Speech Recognition System in Cars

TEAM 9	
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Project Title: Speech Recognition in Cars
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Project Summary and Justification:
- Dr. Ashraf Gaffar, Assistant Professor, Arizona State University, requested the students of his class to design a Speech Recognition System to help us understand the principles of Project Management and how to apply it in a project. This will help the students in applying the concepts taught in class in a real world project.
- There is no fixed budget for the project. The only cost incurred has to be invested by students for minimal hardware such as a headphone or a microphone.

Product Characteristics and Requirements:
- Software and Tools: The speech recognition system is to be built on an already existing speech recognition software.
- The project management tools used in this case are for project deliverables like project charter, team presentations etc. They are applications present in MS Office and Google Docs.
- Submissions: The project team should submit many project deliverables such as Work Breakdown Structure, Project Charter etc.
- Keywords: The system designed should be able to recognize certain keywords and invoke actions based on the keywords. The number of keywords used should be limited but not too few. The system designed should be accurate
- User Interface: The system designed should have a user friendly Interface so that it is easy for the users to navigate through the system.
- Analyzer: An analyzer should be present in the system that is able to detect the keywords provided and analyze it to perform the specific action.
- Response Generator: This response generator should trigger an action as a response to the keyword. The response generator is dependant on the analyzer.
- The speech recognition system should be demonstrated in a laptop as part of a presentation in the classroom.

Summary of Project Deliverables:
- Project management-related deliverables:
    - Project charter: A document which shows a detailed plan of our goals, resources, roles, and responsibilities.
    - Scope statement: An outline of the project summary, deliverables, and success criteria.
    - Work Breakdown Structure: A decomposition of the project into tasks in multiple levels.
    - Effort Estimation: The number of effort required by the members of the team to complete the project on time(persons x hours). It is an estimate figure.
    - Progress reports: A report on the goals completed, and the estimation of the future progress of the project.
    - Final project presentation: A presentation of the final product.
    - Final project report: A report on the project which includes
- Product-related deliverables:
    - Evaluation of existing software: Research should be done on the different existing speech recognition software and a viable software has to be chosen. The team has to build a library upon this software.
    - Speech Recognition Library: Library of the chosen software should be integrated with the speech recognition system designed by the team.
    - User Guide: An instruction manual for the users to make the system easier to use.
    - Final Product: The final deliverable i.e. the working speech recognition system.

Project Success Criteria:
- The project should be completed within approximately 11 weeks.
- The speech recognition system designed should have a high accuracy.
- The system should be designed to be user friendly and interactive.