ICP11– Group 12

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GitHub link: https://github.com/sukumarbodapati/Web-Mobile-Spring-2022/tree/main/Mobile/ICP11

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GitHub link: https://github.com/Srinikhitha98/Web-Mobile-Dev-Spring-2022/tree/main/Mobile/ICP11

Mobile Application - Android Studio

Objective:

In this ICP, we must develop a mobile application which converts Text to Speech.

Tasks:

- We need to create an empty activity

1. ActivityMain.xml

- Converted the layout to relative layout
- Created Edittext for entering the text that user want to convert to speech.
- Created a button for the initializing the Speech function.
- Aligned the above button and Edittext, one below the other.

```xml
<EditText
    android:id="@+id/editTextTextPersonName"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_below="@+id/textView"
    android:textStyle="italic"
    android:layout_marginTop="50dp"
    android:text="Enter your text"
    tools:ignore="UnknownId"
    android:layout_centerHorizontal="true"
     />

<Button
    android:id="@+id/button"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_below="@+id/editTextTextPersonName"
    android:layout_marginTop="50dp"
    android:text="Speak"
    android:layout_centerHorizontal="true"
```

2. MainActivity.Java

- Created objects of Edittext and button.
- For converting Text to speech, we have in-built class in Android studio called TextToSpeech. We have created an object of this class.

```
EditText editText;
Button button;
TextToSpeech textToSpeech;
```

- ## OnCreate Method:
  - On clicking on the button,the text has to be converted to Speech.
  - In the onclicklistener method of the button, initialized the texttoSpeech button.
  - When the button is clicked i.e. status is success, we have a constant in TextToSpeech called SUCCESS. We have written a conditional statement as if the operation is successful, we have created a variable result to store the text and, we have set the language to ENGLISH.
  - After successful reading of the text into the result variable, we need to check whether the entered data is invalid data or not.
  - So, we have written conditional statement, if the language is not supported or missing raw data, then we print the log as **"Language is not supported".**
  - If the language is supported, we will use gettext() method and convert the text to Speech.
  - If the status is unsuccessful, we will print a log as "TTS not supported".

Used the following constants of the Texttospeech class:

LANG NOT SUPPORTED : Represents when the language is not supported.

LANG MISSING DATA : Represents when data is missing.

QUEUE ADD: It adds the data to queue after each playback.

SUCCESS: Represents the successful operation.

Public methods:

setLanguage : This method is used to set the language of the text to Speech.

Gettext: This method is used to get the text what user has entered.

Code:

```java
button.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {
        textToSpeech = new TextToSpeech( context: MainActivity.this, new TextToSpeech.OnInitListener() {
            @Override
            public void onInit(int status) {
                if(status==TextToSpeech.SUCCESS){
                    int result =textToSpeech.setLanguage(Locale.ENGLISH);
                    if(result==TextToSpeech.LANG_NOT_SUPPORTED || result == TextToSpeech.LANG_MISSING_DATA){
                        Log.e( tag: "message", msg: "language is not supported");
                    }
                    else{
                        textToSpeech.speak(String.valueOf(editText.getText()),TextToSpeech.QUEUE_ADD,  params: null);
                    }

                }
                else{
                    Log.e( tag: "message", msg: "TT's is not supported");
                }
            }
```

Results: