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# AdvancedText2SpeechEditor

## Sprint Report

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Team Labookitsides

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## VERSIONS HISTORY

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Date	Version	Description	Author
29/5/2021	1	Report document of the last version of our release	3281_3300_3340

## 1 Introduction

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This document provides information concerning the **1st** sprint of the project.

The objective of this project is to develop an application that allows to edit and transform documents to audio. The documents may be in various formats. Specifically the application supports at least Microsoft Word (.docx) and Excel documents (.xlsx). For privacy and security reasons the contents of the documents may be encoded with different encoding mechanisms. The target users of the application may be people who have reading problems or visually impaired people. 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.

### 1.1 Purpose

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The purpose of our project aims directly in the needs of people with reading problems or visually impaired people. Our ideology is to provide the latest technology software in order to simplify the needs and routine of the disabled people and especially, in this case, blind people.

### 1.2 Document Structure

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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

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<For the user stories included in this release specify below corresponding tests using a typical tabular form.>

### 2.1 Scrum team

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<b>Product Owner</b>	Apostolos Zarras
<b>Scrum Master</b>	Vasileios Ntontis
<b>Development Team</b>	Tilemachos Markos Mpazakas Vasileios Ntontis Zisis Prokopios Talamagkas

## 2.2 Sprints

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<List below the sprints that you performed and the user stories that have been realized in each Sprint>

Sprint No	Begin Date	End Date	Number of weeks	User stories
1	15/03/2021	19/3/2021	1	-
2	01/04/2021	15/04/2021	2	1-3
3	19/04/2021	30/04/2021	1	4-6
4	15/05/2021	27/05/2021	2	7-9

## 3 Use Cases

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### 3.1 <Use Case 1>

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<b>Use case ID</b>	SelectFile
<b>Actors</b>	User
<b>Pre conditions</b>	-
<b>Main flow of events</b>	1. The use case starts when the user clicks on the "New File" button 2. The system gets the path of the selected file
<b>Alternative flow 1</b>	-
<b>Alternative flow 2</b>	-
<b>Post conditions</b>	-

### 3.2 <Use Case 2>

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<b>Use case ID</b>	OpenDocument
<b>Actors</b>	User
<b>Pre conditions</b>	A file must have been selected by the user
<b>Main flow of events</b>	1. The use case starts when the user clicks the “Open Document” button 2. The user gives the system information, for the file type and the encoding method 3. The System displays the document that has been selected to be opened in a new window
<b>Alternative flow 1</b>	
<b>Alternative flow 2</b>	-
<b>Post conditions</b>	-

### 3.3 <Use Case 3>

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<b>Use case ID</b>	EditFile
<b>Actors</b>	User
<b>Pre conditions</b>	A file must have been opened
<b>Main flow of events</b>	1. The use case starts when the user clicks the “Edit Document” button 2. The System displays the document to the user, in a new window, and makes it editable 3. The use case ends when the user clicks the “OK” button
<b>Alternative flow 1</b>	If the user selects the “Exit” button instead of the “OK” button, the file will not be edited and will remain as it is
<b>Alternative flow 2</b>	-

<b>Post conditions</b>	In case the “Open Document” is clicked, it displays the edited document instead of the starting one
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### 3.4 <Use Case 4>

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<b>Use case ID</b>	SaveFile
<b>Actors</b>	User
<b>Pre conditions</b>	A file must have been opened
<b>Main flow of events</b>	<ol style="list-style-type: none"> <li>1. The use case starts when the user clicks the “Save Document” button</li> <li>2. The user gives saving information about: <ol style="list-style-type: none"> <li>2.1. The path</li> <li>2.2. The file type</li> <li>2.3. The encoding method</li> </ol> </li> <li>3. The system saves the file to the according information</li> </ol>
<b>Alternative flow 1</b>	-
<b>Alternative flow 2</b>	-
<b>Post conditions</b>	-

