Welcome, आप इस सप्ताह के अंत में गर्मी हराया था? स्पर्स ईथर नहीं कर सकता था, बुरा मत मानना. कम से कम वे सेल्टिक्स पसंद करने के लिए तत्पर हैं करने के लिए पुनर्निर्माण के बहुत हैं.

AITI IIT Bombay Class 2013
Lecture 8
Agenda

• Remaining Schedule
• Android SQL
• Android Language Support
• Checkins
Remaining Schedule

- ~3.5 weeks till showtime!
- This week: more advanced topics, revenue, connecting android and Django
- Please have a working demo draft by the end of this week
Tomorrow

- Android Multimedia / Graphics
- Multi-threading
- Location Services
- Revenue 😊: Advertising, Google Play
Android SQLite

- Define a Schema
- Create a
- Reading to an SQL Database
- Writing to an SQL Database
Defining a Schema

• A “schema” is a map or description of how your data base in organized.
• Similar to column or row headings in excell

<table>
<thead>
<tr>
<th>Benefits from Web Site</th>
<th>YEAR</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct sales</td>
<td></td>
<td>$15,000.00</td>
<td>$50,000.00</td>
<td>$75,000.00</td>
</tr>
<tr>
<td>Incremental sales resulting from enhanced promotional/salesperson effectiveness</td>
<td></td>
<td>$25,000.00</td>
<td>$25,000.00</td>
<td>$25,000.00</td>
</tr>
<tr>
<td>Incremental sales resulting from increased partner participation</td>
<td></td>
<td>$25,000.00</td>
<td>$25,000.00</td>
<td>$25,000.00</td>
</tr>
<tr>
<td>Reduced travel costs</td>
<td></td>
<td>$25,000.00</td>
<td>$25,000.00</td>
<td>$25,000.00</td>
</tr>
<tr>
<td>Reduced customer service costs</td>
<td></td>
<td>$50,000.00</td>
<td>$50,000.00</td>
<td>$50,000.00</td>
</tr>
<tr>
<td>Reduced printing and shipping costs</td>
<td></td>
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Defining a Schema

- First create an SQLiteHelper subclass in your source folder. Make sure it's part of your android package:
Defining a Schema

• Use static final strings to define the fields your database, or your database “schema”:

```java
private static final int DATABASE_VERSION = 1;
private static final String DATABASE_NAME = "IndiaVotesDbase";
private static final String TABLE_NAME = "userid";
private static final String KEY_AGE = "age";
private static final String KEY_TOPIC = "topic";
```
Other parts of your Database class

- Add a string that will create your database, it needs to have enclosing parentheses in your value fields. This string will be given to the execSQL method on when the create method is called.

- See the Android tutorial or piazza for an example of an SQLite class.

```java
private static final String SQL_TABLE_CREATE = "CREATE TABLE "
    + TABLE_NAME + " (" + KEY_AGE + " TEXT, "
    + KEY_TOPIC + " INTEGER);";

public void onCreate(SQLiteDatabase db) {
    db.execSQL(SQL_TABLE_CREATE);
}
```
Creating a database in your Activity

• Create the class as a private object in your starting activity
• Initialize it in the onCreate() method

```java
dbHelper = new IVUserDatabase(this);
SQLiteDatabase db = dbHelper.getReadableDatabase();
```
Write to your Database

• To write to your database, call execSQL with your updated strings

```java
SQLiteDatabase db = dbHelper.getWritableDatabase();

String name = edttxtName.getText().toString();
String age = edttxtAge.getText().toString();

db.execSQL("Update user set name='" + name + ",\age='" + age);
```
Read from your database

• Use a cursor object and the query() method to perform read functions:

```java
Cursor cursor = db.rawQuery("Select * from user", null);

cursor.moveToFirst();
String name = cursor.getString(cursor.getColumnIndex("name"));
String age = cursor.getString(cursor.getColumnIndex("age"));
```
Read from your database (Android tutorial example)

```java
String[] projection = {
    FeedEntry._ID,
    FeedEntry.COLUMN_NAME_TITLE,
    FeedEntry.COLUMN_NAME_UPDATED,
    ...
};

// How you want the results sorted in the resulting Cursor
String sortOrder = FeedEntry.COLUMN_NAME_UPDATED + " DESC";

Cursor c = db.query(
    FeedEntry.TABLE_NAME, // The table to query
    projection, // The columns to return
    selection, // The columns for the WHERE clause
    selectionArgs, // The values for the WHERE clause
    null, // don't group the rows
    null, // don't filter by row groups
    sortOrder // The sort order
);
```
Android Language Support

• There should be Unicode support for Devanagari script in Android 4.2 and beyond
• You should be able to paste Hindi script into your code (xml and java):

```xml
(resources>
  <string name="app_name">JGIndiaVotesSQL</string>
  <string name="action_settings">Settings</string>
  <string name="hello_world">Hello world!, चन्दन"</string>
</resources>
```

• Users will need a special keyboard to input Hindi. Make sure your app works correctly with it (I think this inputs Hindi with English)

Additional Language Resources

• [http://developer.android.com/training/basics/supporting-devices/languages.html](http://developer.android.com/training/basics/supporting-devices/languages.html) (use different value folders to store strings in different languages)


• Settings -> Language & Input, under “KEYBOARD & INPUT METHODS” section, check Google Hindi Input, then click Default and select “Hindi transliteration” in the “Choose input method” dialog.