
Text2SpeechEditor

Sprint 2 Report

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VERSIONS HISTORY

Date	Version	Description	Author
24/05/2020	1.0	Final	Fedon

1 Introduction

This document provides information concerning the **2** sprint of the project.

1.1 Purpose

The objective of this project is to develop a simple editor that allows preparing text documents and transforming them to audio. Such an application can be of much help for people who have speaking problem. Moreover, it could be a useful tool for preparing presentations that are automatically played without a physical speaker. The application consists of a graphical user interface, a back-end that enables the text editing process and the part that transforms text to speech, which will be based on external text to speech libraries.

1.2 Document Structure

The rest of this document is structured as follows. Section 2 describes out Scrum team and specifies the this Sprint's backlog. Section 3 specifies the main design concepts for this release of the project.

2 Scrum team and Sprint Backlog

US[1] → NewDocumentTest
US[2] → EditDocumentTest
US[3] → SaveDocumentTest
US[4] → OpenDocumentTest
US[5-9] → DocumentToSpeechTest
US[6-10] → LineToSpeechTest
US[11] → TuneEncodingTest
US[12] → TuneAudioTest
US[13] → ReplayCommandTest

2.1 Scrum team

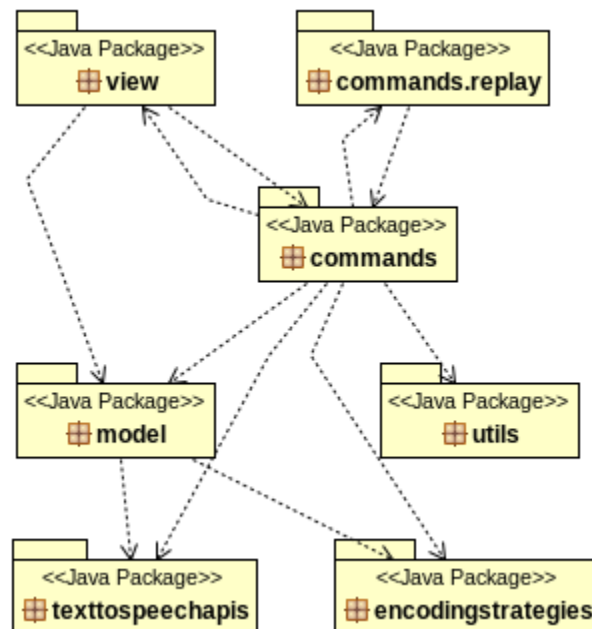
Product Owner	Apostolos Zarras
Scrum Master
Development Team	Fedon Christakis ,Athanasios Papanastasiou

2.2 Sprint Backlog

US[1] - US[13]

3 Design

3.1 Architecture



3.2 Design

Class Name: Document	
Responsibilities: This class is responsible for keeping information about the contents of the whole document and utilizing them .	Collaborations: <ul style="list-style-type: none">▪ Line▪ Text2SpeechEditorView▪ I TextToSpeechApi▪ I EncodingStrategies▪ Command▪ DocumentToSpeech▪ EditDocument▪ LineToSpeech▪ NewDocument▪ OpenDocument▪ SaveDocument▪ TuneAudio▪ TuneEncoding

Class Name: Line	
Responsibilities: This class is responsible for keeping information about lines and utilizing them ,mainly for commands as LineToSpeech.	Collaborations: <ul style="list-style-type: none">▪ Document▪ I TextToSpeechApi▪ I EncodingStrategies

Class Name: Text2SpeechEditorView	
Responsibilities: This class is responsible for the GUI and the interaction with it .	Collaborations: <ul style="list-style-type: none">▪ Document▪ Command▪ CommandsFactory▪ DocumentToSpeech▪ EditDocument

	<ul style="list-style-type: none"> ▪ LineToSpeech ▪ NewDocument ▪ OpenDocument ▪ ReplayCommand ▪ SaveDocument ▪ TuneAudio ▪ TuneEncoding
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Class Name: TextWriter	
Responsibilities: This class is responsible for writing the contents of the document to a file in disk storage .	Collaborations: <ul style="list-style-type: none"> ▪ SaveDocument

Class Name: TextReader	
Responsibilities: This class is responsible for reading the contents of a tts file.	Collaborations: <ul style="list-style-type: none"> ▪ OpenDocument

Class Name: TextToSpeechAPIFactory	
Responsibilities: This class is responsible for the creation of TextToSpeechAPI objects.	Collaborations: <ul style="list-style-type: none"> ▪ TuneAudio ▪ FakeTextToSpeechAPI ▪ FreeTTSAdapter ▪ I TextToSpeechApi

Class Name: FreeTTSAdapter	
Responsibilities: This class is responsible for the audio manager of our TTS document.	Collaborations: <ul style="list-style-type: none"> ▪ TextToSpeechApiFactory ▪ I TextToSpeechApi

Class Name: FakeTextToSpeech	
Responsibilities: This class is a fake TextToSpeechAPI used for testing purposes.	Collaborations: <ul style="list-style-type: none"> ▪ TextToSpeechApiFactory ▪ ItextToSpeechApi

Class Name: I TextToSpeechAPI	
Responsibilities: The responsible interface for the texttospeechapi package functionality.	Collaborations: <ul style="list-style-type: none"> ▪ TuneAudio ▪ FakeTextToSpeechAPI ▪ TextToSpeechApiFactory ▪ FreeTTSTAdapter ▪ Document ▪ Line

