

Design and Develop Chatbot


Real estate business “Buywithus” is looking to expand its customer base by having a single page web application with a Chatbot. The business is suffering because real estate agents are faced with lead qualification problem. They are spending a lot of time and money on cold calls in hoping to find at least a few potential customers.

Rule-based Chatbot (with defined anticipated conversations mapped out) will be used to have better interaction with users and to keep them engaged in by initiating and maintaining the conversation. Based on user responses, forms will be sent out to collect data, which will then be utilized by real estate agents to generate leads.

Stages of Development

Stage 1 (Week 0 to Week 6) Due in 21st March

Stage 2 (Week 7 to Week 12) Due in 2nd May



Stage 1 of the project will be focused on requirements gathering based on user experiences, prepare user stories framework and design decision trees based on data. These requirements will be gathered based on research conducted on various similar platforms. This phase will enable the project team to have a clear understanding of user needs & expectations, goals for design, the flow of information and finalization of tools required for the development.

Stage 1 Deliverables Due in 21 March

- Design document with all diagrams – Use cases, ER diagram, sequence diagram, storyboards
- Decision tree (Document and Video) for all possible conversation flows including the information trigger "keywords" at each step

Submission Instructions

- Decision Tree should be submitted in the form of a document (MS Word or PDF) and Video Recoding with the following:
 - All possible conversation flows with a definite end
 - Graphical representation of all flows
 - Different ways that a user might ask questions
 - Branches based on questions and responses
 - keywords and responses to keywords
- Design Document should be submitted in the form of a document (MS Word or PDF) with the following:
 - High-level description of the solution including design decisions and data structures
 - Target group
 - Data flow diagrams
 - Entity-relationship diagrams for Database design
 - Use Cases
 - Sequence Diagram
 - Class Diagram
 - Storyboards and wireframes
 - Web design standards including choice of colours, fonts and layout
 - Design of test cases
- To submit your Stage 1 Deliverables, click on the 'Submit Assignment' button above
- Click on "+Add Another File" to add multiple files

Note: It is the responsibility of the 'Project Manager' (both rotating role and full-time role) to submit one copy of all the above documents (Prototype 1 and Design Document, etc.).

Individual members are NOT to submit any team documents at any time.

Rubric

Stage 1 Deliverables (CB) Rubric

Stage 1 Deliverables (CB)	
Criteria	
<p>This criterion is linked to a Learning OutcomeDesign Document</p> <p>Design Document should be submitted in the form of a document (MS Word or PDF) with the following:</p> <p>High-level description of the solution including design decisions and data structures</p> <p>Target group</p> <p>Data flow diagrams</p> <p>Entity-relationship diagrams for Database design</p> <p>Use Cases</p> <p>Sequence Diagram</p> <p>Class Diagram</p> <p>Storyboards and wireframes</p> <p>Web design standards including choice of colours, fonts and layout</p> <p>Design of test cases</p>	<p>20 pts</p> <p>Full Marks</p> <p>All elements specified in full marks</p>
<p>This criterion is linked to a Learning OutcomeDecision Tree Document</p> <p>Decision Tree should be submitted in the form of a document (MS Word or PDF) with the following:</p> <p>All possible conversation flows with a definite end</p> <p>Graphical representation of all flows</p> <p>Different ways that a user might ask questions</p> <p>Branches based on questions and responses</p> <p>keywords and responses to keywords</p>	<p>20 pts</p> <p>Full Marks</p> <p>All elements specified in full marks</p>
Total Points: 40	

Stage 2 of the project will involve finalizing the design for Chatbot and start development. Development requirement is to have at least an MVP (minimum viable product) version of Chatbot. This version should work on text and speech commands using Artificial intelligence (AI) techniques and will serve as the fully functional final product for this project.

Stage 2 Deliverables Due in 2nd May

- User Manual
- Developers Manual
- Testing Document
- A functional Chatbot with following requirements implemented:
 - Start the dialogue and give options to the user when they visit the website
 - Enable flow for all possible scenarios which user can accomplish by talking to the bot
 - Should have important information triggers that split the flow based on user replies and actions
 - Fully functional forms to gather data for sales leads
 - Error Handling (Optional)

Data Analyst	Functional Chatbot User Manual
Front-End Designer	Functional Chatbot User Manual
Database Developer	Functional Chatbot Developers Manual
Developer/Programmer	Functional Chatbot Developers Manual
Tester	Functional Chatbot Testing Document

Submission Instructions

- Final Deliverable of Chatbot should be submitted in the form of a document (MS Word or PDF) and a Video Recording with the following:
 - Analysis of various development tools
 - Selection of most feasible solution
 - Screenshots of Running Chatbot
 - Screenshots of Backend code
 - Graphical representation of all conversation flows
- Each team member has an additional document (MS Word or PDF) based on their role which should be submitted alongside Prototype Document
- User Manual should include general system overview, getting started, steps in using the Chatbot and help & support
- Developers Manual should include system summary, development tools, accessing and modifying the front and back end, steps in using the Chatbot as a developer and master templates/plans
- Testing Document should include analysis of testing strategies and test cases for all Prototype functionalities with valid and invalid data
- To submit your Stage 2 Deliverables, click on the 'Submit Assignment' button above
- Click on "+Add Another File" to add multiple files

Note: It is the responsibility of the 'Project Manager' (both rotating role and full-time role) to submit one copy of all the above documents (Prototype 2, User Manual, Network Design Document, etc.). Individual members are NOT to submit any team documents at any time.

Rubric

Stage 2 Deliverables (CB) Rubric

Stage 2 Deliverables (CB)	
Criteria	
<p>This criterion is linked to a Learning OutcomeChatBot Prototype Document</p> <p>A Prototype of Chatbot should be submitted in the form of a document (MS Word or PDF) with the following:</p> <p>Analysis of various development tools</p> <p>Selection of most feasible solution</p> <p>Screenshots of Running Prototype</p> <p>Screenshots of Backend code</p> <p>Graphical representation of all conversation flows</p>	

Criteria
<p>This criterion is linked to a Learning OutcomeRole Specific Document</p> <p>Each team member has an additional document (MS Word or PDF) based on their role which should be submitted alongside Prototype Document. This must be one of the following:</p> <p>User Manual</p> <p>Developers Manual</p> <p>Testing Document</p>
<p>Total Points: 40</p>