### 3.5 <Use Case 5>

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<b>Use case ID</b>	PlayFileAsAudio
<b>Actors</b>	User
<b>Pre conditions</b>	A file must have been opened
<b>Main flow of events</b>	<ol style="list-style-type: none"><li>1. The use case starts when the user clicks the “Document To Speech” button or the “Play Line” button</li><li>2. If the “Play Line” button is clicked, the user gives the starting and the ending line</li><li>3. The system plays the audio of the document or the specific lines of the document</li></ol>
<b>Alternative flow 1</b>	-
<b>Alternative flow 2</b>	-
<b>Post conditions</b>	-

### 3.6 <Use Case 6>

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<b>Use case ID</b>	CustomizeAudio
<b>Actors</b>	User
<b>Pre conditions</b>	A file must have been opened
<b>Main flow of events</b>	<ol style="list-style-type: none"><li>1. The use case starts when the user clicks the “Set Volume” or “Set Pitch” or “Set Rate” button</li><li>2. In any of the cases the user gives a number</li><li>3. The system updates the set values</li></ol>
<b>Alternative flow 1</b>	-

<b>Alternative flow 2</b>	-
<b>Post conditions</b>	If the user selects to play the file as audio, the audio will be played with the updated volume, rate and pitch values

### 3.7 <Use Case 7>

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<b>Use case ID</b>	RecordCommands
<b>Actors</b>	User
<b>Pre conditions</b>	A file must have been opened
<b>Main flow of events</b>	<ol style="list-style-type: none"> <li>1. The use case starts when the user clicks the “Start Recording” button</li> <li>2. The system records the following commands until the “Stop Recording” button is clicked</li> <li>3. The system updates the commands list</li> </ol>
<b>Alternative flow 1</b>	-
<b>Alternative flow 2</b>	-
<b>Post conditions</b>	-

### 3.8 <Use Case 8>

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<b>Use case ID</b>	ReplayAudio
<b>Actors</b>	User
<b>Pre conditions</b>	A file must have been opened
<b>Main flow of events</b>	<ol style="list-style-type: none"> <li>1. The use case starts when the user clicks the “Replay Actions” button</li> </ol>



	2. The system replays the commands recorded 3. The user is able to clear the commands recorded by clicking on the “Clear Actions” button
<b>Alternative flow 1</b>	-
<b>Alternative flow 2</b>	-
<b>Post conditions</b>	In case the user clicks the “Clear Actions” button the Commands list is cleared. If the user chooses to replay the commands without recording some new ones, there won't be any commands to be played

