Speech Recognition System in Cars

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Dictionary of WBS by Phase

Glossary of WBS Items for Speech Recognition Software for Human Car Interaction

1. **Initiation**
   1.1. Select Project Team
   1.2. Select project manager
   1.3. Preparation of Project Charter
   1.4. Study and Analysis of Available Software
2. **Planning**
   2.1 Plan Scope of the Project
   2.2 Define Requirements
      2.2.1 User Requirements
      2.2.2 Content Requirements
      2.2.3 System Requirements
      2.2.4 Non Functional Requirements
   2.3 Identifying risks , constraints and assumptions
   2.4 Develop a project Plan
3. **Execution**
   3.1 Design
      3.1.1 UI Design
         3.1.1.1 Page Layout Design
         3.1.1.2 Design Function calls
      3.1.2 Library Integration
         3.2.1.1 Designing the interface platform
      3.1.3 Command Analysis and response generation
         3.3.1.1 Semantic Analysis
         3.3.1.2 Response Generation
   3.2 Development
      3.2.1 UI Implementation
      3.2.2 Library Implementation
      3.2.3 Text Analysis Implementation and Response Generation
   3.3 Testing
      3.3.1 Integration Testing
      3.3.2 System Testing
      3.3.3 Unit Testing

3.4   Rollout and Support
         3.4.1   Deploy the software in production environment
         3.4.2   Provide documentation to deploy & execute the software
4. **Monitoring and Control**
 4.1   Monitor and manage risks and issues
         4.1.1   Facilitate Change Management
                 4.1.1 Change Requests
                 4.1.1 Corrective Actions
 4.2   Monitor Performance
                 4.2.1 Status Reports
                 4.2.2 Progress Reports
5. **Closing**
 5.1   Final Product
         5.1.1 Working Software
         5.1.2 User Training Manual
 5.2   Organisational product Asset updates
         5.2.1 Project Report
         5.2.2 Lessons Learnt

WBS Dictionary Entry
Project Title: Speech Recognition System in Car
WBS Item Number: 1.1
WBS Item Name: Select Project Team
Description: Select Project Team after discussions with the sponsor.

WBS Dictionary Entry
Project Title: Speech Recognition System in Car
WBS Item Number: 1.2
WBS Item Name: Select Project Manager
Description: Select Project Team manager after discussions with the sponsor.

WBS Dictionary Entry

Project Title: Speech Recognition System in Car
WBS Item Number: 1.3
WBS Item Name: Preparation of Project Charter
Description: Prepare the charter for the project after discussions with the sponsor.

WBS Dictionary Entry
Project Title: Speech Recognition System in Car
WBS Item Number: 1.4
WBS Item Name: Study and Analysis of Available software
Description: Analyze and compare different voice recognition libraries currently available

WBS Dictionary Entry
Project Title: Speech Recognition System in Car
WBS Item Number: 2.1
WBS Item Name: Plan Scope of the Project
Description: Finalize the scope of the project which includes the requirements, project deliverables, acceptance criteria, key success factors, constraints and assumptions.

WBS Dictionary Entry

Project Title: Speech Recognition System in Car
WBS Item Number: 2.2
WBS Item Name: Define Requirements
Description: Finalize the requirements, project deliverables, acceptance criteria, key success factors, constraints and assumptions.

WBS Dictionary Entry
Project Title: Speech Recognition System in Car
WBS Item Number: 2.2.1
WBS Item Name: User requirement
Description: Collect and describe user requirements in speech recognition system.

WBS Dictionary Entry
Project Title: Speech Recognition System in Car
WBS Item Number: 2.2.2
WBS Item Name: Content Requirements
Description: Collect and describe the content requirements in speech recognition system.

WBS Dictionary Entry
Project Title: Speech Recognition System in Car
WBS Item Number: 2.2.3
WBS Item Name: System requirement
Description: Analyze available speech recognition software and collect specific requirement for in car speech recognition software.

WBS Dictionary Entry
Project Title: Speech Recognition System in Car
WBS Item Number: 2.2.4
WBS Item Name: Non functional requirement
Description: Collect and describe the non functional requirements in speech recognition system.

WBS Dictionary Entry
Project Title: Speech Recognition System in Car
WBS Item Number: 2.3
WBS Item Name: Identifying risks , constraints, and assumptions
Description: Plan risk management, identify risks, perform qualitative and quantitative risk analysis, and plan risk response. Identify the boundaries of scope, schedule, cost, risk, quality and resources, and the assumptions that go along with them

WBS Dictionary Entry
Project Title: Speech Recognition System in Car
WBS Item Number: 2.4

WBS Item Name: Develop a product Plan
Description: Plan the course of action, schedule and activity required to develop this project. Develop WBS, Activity scheduling chart, Time / effort chart etc. Plan how many hours the team works in a week and also organize weekly meetings with team. Report the bi-weekly status of the project to the sponsor

WBS Dictionary Entry
Project Title: Speech Recognition System in Car
WBS Item Number: 3.1
WBS Item Name: Design
Description: Design UI, Library Integration, and Text Analysis

WBS Dictionary Entry
Project Title: Speech Recognition System in Car
WBS Item Number: 3.1.1
WBS Item Name: UI Design
Description: Design the front end of the system which takes various inputs from the user, records it and sends it to the back end for further evaluation of the commands.

