Data Storage

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Storage Options

1. Android provides several options for you to save persistent application data.

   - shared preferences
   - creation and storage of arbitrary file types
   - SQLite relational databases

Storage Options...(2)

2. The solution you choose depends on your specific needs, such as whether the data should be private to your application or accessible to other applications (and the user) and how much space your data requires.

Shared preferences

1) each preferences is a simple key / value pair

- Keys are typed as string
- individual value can be typed as one of these

boolean,long,int,float,string

2) managed through Java code or through a special preference activity

3) stored unencrypted on disk

Creating preferences in java

- The SharedPreferences class represents a set of preferences

- instantiate with “mode” of MODE_PRIVATE

1) Other mode constants are available (MODE_WORLD_WRITABLE) but shearing preferences between apps isn't currently supported

preferences for current activity

```
private SharedPrefences setting=
  getPrefences(CONTEXT.MODE_PRIVATE);
```

a named set of preferences

```
private SharedPrefences setting=
getSharedPrefences(“pref_name”,CONTEXT.MODE_PRIVATE);
```

Using Preference activity

- Preference activity define and write values to disk automatically

- Value can be string, boolean or list of string

- define in a layout XML file

- navigate to preference activity with an INTENT object

Shared preferences Example

Files Storage

1) File can be created and read on persistent media

2) no special file type – store images,XML or data files or any thing else

3) file can be designate for internal(local to app) or external storage

Internal Storage

- Android can save files directly to the device internal storage.
- These files are private to the application and will be removed if you uninstall the application.
- We can create a file using **openFileOutput()** with parameters as file name and the operating mode.

Internal Storage...(2)

- Similarly, we can open the file using **openFileInput()** passing the parameter as the fileName.

- One thing, that we need to remember is, give the file name with extension.

Internal Storage Example

External Storage

- Every Android-compatible device supports a shared "external storage" that you can use to save files.
- This can be a removable storage media (such as an SD card) or an internal (non-removable) storage.
- Files saved to the external storage are world-readable and can be modified by the user when they enable USB mass storage to transfer files on a computer.

External Storage Example

SQLite relational database

1) Structured data can be saved in an SQLite database

2) Android provide built-in support for SQLite(http://www.sqlite.org..)

3) All class and interfaces are present in android.database.sqlite package

4) Database file are stored local to the app

5) To share structured data with other apps, consider creating a custom Content provider

SQLite Database Example