CountThings from Photos

InterApp Communication

CountThings from Photos app is prepared to respond to action requests by specifying the appropriate intent filter in your activity. This document shows you how to create an intent for a particular action, how to use it to start an activity that performs an action in CountThings from Photos app and how to get the results back in your app.

Prerequisites

- Android app that will call CountThings from Photos
- Install CountThings from Photos and login to an account with a valid subscription

General

The intent can be configured in order to:

- Select first screen when CountThings from Photos app will open:
    - Take Picture screen
    - Prepare screen
    - Set Active Template screen

- Select settings:
    - Start count process automatically when opening CountThings from Photos (optional)
    - Send the Template ID if the current active template is not suitable for the current count process (optional)

- Select when to return to the caller app:
    - After count process is finished
    - After user is saving the results
    - Manually (press back - hardware button)

- Select which result information will return to the caller app:
    - JSON Data (object that contains information about results - total number, coordinates, radius and text label.)

- Results image (the caller app will receive the local storage path where the results image is saved. Bitmaps are large and can't be passed easily through an intent since there is a limited fixed size - currently 1MB).

Usage

Create an Intent and add extra data to open the CountThings from Photos app

```java
Intent intent = new Intent("android.intent.action.MAIN");
intent.setComponent(new ComponentName("com.dyve.countthings",
"com.dyve.counting.activities.MainActivity"));
intent.putExtra("inter_app_communication", true);
```

Select first screen

- **Take Picture**
```java
intent.putExtra("first_screen", 0);
```

- **Prepare screen**
```java
intent.putExtra("first_screen", 1);
intent.putExtra("image_path", image_path);
```

- **Set Active Template screen**
```java
intent.putExtra("first_screen", 2);
```

Select settings

- **Take Picture**
```java
intent.putExtra("count_automatically", true);
```

- **Set template ID "**
```java
intent.putExtra("template_id", "066");
```

When to return

- **After Count**
```
intent.putExtra("return_trigger", 0);
```

- **On Save**
```
intent.putExtra("return_trigger", 1);
```

- **Manually**
```
intent.putExtra("return_trigger", 2);
```

What to return

- **JSON Data**
```
intent.putExtra("return_results_json", true);
```
If the image has a lot of results (>700), the string is too large to be passed through an intent since there is a limited fixed size - currently 1MB. It's best to use the solution below: request for the local storage file path.

- **JSON Data File Path**
```
intent.putExtra("return_results_json_filepath", true);
```

- **Results Image Path**
```
intent.putExtra("return_results_image", true);
```

Send the intent

```
try {
    Intent intent = createIntent();
    startActivityForResult(intent, RETURN_REQUEST_CODE);
} catch (ActivityNotFoundException ex) {
    startActivity(new Intent(Intent.ACTION_VIEW,
Uri.parse(PLAYSTORE_URL)));
}
```

where:
- PLAYSTORE_URL = "https://play.google.com/store/apps/details?
  id=com.dyve.countthings"
- RETURN_REQUEST_CODE = 101

Receive the result

```java
@Override
protected void onActivityResult(int requestCode, int resultCode,
@Nullable Intent data) {
    super.onActivityResult(requestCode, resultCode, data);
    if (requestCode == RETURN_REQUEST_CODE && resultCode ==
RESULT_OK) {
        if (data != null) {
            String resultsJson =
data.getStringExtra("results_json");
            String resultsImagePath =
data.getStringExtra("results_image");
            Uri fileUri = data.getData(); // returns json file Uri
if requested
InputStream is = getContentResolver().openInputStream(fileUri);
```

Examples

Start CountThings from Photos on Take Picture screen, count automatically, return after count successfully with JSON Data

```java
Intent intent = new Intent("android.intent.action.MAIN");
intent.setComponent(new ComponentName("com.dyve.countthings",
"com.dyve.counting.activities.MainActivity"));
intent.putExtra("inter_app_communication", true);

intent.putExtra("first_screen", 0);
intent.putExtra("count_automatically", true);
intent.putExtra("return_trigger", 0);
intent.putExtra("return_results_json", true);

startActivityForResult(intent, RETURN_REQUEST_CODE);
```

Start CountThings from Photos on Prepare screen, count automatically, return after save successfully with JSON Data and Results Image

```java
Intent intent = new Intent("android.intent.action.MAIN");
intent.setComponent(new ComponentName("com.dyve.countthings",
"com.dyve.counting.activities.MainActivity"));
intent.putExtra("inter_app_communication", true);

intent.putExtra("first_screen", 1);
intent.putExtra("image_path", "/storage/emulated/0/DCIM/things/
keyboard.jpeg");
intent.putExtra("count_automatically", true);
intent.putExtra("return_trigger", 1);
intent.putExtra("return_results_json", true);
intent.putExtra("return_results_image", true);
startActivityForResult(intent, RETURN_REQUEST_CODE);
```

Q & A

Q: What happens if CountThings from Photos is not installed on the device?

A: Whenever you invoke an intent, be ready to catch an ActivityNotFoundException, which occurs if there's no other activity that can handle your app's intent. In our sample app, after we catch the exception, we provide a link for the user to download the app.

Q: I'm returning the results image path but can't load the image in my app

A: The caller app needs READ_EXTERNAL_STORAGE permission in order to load a file from the disk. This permission is enforced starting in API level 19. Before API level 19, this permission is not enforced and all apps still have access to read from external storage.

Questions or suggestions should be reported at support@countthings.com