of life of its users?

A) It will improve the quality of life of deaf people by allowing them to use their sign language skills to navigate through the Xbox One with a way of using gesture to text to speech commands and helping them learn from mistakes if they mess up on a gesture.

4a) If you can, create a simple list of the requirements.

A) Xbox One, Kinect, Gloves with sensors, a list of all the possible sign language gestures.

4b) Will flexibility and configuration be required to satisfy different users?

A) No.

4c) How do the project user interfaces look and what will make them unique?

A) There will be a video of the user signing. Under that video there will be a written form of the translation of the sign (to ensure that the correct translation is given). Finally, there will be a user

4d) Will there be any budget or schedule constraints (e.g. will it use commercial equipment? Will it be affordable by students?)?

A) Yes, we will use commercial equipment to get our application out there and it will also be affordable by students.

4e) Will you be taking advantage of industry-standards (e.g. wireless networking, etc.)?

A) Yes, we will take full advantage of industry-standards.

4f) What about the main safety requirements in your project?

A) To keep the gloves that are required clean and to have enough space in your room to work with the kinect-based application.

4g) What hardware is required?

A) Gloves with sensors and an Xbox One with Kinect.

5) Are there any technical difficulties to overcome?

A) The main problem will be the software to write for the application as there is a large amount of sign language gestures to keep in mind while allowing the Kinect to register them.