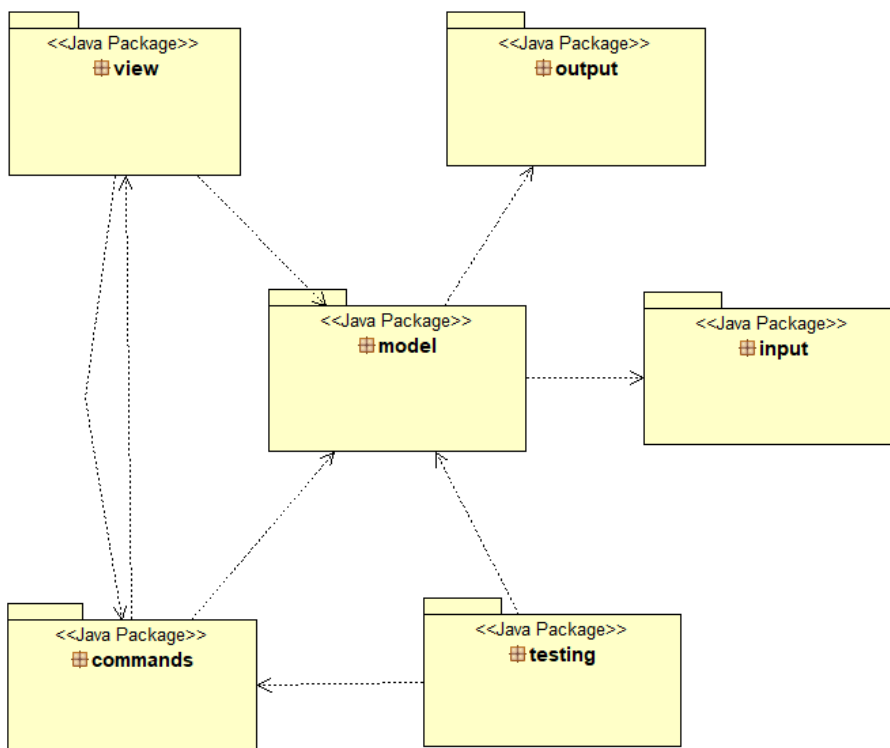
## 4 Design

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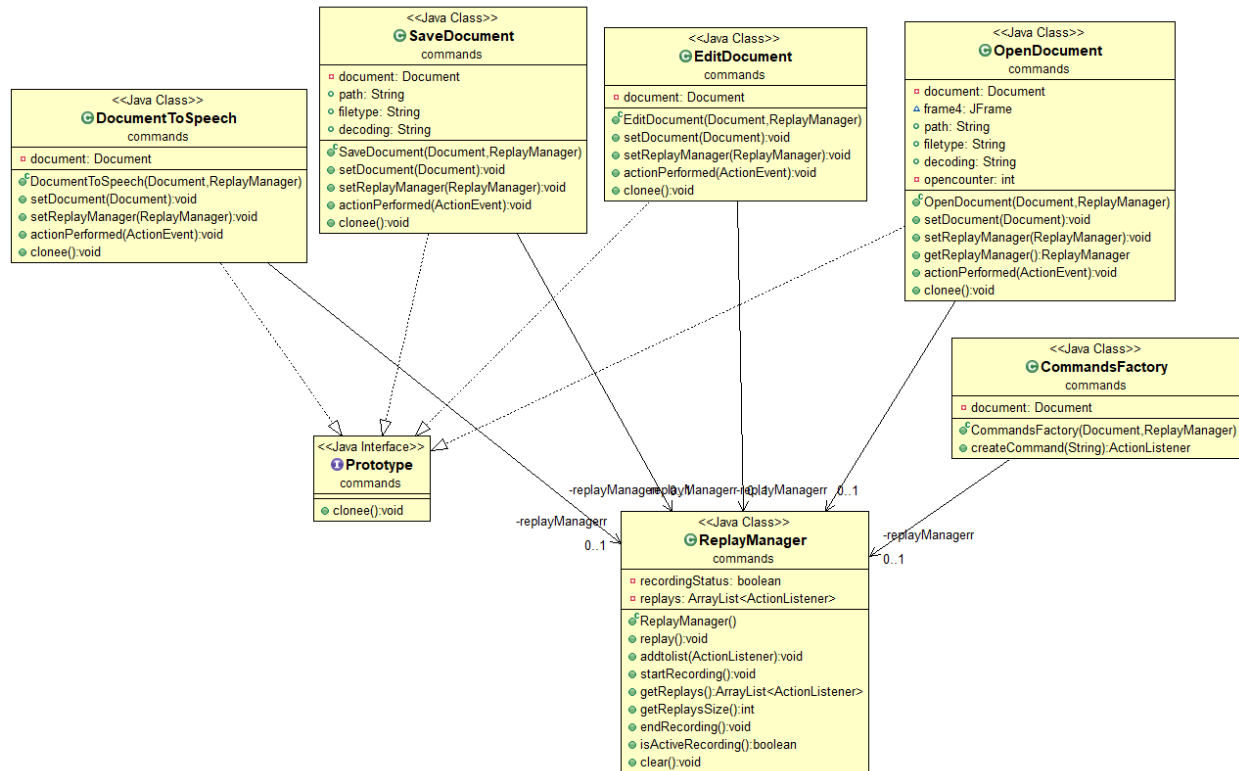
### 4.1 Architecture