WBS Dictionary Entry
Project Title: Speech Recognition System in Car
WBS Item Number: 3.1.2

WBS Item Name: Library Integration
Description: Integrate the CMU PocketSphinx library with the front end of the system. The front end sends the recorded audio to the library, which recognizes and processes the audio and further action can be taken depending on the input.

WBS Dictionary Entry
Project Title: Speech Recognition System in Car
WBS Item Number: 3.1.3
WBS Item Name: Command Analysis and response generation
Description: The recognized and processed input is sent to this system for further analysis and the response which is required is also generated through this system.

WBS Dictionary Entry
Project Title: Speech Recognition System in Car
WBS Item Number: 3.2
WBS Item Name: Development
Description: In this phase, we develop the UI, make changes to the library to incorporate additional commands and a system which provides appropriate response to the user's input.

WBS Dictionary Entry
Project Title: Speech Recognition System in Car

WBS Item Number: 3.2.1
WBS Item Name: UI Implementation
Description: Implement all functionalities related to UI

WBS Dictionary Entry
Project Title: Speech Recognition System in Car
WBS Item Number: 3.2.2
WBS Item Name: Library Implementation
Description: Integrate PocketSphinx and implement interface with UI

WBS Dictionary Entry
Project Title: Speech Recognition System in Car
WBS Item Number: 3.2.3
WBS Item Name: Text Analysis Implementation and Response Generation
Description: Develop a system which accepts the analysed audio from the library as input and perform activities which acts as a response to the input provided by the user.

WBS Dictionary Entry
Project Title: Speech Recognition System in Car

WBS Item Number: 3.3
WBS Item Name: Testing
Description: The software is tested for its functionality individually and as a whole to check for its compliance with the requirements

WBS Dictionary Entry
Project Title: Speech Recognition System in Car
WBS Item Number: 3.3.1
WBS Item Name: Integration Testing
Description: The individual modules for functionalities are grouped and tested together.

WBS Dictionary Entry
Project Title: Speech Recognition System in Car
WBS Item Number: 3.3.2
WBS Item Name: System Testing
Description: The software is tested as a whole to measure its compliance with the requirements

WBS Dictionary Entry
Project Title: Speech Recognition System in Car
WBS Item Number: 3.3.3
WBS Item Name: Unit Testing
Description: Individual functionalities of the software are tested independently

WBS Dictionary Entry
Project Title: Speech Recognition System in Car
WBS Item Number: 3.4
WBS Item Name: Rollout and Support
Description: Deployment and maintenance of the software

WBS Dictionary Entry
Project Title: Speech Recognition System in Car
WBS Item Number: 3.4.1
WBS Item Name: Deploy the software in production environment
Description: Deploy the code in production environment.

WBS Dictionary Entry
Project Title: Speech Recognition System in Car
WBS Item Number: 3.4.2
WBS Item Name: Provide documentation to deploy & execute the software

Description: A user guide to ease the process of understanding how to deploy and run the system.

WBS Dictionary Entry
Project Title: Speech Recognition System in Car
WBS Item Number: 4.1
WBS Item Name: Monitor and Manage risks and issues
Description: Identify possible risks and changes with the system and fix them accordingly

WBS Dictionary Entry
Project Title: Speech Recognition System in Car
WBS Item Number: 4.1.1
WBS Item Name: Facilitate change management
Description: Identify any possible changes to occur in the software and make a plan to deal with the changes without affecting the existing functionalities

WBS Dictionary Entry
Project Title: Speech Recognition System in Car
WBS Item Number: 4.2

WBS Item Name: Monitor Performance
Description: Analyse the quality and efficiency of the system after it is deployed. Provide status report and progress report.

WBS Dictionary Entry
Project Title: Speech Recognition System in Car
WBS Item Number: 4.2.1
WBS Item Name: Status report
Description: Provide status report to report current status of the project

WBS Dictionary Entry
Project Title: Speech Recognition System in Car
WBS Item Number: 4.2.2
WBS Item Name: Progress Report
Description: Provide progress report to report current progress of the project

WBS Dictionary Entry
Project Title: Speech Recognition System in Car
WBS Item Number: 5
WBS Item Name: Closing
Description: This phase contains the final demonstration and project retrospective. This phase demonstrates the team's ability to implement the requirements and also discuss the

health of the project at various stages of execution.

WBS Dictionary Entry
Project Title: Speech Recognition System in Car
WBS Item Number: 5.1
WBS Item Name: Final Product
Description: Provide the final product to the sponsor.

WBS Dictionary Entry
Project Title: Speech Recognition System in Car
WBS Item Number: 5.1.1
WBS Item Name: Working Software
Description: The final product delivered to the client

WBS Dictionary Entry
Project Title: Speech Recognition System in Car
WBS Item Number: 5.1.2
WBS Item Name: User Manual
Description: A user guide to ease the process of understanding how the system works

WBS Dictionary Entry
Project Title: Speech Recognition System in Car
WBS Item Number: 5.2
WBS Item Name: Organisational product Asset updates
Description: Provide updates.

WBS Dictionary Entry
Project Title: Speech Recognition System in Car
WBS Item Number: 5.2.1
WBS Item Name: Project Report
Description: At the end of the project prepare a project report.

WBS Dictionary Entry
Project Title: Speech Recognition System in Car
WBS Item Number: 5.2.2
WBS Item Name: Lessons learnt
Description: Generate report on the lessons learnt. They provide an excellent source for future scope of the work