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Git Hub Link - https://github.com/gudesrikanth/webcourse/tree/main/Webpart/ICP11

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Git Hub Link -

https://github.com/gopinelluri9/demo_remote_repository/tree/main/WebPart/ICP11

ICP – 10(Text to Speech Recognition)

Task Description:

- In this Task, we are creating an application named Text to Speech Recognition, which can speak what we have given as a text input.
- Initially when the application is opened it asks to enter text to input text box.
- When the user clicks on speak button it will speak the text entered by user.

Process:

activity_main.xml:

```xml
<TextView
    android:id="@+id/textViewTTS"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Text to Speech"
    android:textSize="35dp"
    android:textColor="#a46639"
    android:layout_centerHorizontal="true" />
<EditText
    android:id="@+id/editTextTTS"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:hint="Enter your text"
    android:layout_below="@+id/textViewTTS"
    android:layout_margin="35dp"
    android:layout_centerHorizontal="true" />

<Button
    android:id="@+id/btnTTS"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_below="@id/editTextTTS"
    android:text="Speak"
    android:layout_centerHorizontal="true"
    />
```

In above code snippet we have created TextView widget to display the text in UI screen and given id as '@+id/textViewTTS'. EditText is used to enter text into input box and given id as '@+id/editTextTTS'. And Button is used to create clickable speak button and given id as '@+id/btnTT'.

MainActivity.java:

```java
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);

    editText = findViewById(R.id.editTextTTS);
    btn = findViewById(R.id.btnTTS);
    btn.setOnClickListener(new View.OnClickListener() {
```
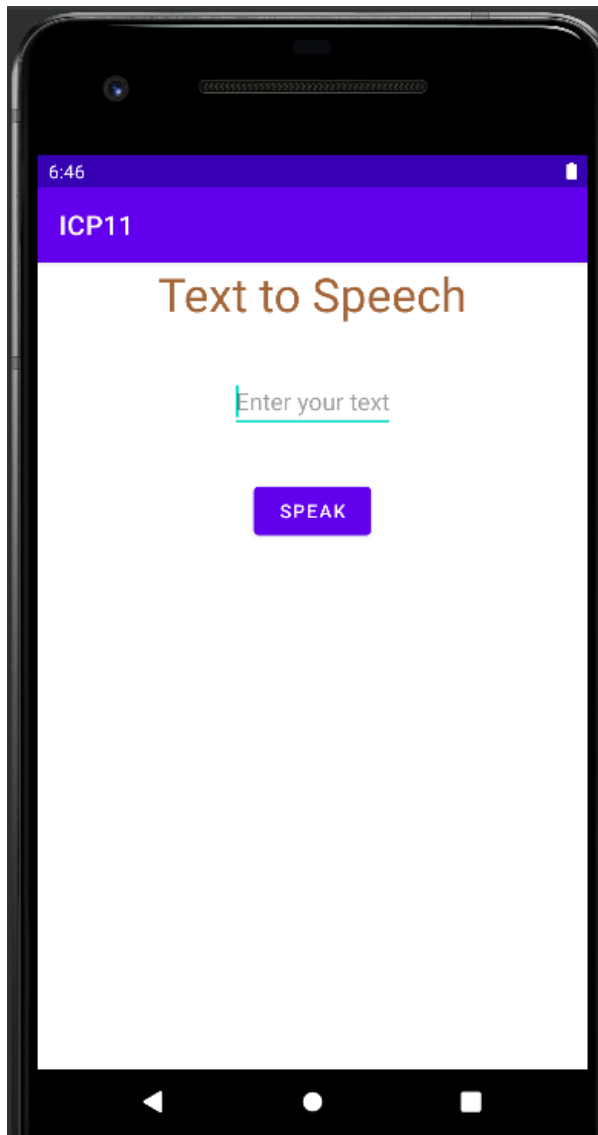
In above screenshot OnCreate method bundle instance will create the user interface and savedInstanceState will hold the information from previously saved instance.

And created variables and find their id by findViewById for input text and speak button, setOclickListener attribute will listen to click element.
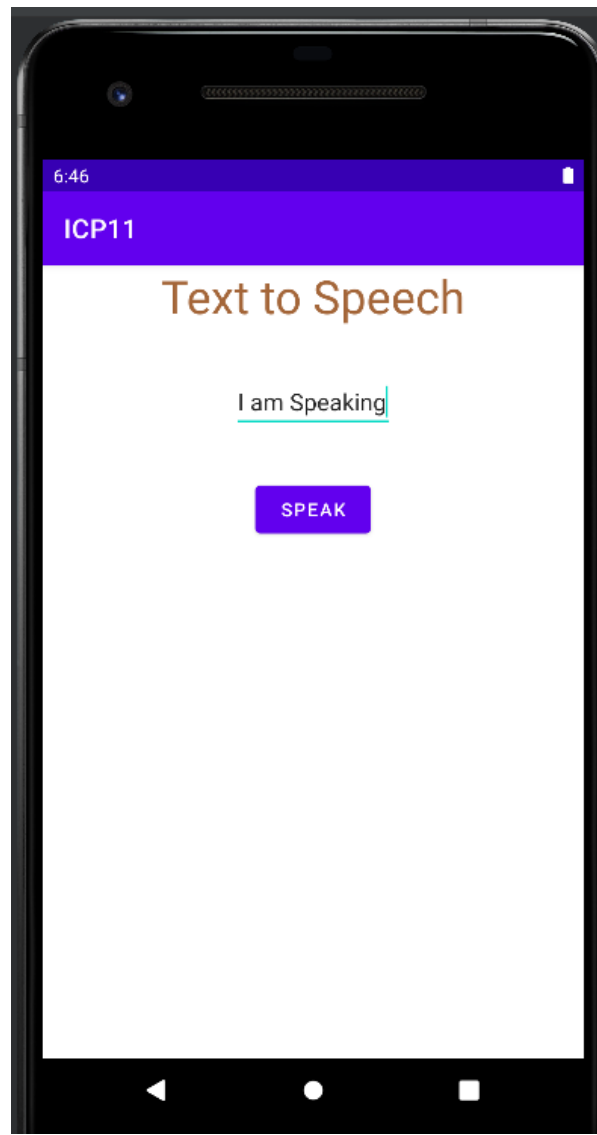
```java
public void onClick(View view) {
    tts = new TextToSpeech( context: MainActivity.this, new TextToSpeech.OnInitListener() {
        @Override
        public void onInit(int status) {
            if (status == TextToSpeech.SUCCESS) {
                int result = tts.setLanguage(Locale.US);
                if (result == TextToSpeech.LANG_NOT_SUPPORTED || result == TextToSpeech.LANG_MISSING_DATA) {
                    Log.e( tag: "message", msg: "Language is not supported");
                } else {
                    speak();
                }
            } else {
                Log.e( tag: "message", msg: "TTS is not supported");
            }
        }
```

In above screenshot TextToSpeech is initialized using OnInitListener and OnInit() method will check for if condition by taking parameter status and if it is equals to success it will proceed speak by verifying the text given in input box and if not matched with status and it will move to else condition and print log message.

Output:

UI SCREEN	UI SCREEN INPUT

Conclusion:

In this ICP we learned about how to develop a android application by using the

Android studio, with RESTful services, Retrofit ListView and Adapter. And at last,

we have designed and developed Android Application successfully. We didn't face

any major issues while doing this ICP.