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#### UML Package Diagram



## 4.2 Design



Commands Package Class Diagram

Class Name: CommandsFactory	
<b>Responsibilities:</b> <ul style="list-style-type: none"> <li>Create commands</li> </ul>	<b>Collaborations:</b> <ul style="list-style-type: none"> <li>Document</li> <li>ReplayManager</li> <li>SaveDocument</li> <li>EditDocument</li> <li>OpenDocument</li> <li>DocumentToSpeech</li> <li>ActionListener</li> </ul>

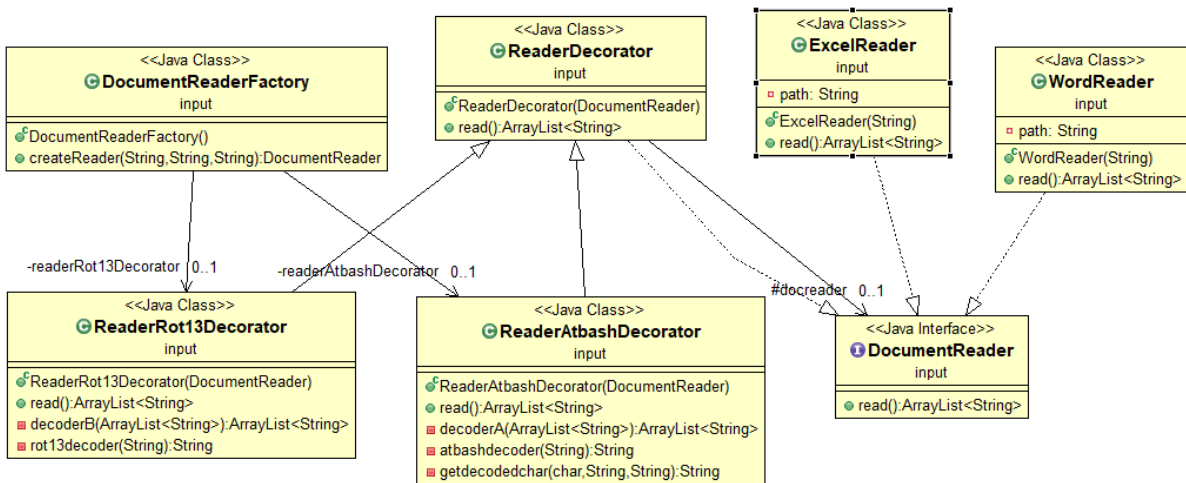
Class Name: DocumentToSpeech	
<b>Responsibilities:</b> <ul style="list-style-type: none"> <li>Plays the document (audio)</li> </ul>	<b>Collaborations:</b> <ul style="list-style-type: none"> <li>Document</li> <li>ReplayManager</li> <li>ActionListener</li> </ul>

Class Name: EditDocument	
<b>Responsibilities:</b> <ul style="list-style-type: none"> <li>Edits the document</li> <li>Displays the editable document</li> <li>Changes document's context</li> </ul>	<b>Collaborations:</b> <ul style="list-style-type: none"> <li>Document</li> <li>ReplayManager</li> <li>ActionListener</li> </ul>

Class Name: OpenDocument	
<b>Responsibilities:</b> <ul style="list-style-type: none"> <li>Reads the Document</li> <li>Displays the document</li> </ul>	<b>Collaborations:</b> <ul style="list-style-type: none"> <li>Document</li> <li>ReplayManager</li> <li>ActionListener</li> </ul>

Class Name: SaveDocument	
<b>Responsibilities:</b> <ul style="list-style-type: none"> <li>Saves the Document</li> </ul>	<b>Collaborations:</b> <ul style="list-style-type: none"> <li>Document</li> <li>ReplayManager</li> <li>ActionListener</li> </ul>

Class Name: ReplayManager	
<b>Responsibilities:</b> <ul style="list-style-type: none"> <li>Holds the list for the recorded commands</li> <li>Activates and deactivates the recording</li> <li>Clears the list with the recordings</li> </ul>	<b>Collaborations:</b> <ul style="list-style-type: none"> <li>ActionListener</li> </ul>



