

# High Level Design (HLD)

## **Personal Audio Book Desktop App**

Author: Shraddha Giradkar

# Contents

Abstract	3
1 <u>Introduction</u>	4
1.1 <u>Why this High-Level Design Document?</u>	4
1.2 <u>Scope</u>	4
1.3 <u>Definitions</u>	4
2 <u>General Description</u>	5
2.1 <u>Product Perspective</u>	5
2.2 <u>Problem statement</u>	5
2.3 <u>PROPOSED SOLUTION</u>	5
2.4 <u>FURTHER IMPROVEMENTS</u>	5
2.5 <u>Data Requirements</u>	5
2.6 <u>Tools used</u>	6
2.7 <u>Constraints</u>	6
2.8 <u>Assumptions</u>	6
3 <u>Design Details</u>	7
3.1 <u>Process Flow</u>	7
3.1.1 <u>Deployment Process</u>	7
3.2 <u>Event log</u>	7
3.3 <u>Error Handling</u>	7
4 <u>Performance</u>	7
4.1 <u>Reusability</u>	7
4.2 <u>Application Compatibility</u>	7
4.3 <u>Resource Utilization</u>	7
4.4 <u>Deployment</u>	8
5 <u>Conclusion</u>	8

## **Abstract:**

Due to the busy lifestyle even for the people who loves books, finding the opportunity to read books can be a challenge. Best of all, audiobooks let all the people read anytime and at any place. Audiobooks allowed listeners freedom from physical media such as cassettes, CD, DVD. Basically audiobooks allows multitasking. It can be listened during exercising, cooking, travelling with public transport or crafting and similar activities. They can be a valuable tool to increase reading comprehension, boost self-confidence and also saves time which leads to better outcomes. This work discusses the implementation of the a fully automatic desktop app for personal audio book system, where the main objective is to allow user to upload any book of his choice in pdf format and after uploading the book it convert the pdf text to speech.

## 1.Introduction:

### 1.1 Why this High Level Design Document?

The Hld document is used to represents the general system design which signifies overall design of the proposed system. It is also known as macro level or system design. The Hld changes the business or client requirements into a high-level solution. In other words, it basically explains architecture of the system that would be used for developing a system. HLD applies to both software and hardware. The Hld uses non-technical terms to mildly technical terms that should be understandable to the administrators of the system.

#### HLD includes the description of the following parts:

- System architecture.
- Database design.
- The brief mention of all the platforms, systems, services, and processes the product would depend on.
- The brief description of relationships between the modules and system features.
- The List that describes the non-functional attributes like:
  - Security
  - Reliability
  - Maintainability
  - Portability
  - Reusability
  - Application compatibility
  - Resource utilization
  - Serviceability

### 1.2 Scope:

The Hld documentation presents the structure of the system, such as the database architecture, application architecture (layers), application flow (Navigation), and technology architecture. The Hld uses non-technical terms to mildly technical terms that should be understandable to the administrators of the system.

### 1.3 Definations:

<i>Term</i>	<i>Description</i>
<i>Database</i>	Collection of all the information monitored by this system
<i>IDE</i>	Integrated Development Environment
<i>AWS</i>	Amazon Web Services
<i>Python</i>	A Programming language

## **2.General Description:**

### **2.1 Product Perspective:**

The personal audio book desktop app system is a python programming language-based system which will help us to listen any kind of pdf book.

### **2.2 Problem statement:**

Here you have to build a fully automatic desktop app for personal audio book system. The main objective here is –

- The user should be allowed to upload any book of his choice(local) in pdf format.
- After uploading if the user will click to the on/submit button it will convert the pdf text to speech.
- For that you can use python Text2Speech library, any other API or any custom model.
- User also should have an option pause and play buttons.
- You can add more features as per your convenience

### **2.3 Proposed Solution:**

The solution proposed here is a fully automatic desktop app for personal audio book system can be implemented to perform above mention use cases. In first case, user is allowed to upload any book of his choice in pdf format. After uploading a book, user have to click on the submit button. After clicking submit button the uploaded book which is in pdf format gets converted into speech.

### **2.4: Further Improvements:**

Personal audiobooks can be added with more use cases like if user want we can display whole book on any screen as well as we can highlight the text which are pronounce by the audiobook.

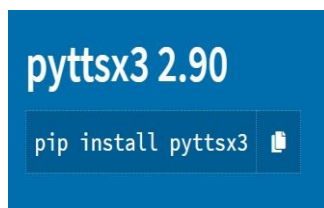
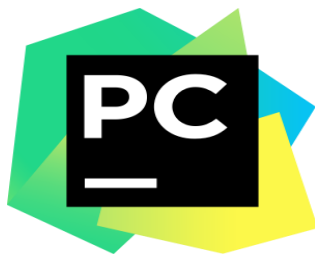
### **2.5 Data Requirements:**

Data requirement is totally based on the given problem statement:

- We require only books which are in pdf (portable document format) format.

### **2.6 Tools used:**

Python programming language and tkinter is used for creating GUI i.e., graphical user interface.



- Pycharm is an IDE (integrated development environment) specifically designed for python programming language.
- Tkinter is a framework which provides python users with a simple way of creating GUI.
- AWS is used for deployment of the model.

## 2.7 Constraints:

The Personal Audio Book Desktop app system should be user friendly, simple and user should not be required to know any of the working of the system.

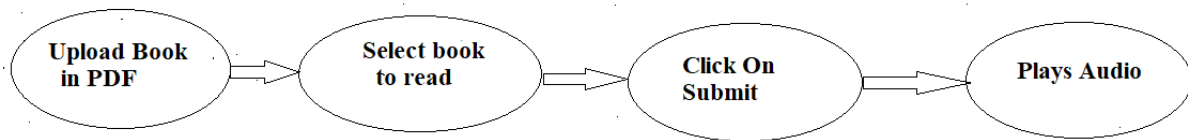
## 2.8 Assumptions:

The main objective of the project is to implement the use cases as previously mentioned (2.2 Problem Statement). Python programming language-based system is used for the above-mentioned use cases based on the input data. It is also assumed that all aspects of this project have the ability to work together in the way the designer is expecting.

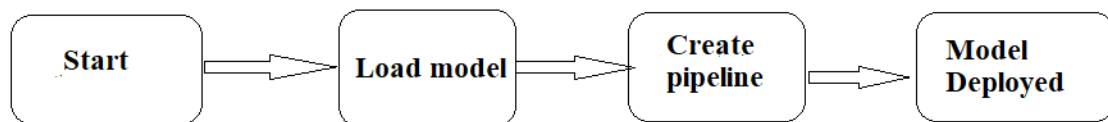
## 3.Design Details

### 3.1 Process Flow

#### Proposed Methodology:



#### 3.1.1 Deployment Process



### 3.2 Event Log

The Event log is used for tracking events that happens when some software is running internally.

### 3.3 Error Handling

It is the process of responding to the occurrence of *exceptions* which happened during the execution of a program. If errors encountered in program, then explanation will be displayed as what went wrong.

## 4.Performance

**4.1 Reusability:** The code written should have the ability to be reused with no problems.

**4.2 Application Compatibility:** This project will be using Python as an interface between user and the system. It is the job of the Python to ensure proper transfer of information.

**4.3 Resource Utilization:** When any task is performed, it will likely use all the processing power available until that function is finished.

#### 4.4 Deployment:



**5.Conclusion:** The Designed Personal audiobook desktop app will convert the pdf book into audio format so that we can listen any book at any time, so we can use it for self-improvement and education rather than for an entertainment.