

CSE 162 Mobile Computing

Lab 5 Voice Interface

Goals

- Create the voice command interface
- Use the voice command to select a particular date
 - Reply with the current date
- Use the voice command to make phone calls
- Extra credit:
 - Speak a location, display the location on google map

Voice Input

- Create the voice input interface

```
// Create an intent that can start the Speech Recognizer activity
private void displaySpeechRecognizer() {
    Intent intent = new Intent(RecognizerIntent.ACTION_RECOGNIZE_SPEECH);
    intent.putExtra(RecognizerIntent.EXTRA_LANGUAGE_MODEL,
        RecognizerIntent.LANGUAGE_MODEL_FREE_FORM);
    // This starts the activity and populates the intent with the speech text.
    startActivityForResult(intent, SPEECH_REQUEST_CODE);
}
```

Voice Input

- The speech is translated into texts. Implement your logic to process the texts here.

```
@Override
protected void onActivityResult(int requestCode, int resultCode,
    Intent data) {
    if (requestCode == SPEECH_REQUEST_CODE && resultCode == RESULT_OK) {
        List<String> results = data.getStringArrayListExtra(
            RecognizerIntent.EXTRA_RESULTS);
        String spokenText = results.get(0);
        // Do something with spokenText.
    }
    super.onActivityResult(requestCode, resultCode, data);
}
```

The Calendar View

- In the main_activity.xml, select the calendar view

```
<CalendarView
    android:id="@+id/calendar"
    android:layout_marginTop="80dp"
    android:layout_marginLeft="19dp"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content">
</CalendarView>
```

Calendar View

- In the main_activity.java, implement the calendar view logics

```
calendar = (CalendarView)
    findViewById(R.id.calendar);
date_view = (TextView)
    findViewById(R.id.date_view);

// Add Listener in calendar
calendar
    .setOnDateChangeListener(
        new CalendarView
            .OnDateChangeListener() {
                @Override

                // In this Listener have one method
                // and in this method we will
                // get the value of DAYS, MONTH, YEARS
                public void onSelectedDayChange(
                    @NonNull CalendarView view,
                    int year,
                    int month,
                    int dayOfMonth)
                {

                    // Store the value of date with
                    // format in String type Variable
                    // Add 1 in month because month
                    // index is start with 0
                    String Date
                        = dayOfMonth + "-"
                          + (month + 1) + "-" + year;

                    // set this date in TextView for Display
                    date_view.setText(Date);

                }
            });
```

Make a phone call

- Create an intent for phone call

```
posted_by = "111-333-222-4";  
  
String uri = "tel:" + posted_by.trim() ;  
Intent intent = new Intent(Intent.ACTION_CALL);  
intent.setData(Uri.parse(uri));  
startActivity(intent);
```

Make a phone call

- Obtain the permissions.
- In the manifest.xml, request permissions

```
<uses-permission android:name="android.permission.CALL_PHONE" />
```

- Request the permission again before making the phone call

```
if (ActivityCompat.checkSelfPermission(mActivity,  
    Manifest.permission.CALL_PHONE) == PackageManager.PERMISSION_GRANTED) {  
  
    phoneCall();  
}else {  
    final String[] PERMISSIONS_STORAGE = {Manifest.permission.CALL_PHONE};  
    //Asking request Permissions  
    ActivityCompat.requestPermissions(mActivity, PERMISSIONS_STORAGE, 9);  
}
```


Text to Speech API

- Use the TTS to pronounce the date

```
TextToSpeech tts = new TextToSpeech(this, this);  
tts.setLanguage(Locale.US);  
tts.speak("Text to say aloud", TextToSpeech.QUEUE_ADD, null);
```