2022

Agile Software Development

UNICHATBOT

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CONTENTS

PRODUCT BACKLOG

What is the purpose of using the system? Who and how will they use system? How will it help users do their job?

The goal of this project is to model Turkish at phonological, morphological, syntactic and semantic levels by using language theories and to develop a chatbot based on these models by creating an ontology. The chatbot we developed is related to the transportation of Aydın province. By choosing four numbers from the buses, a chatbot is created that can answer any questions you may have about the routes, stops, hours and passenger fares of the buses with these numbers.

What will be done in this project?

- Dataset will be created,
- A chatbot will be created that answers the questions in the dataset for buses,
- Text to speech will be added,
- Speech to text will be added,
- A program will be written to test the chatbot,
- Ontology will be added to the program,
- Binding theory will be added to the program.

Item No	Product Backlog Item	Priority	Sprint No
1	Dataset	High	Sprint 1
2	Chatbot	High	Sprint 1 - 2
3	Text to Speech	High	Sprint 3
4	Speech to Text	High	Sprint 3
5	Test	Medium	Sprint 3
6	Ontology	Medium	Sprint 3
7	Binding Theory	Low	Sprint 4

Table 1. Product Backlog

SPRINT BACKLOG (First Sprint)

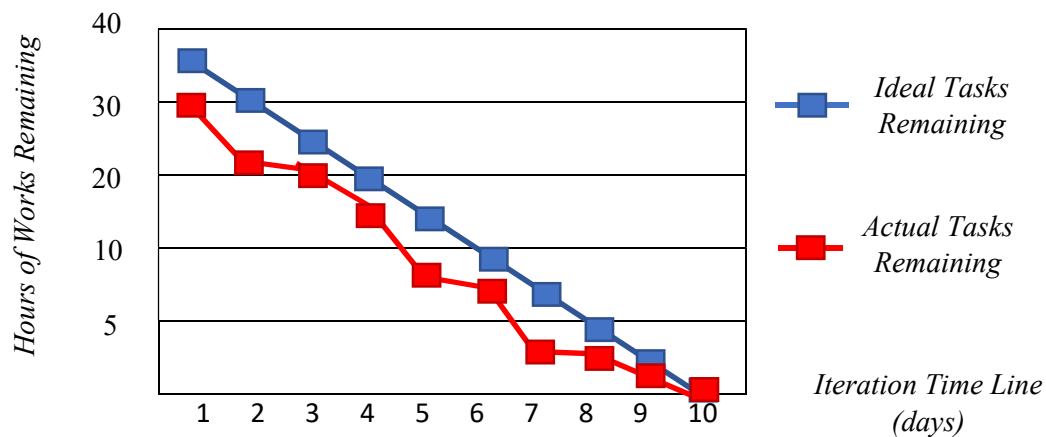| ID	Story Type	As a	I want to	So that	Owner	Status	Estimate
US001	Story	Admin	create a dataset	I can answer user questions	R.Ş.Yıldırım	Done	10
US002	Epic	User	ask questions about transportation	I can get answers to my questions about buses with certain numbers	E.Karpuz	Done	20
US003	Epic	User	ask questions about transportation	I can get answers to my questions about bus 605	R.Ş.Yıldırım	Done	5
US004	Epic	User	ask questions about transportation	I can get answers to my questions about bus 606	R.Ş.Yıldırım	Done	5
US005	Epic	User	ask questions about transportation	I can get answers to my questions about bus 607	E.Karpuz	Done	5
US006	Epic	User	ask questions about transportation	I can get answers to my questions about bus 608	E.Karpuz	Done	5

Table 2. Sprint Backlog

BURN-DOWN CHART (First Sprint)