Input Package Class Diagram

Class Name: DocumentReaderFactory	
<b>Responsibilities:</b> <ul style="list-style-type: none"> <li>Creates the readers</li> </ul>	<b>Collaborations:</b> <ul style="list-style-type: none"> <li>ExcelReader</li> <li>WordReader</li> <li>ReaderAtbashDecorator</li> <li>ReaderRot13Decorator</li> </ul>

Class Name: ExcelReader	
<b>Responsibilities:</b> <ul style="list-style-type: none"> <li>Reads the Excel file</li> </ul>	<b>Collaborations:</b> <ul style="list-style-type: none"> <li>DocumentReader</li> </ul>

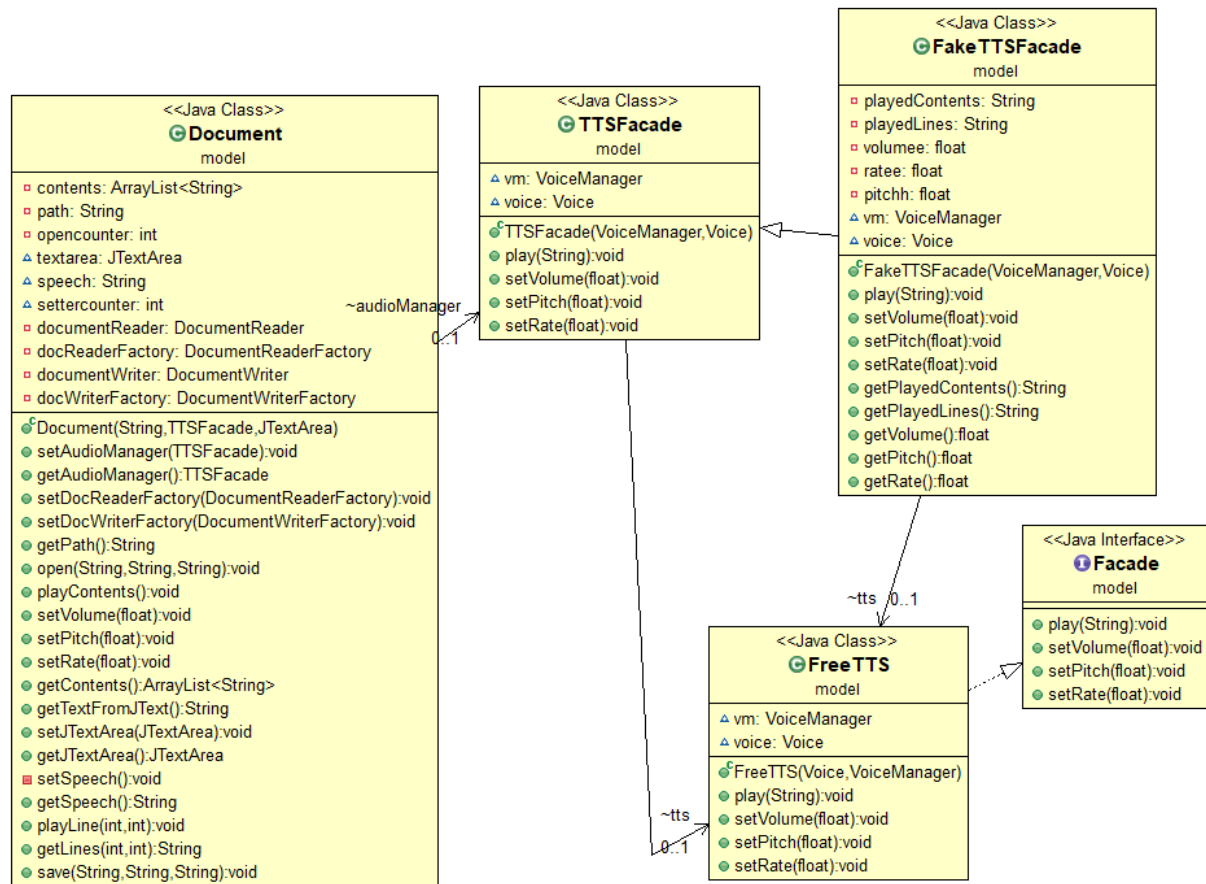
Class Name: WordReader	
<b>Responsibilities:</b> <ul style="list-style-type: none"> <li>Reads the Word file</li> </ul>	<b>Collaborations:</b> <ul style="list-style-type: none"> <li>DocumentReader</li> </ul>

