

Name : Ekank Chhaparwal

RollNo : 211IT019

Assignment - 3

Report on Alphabet Learning System

1. Introduction

This report details an alphabet learning system designed for children aged 3-5 years old. The system aims to provide a fun and interactive way for young children to learn and practice the alphabet.

2. System Features

- **User Interface:**

- **Landing page:** The first page a user encounters. It allows them to either log in to an existing account or create a new account for future use.
- **Main page:** This page presents the core functionalities of the system after successful login/signup. It displays two distinct modules:

- **Learning Alphabets:**

- **Picture and Alphabet:** This section displays an image that relates to a specific letter of the alphabet. The corresponding alphabet letter is also displayed prominently. This association between a picture and its corresponding letter helps children grasp the concept of letters representing sounds and words.
- **Audio with Speech Synthesis API:** Clicking a button triggers the Speech Synthesis API, which reads aloud the displayed information. For example, clicking the button when the image is an apple and the letter is "A" would play the audio "A for Apple." This reinforces the connection between the visual and auditory aspects of learning.
- **Navigation Buttons:** The system incorporates "Next" and "Previous" buttons that allow children to navigate through the alphabet at their own pace. This provides them with control over their learning experience and encourages exploration.
- **Material Icons:** The system utilizes Google Font material icons throughout the interface. These icons are specifically designed for user-friendliness and provide a clear visual representation of functionalities like "Next" and "Previous." This caters well to young children who may not yet be familiar with reading text instructions.
- **Simple and Clear UI:** The entire user interface is designed with simplicity and clarity in mind. This means using clean layouts, uncluttered visuals, and large buttons. This approach ensures that young children are not overwhelmed and can easily focus on the learning tasks presented.

- **Practice Alphabets:**

- **Letter Display:** The right side of the window showcases a single, large letter of the alphabet. This allows children to concentrate on the specific letter they are practicing writing.
- **Whiteboard for Practice:** The central area of the window functions as a digital whiteboard. Here, children can use their fingers or a stylus (if compatible) to

practice writing the displayed letter. This hands-on approach reinforces letter recognition and develops fine motor skills.

- **Drawing Tools:** The left side of the window provides a dedicated section for drawing tools. These tools empower children to customize their writing experience and express their creativity.
 - **Eraser:** This tool allows children to correct mistakes and experiment freely while practicing letter formation.
 - **Brush with Customizable Size:** Children can choose between a brush for writing, catering to individual preferences. Additionally, the ability to adjust the size of the brush/pencil allows for better control over line thickness.
 - **Multiple Colors:** The system offers a palette of colors for children to choose from. This injects a fun element into the learning process and allows them to personalize their writing practice.
 - **Save Drawing as Image:** Children can save their completed letter as an image file. This allows them to preserve their work, share it with parents or educators, and potentially track their progress over time.
 - **Clear Screen:** This button allows children to easily clear the whiteboard and start fresh with a new attempt at writing the letter.
- **Navigation Buttons:** Similar to the "Learning Alphabets" module, children can utilize "Next" and "Previous" buttons to navigate through the different letters of the alphabet. This allows them to practice writing all the letters at their own pace.

3. Technical Implementation

- Material Icons helps in defining the purpose of navigation
- The Speech Synthesis API enables text-to-speech functionality.
- Drawing functionalities on the whiteboard might involve a canvas element and JavaScript libraries for interaction.

4. Strengths

- **Interactive and engaging:** The system uses visuals, audio, and hands-on practice for a stimulating learning experience.
- **Accessible:** The simple UI and clear visuals cater well to young children.
- **Customizable:** Drawing tool options allow for personalization and creativity.
- **User-friendly:** Google Fonts material icons provide intuitive navigation.