Table 3. Burn-Down Chart

THEMES, EPICS, USER STORIES

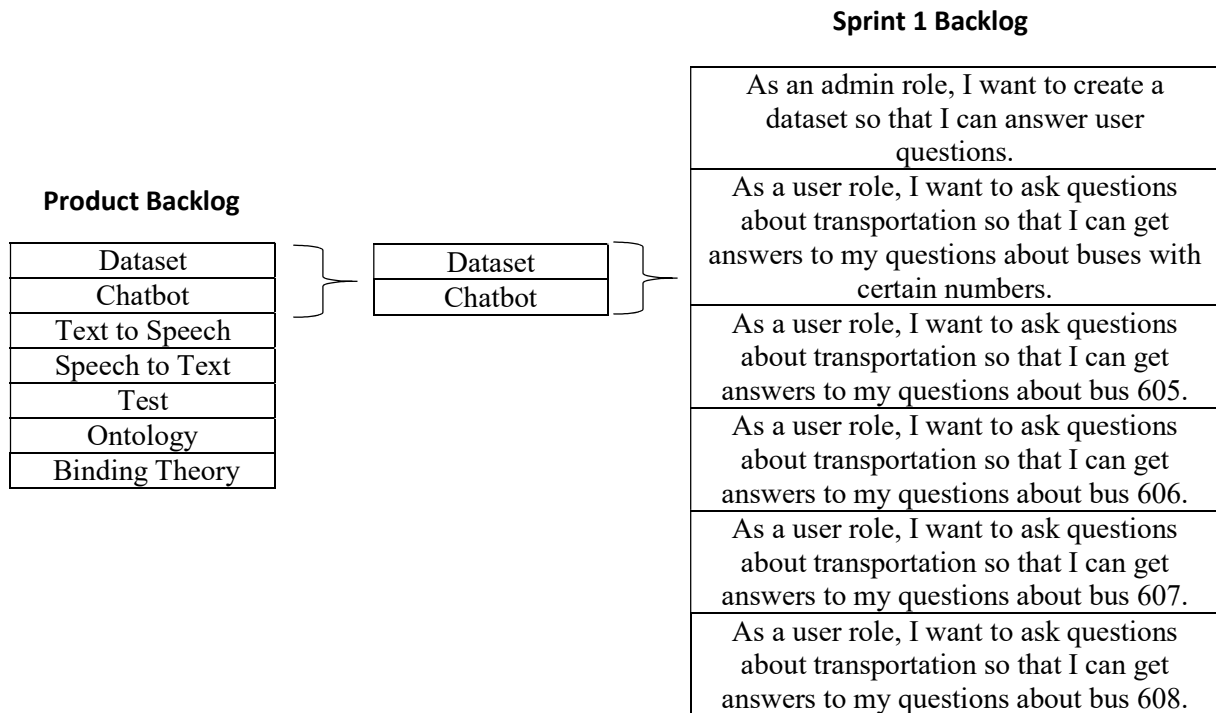| ACTOR	THEME	EPIC STORY	USER STORY
User	answering questions about buses 605, 606, 607 and 608	As a user role, I want to ask questions about transportation so that I can get answers to my questions about buses with certain numbers.	As a user role, I want to ask questions about transportation so that I can get answers to my questions about bus 605.
			As a user role, I want to ask questions about transportation so that I can get answers to my questions about bus 606.
			As a user role, I want to ask questions about transportation so that I can get answers to my questions about bus 607.
			As a user role, I want to ask questions about transportation so that I can get answers to my questions about bus 608.
		As a user role, I want to ask questions about transportation so that I can get answers to my questions about bus 605.	As a user role, I want to ask questions so that I can learn the routes of the bus 605.
			As a user role, I want to ask questions so that I can learn about the departure times of bus 605.
			As a user role, I want to ask questions so that I can learn the arrival times of the bus 605 at the stops.
			As a user role, I want to ask questions so that I can find out the pricing of bus 605.
		As a user role, I want to ask questions about transportation so that I can get answers to my questions about bus 606.	As a user role, I want to ask questions so that I can learn the routes of the bus 606.
			As a user role, I want to ask questions so that I can learn about the departure times of bus 606.
			As a user role, I want to ask questions so that I can learn the arrival times of the bus 606 at the stops.
			As a user role, I want to ask questions so that I can find out the pricing of bus 606.
		As a user role, I want to ask questions about transportation so that I can get answers to my questions about bus 607.	As a user role, I want to ask questions so that I can learn the routes of the bus 607.
			As a user role, I want to ask questions so that I can learn about the departure times of bus 607.
			As a user role, I want to ask questions so that I can learn the arrival times of the bus 607 at the stops.
			As a user role, I want to ask questions so that I can find out the pricing of bus 607.
		As a user role, I want to ask questions about transportation so that I can get answers to my questions about bus 608.	As a user role, I want to ask questions so that I can learn the routes of the bus 608.
			As a user role, I want to ask questions so that I can learn about the departure times of bus 608.
			As a user role, I want to ask questions so that I can learn the arrival times of the bus 608 at the stops.
			As a user role, I want to ask questions so that I can find out the pricing of bus 608.

	text to speech, speech to text	5	As a user role, I want to ask my question by typing so that I can get an answer to my question about transportation.
			As a user role, I want to ask my question by talking so that I can get an answer to my question about transportation.
			As a user role, I want to get written answer so that I can get an answer to my question about transportation.
			As a user role, I want to get verbal answer so that I can get an answer to my question about transportation.
Admin	create a dataset		As an admin role, I want to create a dataset so that I can answer user questions.
	write test code		As an admin role, I want to write test code so that I can be able to test the project.
	create and add ontology		As an admin role, I want to create and add an ontology so that I can be able to answer questions that are not in the dataset.
	create and add binding theory		As an admin role, I want to create and add binding theory to my project so that I can develop my project.

Table 4. Theme, Epics and User Stories

Potentially Shippable Increment (PSI) and Minimum Viable Product (MVP)

PSI

Sprint 1 Backlog

Product Backlog

Product Backlog	Dataset / Chatbot	Sprint 1 Backlog
Dataset	Dataset	As an admin role, I want to create a dataset so that I can answer user questions.
Chatbot	Chatbot	As a user role, I want to ask questions about transportation so that I can get answers to my questions about buses with certain numbers.
Text to Speech		As a user role, I want to ask questions about transportation so that I can get answers to my questions about bus 605.
Speech to Text		As a user role, I want to ask questions about transportation so that I can get answers to my questions about bus 606.
Test		As a user role, I want to ask questions about transportation so that I can get answers to my questions about bus 607.
Ontology		As a user role, I want to ask questions about transportation so that I can get answers to my questions about bus 608.
Binding Theory		

After the first sprint, we have a dataset. A chatbot was created to answer two questions for each of the buses 605, 606, 607 and 608.

MVP

Dataset		Chatbot where you can ask questions in writing and get answers in writing		Chatbot where you can verbally ask questions and get answers verbally		Chatbot with ontology added
1		2		3		4

Table 5. MVP (Minimum Viable Product)