<b>Class Name: ReaderAtbashDecorator</b>	
<b>Responsibilities:</b> <ul style="list-style-type: none"> <li>▪ Decodes the encoded file with the Atbash method</li> </ul>	<b>Collaborations:</b> <ul style="list-style-type: none"> <li>▪ ReaderDecorator</li> </ul>

<b>Class Name: ReaderRot13Decorator</b>	
<b>Responsibilities:</b> <ul style="list-style-type: none"> <li>▪ Decodes the encoded file with the Rot13 method</li> </ul>	<b>Collaborations:</b> <ul style="list-style-type: none"> <li>▪ ReaderDecorator</li> </ul>

<b>Class Name: ReaderDecorator</b>	
<b>Responsibilities:</b> <ul style="list-style-type: none"> <li>▪ Decoding</li> </ul>	<b>Collaborations:</b> <ul style="list-style-type: none"> <li>▪ DocumentReader</li> </ul>

<b>Class Name: DocumentReader</b>	
<b>Responsibilities:</b> <ul style="list-style-type: none"> <li>▪ Interface of ExcelReader, WordReader, ReaderDecorator, ReaderAtbashDecorator and ReaderRot13Decorator classes</li> <li>▪ Force them to read</li> </ul>	<b>Collaborations:</b>



Model Package Class Diagram

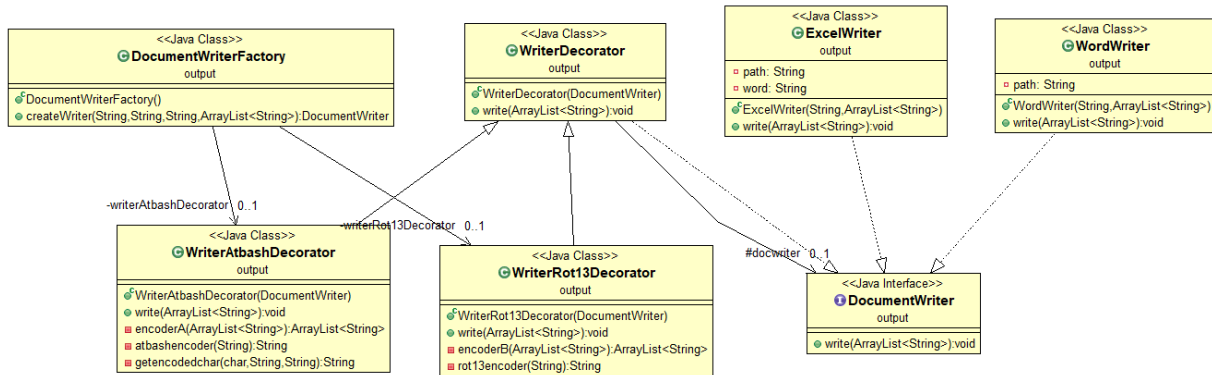
Class Name: Document	
<b>Responsibilities:</b> <ul style="list-style-type: none"> <li>Open the file</li> <li>Save the file</li> <li>Play audio</li> <li>Customize Audio</li> <li>Has all the information of the document</li> </ul>	<b>Collaborations:</b> <ul style="list-style-type: none"> <li>TTSTFacade</li> <li>DocumentReaderFactory</li> <li>DocumentWriterFactory</li> <li>DocumentReader</li> <li>DocumentWriter</li> </ul>

Class Name: FakeTTSFacade	
<b>Responsibilities:</b> <ul style="list-style-type: none"> <li>▪ Testing</li> </ul>	<b>Collaborations:</b> <ul style="list-style-type: none"> <li>▪ VoiceManager</li> <li>▪ Voice</li> <li>▪ FreeTTS</li> </ul>