Class Name: I EncodingStrategies	
Responsibilities: The responsible interface for the encodingstrategies package functionality.	Collaborations: <ul style="list-style-type: none"> ▪ Document ▪ Line ▪ StrategiesFactory ▪ TemplateEncoding

Class Name: TemplateEncoding	
Responsibilities: This class is responsible for providing a template for the encoding strategies.	Collaborations: <ul style="list-style-type: none"> ▪ Rot13Encoding ▪ AtbashEncoding ▪ I EncodingStrategies

Class Name: StrategiesFactory	
Responsibilities: This class is responsible for creating the right encoding strategy .	Collaborations: <ul style="list-style-type: none"> ▪ Rot13Encoding ▪ AtbashEncoding ▪ I EncodingStrategies

Class Name: Rot13Encoding	
Responsibilities: <p>This class is responsible for encoding the document with Rot13.</p>	Collaborations: <ul style="list-style-type: none"> ▪ TemplateEncoding ▪ StrategiesFactory

Class Name: AtbashEncoding	
Responsibilities: <p>This class is responsible for encoding the document with AtBash.</p>	Collaborations: <ul style="list-style-type: none"> ▪ TemplateEncoding ▪ StrategiesFactory

Class Name: ReplayManager	
Responsibilities: <p>This class is responsible for keeping information about commands that are going to be replayed.</p>	Collaborations: <ul style="list-style-type: none"> ▪ Replayable ▪ CommandsFectory ▪ ReplayCommand

Class Name: Replayable	
Responsibilities: <p>This class is a replayable type of Command used by the ReplayManager. When the manager is enabled it records the command before executing it.</p>	Collaborations: <ul style="list-style-type: none"> ▪ Command ▪ DocumentToSpeech ▪ EditDocument ▪ LineToSpeech ▪ NewDocument ▪ OpenDocument ▪ ReplayCommand ▪ SaveDocument ▪ TuneAudio ▪ TuneEncoding ▪ Replayable ▪ ReplayManager

Class Name: CommandsFactory	
Responsibilities: This class is responsible for creating Command objects in order to execute them via GUI.	Collaborations: <ul style="list-style-type: none"> ▪ Text2SpeechEditorView ▪ Command ▪ CommandsFactory ▪ DocumentToSpeech ▪ EditDocument ▪ LineToSpeech ▪ NewDocument ▪ OpenDocument ▪ SaveDocument ▪ TuneAudio ▪ TuneEncoding ▪ ReplayManager

Class Name: Command	
Responsibilities: This class implements ActionListener and is the abstract class all Commands must extend.	Collaborations: <ul style="list-style-type: none"> ▪ ReplayCommand ▪ Replayable ▪ CommandsFactory ▪ Text2SpeechEditorView

Class Name: ReplayCommand	
Responsibilities: This class is responsible for the management of the replay functionality.	Collaborations: <ul style="list-style-type: none"> ▪ CommandsFactory ▪ Replayable ▪ ReplayManager ▪ Text2SpeechEditorView ▪ Command

Class Name: SaveDocument	
Responsibilities: This class is responsible for saving the document in disk storage .	Collaborations: <ul style="list-style-type: none"> ▪ Replayable ▪ Text2SpeechEditorView ▪ CommandsFactory ▪ TextWriter ▪ Document

Class Name: OpenDocument	
Responsibilities: This class is responsible for retrieving and opening of a tts file from disk storage.	Collaborations: <ul style="list-style-type: none"> ▪ Replayable ▪ Text2SpeechEditorView ▪ CommandsFactory ▪ TextReader ▪ Document

Class Name: TuneAudio	
Responsibilities: This class is responsible for setting audio parameters (pitch ,rate ,volume) .	Collaborations: <ul style="list-style-type: none"> ▪ Document ▪ Replayable ▪ Text2SpeechEditorView ▪ CommandsFactory ▪ I TextToSpeechApi ▪ TextToSpeechAPIFactory

Class Name: TuneEncoding	
Responsibilities: This class is responsible for encoding the contents of the document in order to transform them to speech.	Collaborations: <ul style="list-style-type: none"> ▪ Document ▪ Replayable ▪ Text2SpeechEditorView ▪ CommandsFactory ▪ I EncodingStrategy ▪ StrategiesFactory

Class Name: DocumentToSpeech	
Responsibilities: <p>This class is responsible for transforming the contents of the document to speech .</p>	Collaborations: <ul style="list-style-type: none"> ▪ Text2SpeechEditorView ▪ CommandsFactory ▪ Replayable ▪ Document

Class Name: LineToSpeech	
Responsibilities: <p>This class is responsible for selecting a line and transform it to speech .</p>	Collaborations: <ul style="list-style-type: none"> ▪ Text2SpeechEditorView ▪ CommandsFactory ▪ Replayable ▪ Document

Class Name: EditDocument	
Responsibilities: <p>This class is responsible for a temporary save of the document in order to utilize other commands as DocumentToSpeech , etc .</p>	Collaborations: <ul style="list-style-type: none"> ▪ Text2SpeechEditorView ▪ CommandsFactory ▪ Replayable ▪ Document

Class Name: NewDocument	
Responsibilities: <p>This class is responsible for creating a new blank document.</p>	Collaborations: <ul style="list-style-type: none"> ▪ Text2SpeechEditorView ▪ CommandsFactory ▪ Replayable ▪ Document