Class Name: FreeTTS	
<b>Responsibilities:</b> <ul style="list-style-type: none"> <li>▪ Plays the audio</li> </ul>	<b>Collaborations:</b> <ul style="list-style-type: none"> <li>▪ VoiceManager</li> <li>▪ Voice</li> </ul>

Class Name: TTSTTSFacade	
<b>Responsibilities:</b> <ul style="list-style-type: none"> <li>▪ Transfer the command to play the audio</li> </ul>	<b>Collaborations:</b> <ul style="list-style-type: none"> <li>▪ VoiceManager</li> <li>▪ Voice</li> <li>▪ FreeTTS</li> </ul>

Class Name: Facade	
<b>Responsibilities:</b> <ul style="list-style-type: none"> <li>▪ Force TTS classes to play audio and update customizations of the audio</li> </ul>	<b>Collaborations:</b>



Output Package Class Diagram

Class Name: DocumentWriterFactory	
<b>Responsibilities:</b> <ul style="list-style-type: none"> <li>Creates the writers</li> </ul>	<b>Collaborations:</b> <ul style="list-style-type: none"> <li>ExcelWriter</li> <li>WordWriter</li> <li>WriterAtbashDecorator</li> <li>WriterRot13Decorator</li> </ul>

Class Name: ExcelWriter	
<b>Responsibilities:</b> <ul style="list-style-type: none"> <li>Writes the Excel file</li> </ul>	<b>Collaborations:</b> <ul style="list-style-type: none"> <li>DocumentWriter</li> </ul>

Class Name: WordWriter	
<b>Responsibilities:</b> <ul style="list-style-type: none"> <li>Writes the Word file</li> </ul>	<b>Collaborations:</b> <ul style="list-style-type: none"> <li>DocumentWriter</li> </ul>

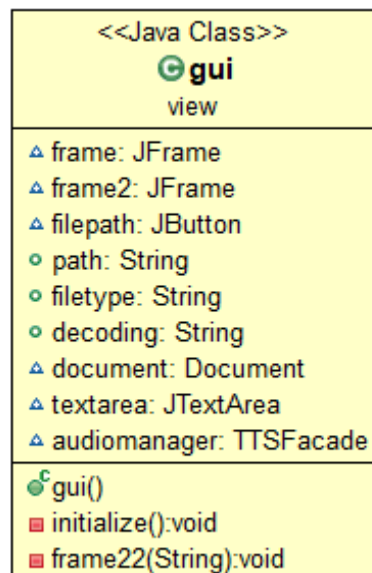
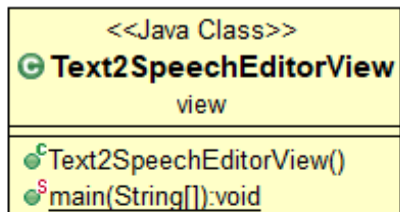
Class Name: WriterAtbashDecorator	
<b>Responsibilities:</b> <ul style="list-style-type: none"> <li>Encodes the file with the Atbash method</li> </ul>	<b>Collaborations:</b> <ul style="list-style-type: none"> <li>WriterDecorator</li> </ul>



Class Name: WriterRot13Decorator	
<b>Responsibilities:</b> <ul style="list-style-type: none"> <li>Encodes the file with the Rot13 method</li> </ul>	<b>Collaborations:</b> <ul style="list-style-type: none"> <li>WriterDecorator</li> </ul>

Class Name: WriterDecorator	
<b>Responsibilities:</b> <ul style="list-style-type: none"> <li>Encoding</li> </ul>	<b>Collaborations:</b> <ul style="list-style-type: none"> <li>DocumentWriter</li> </ul>

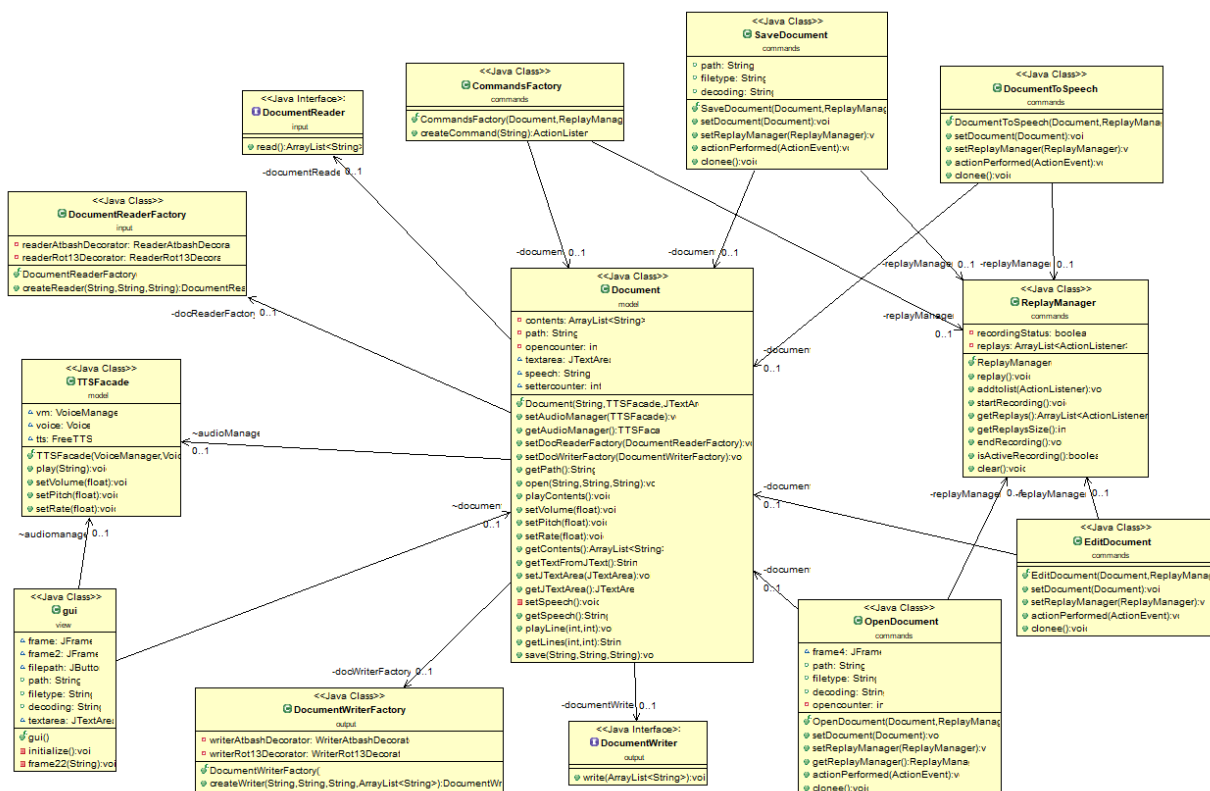
Class Name: DocumentWriter	
<b>Responsibilities:</b> <ul style="list-style-type: none"> <li>Interface of ExcelWriter, WordWriter, WriterDecorator, WriterAtbashDecorator and WriterRot13Decorator classes</li> <li>Force them to write</li> </ul>	<b>Collaborations:</b>



View Package Class Diagram

Class Name: gui	
<b>Responsibilities:</b> <ul style="list-style-type: none"> <li>▪ Graphics</li> <li>▪ Commands</li> </ul>	<b>Collaborations:</b> <ul style="list-style-type: none"> <li>▪ Document</li> <li>▪ TTSPacade</li> <li>▪ VoiceManager</li> <li>▪ ReplayManager</li> <li>▪ CommandsFactory</li> <li>▪ ActionListener</li> </ul>

Class Name: Text2SpeechEditorView	
<b>Responsibilities:</b> <ul style="list-style-type: none"> <li>▪ Main</li> </ul>	<b>Collaborations:</b> <ul style="list-style-type: none"> <li>▪ gui</li> </ul>



Patterns Class Diagram

