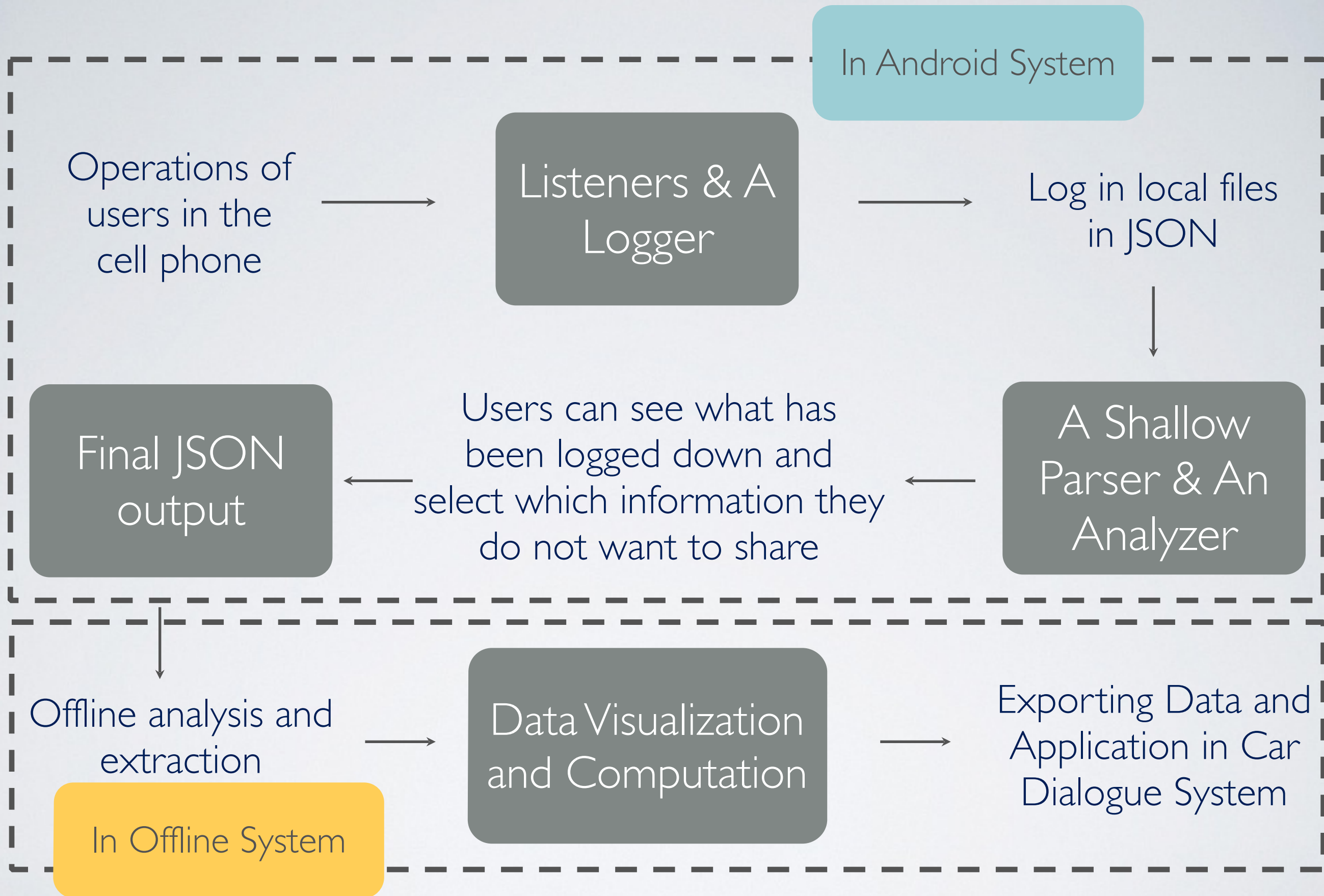


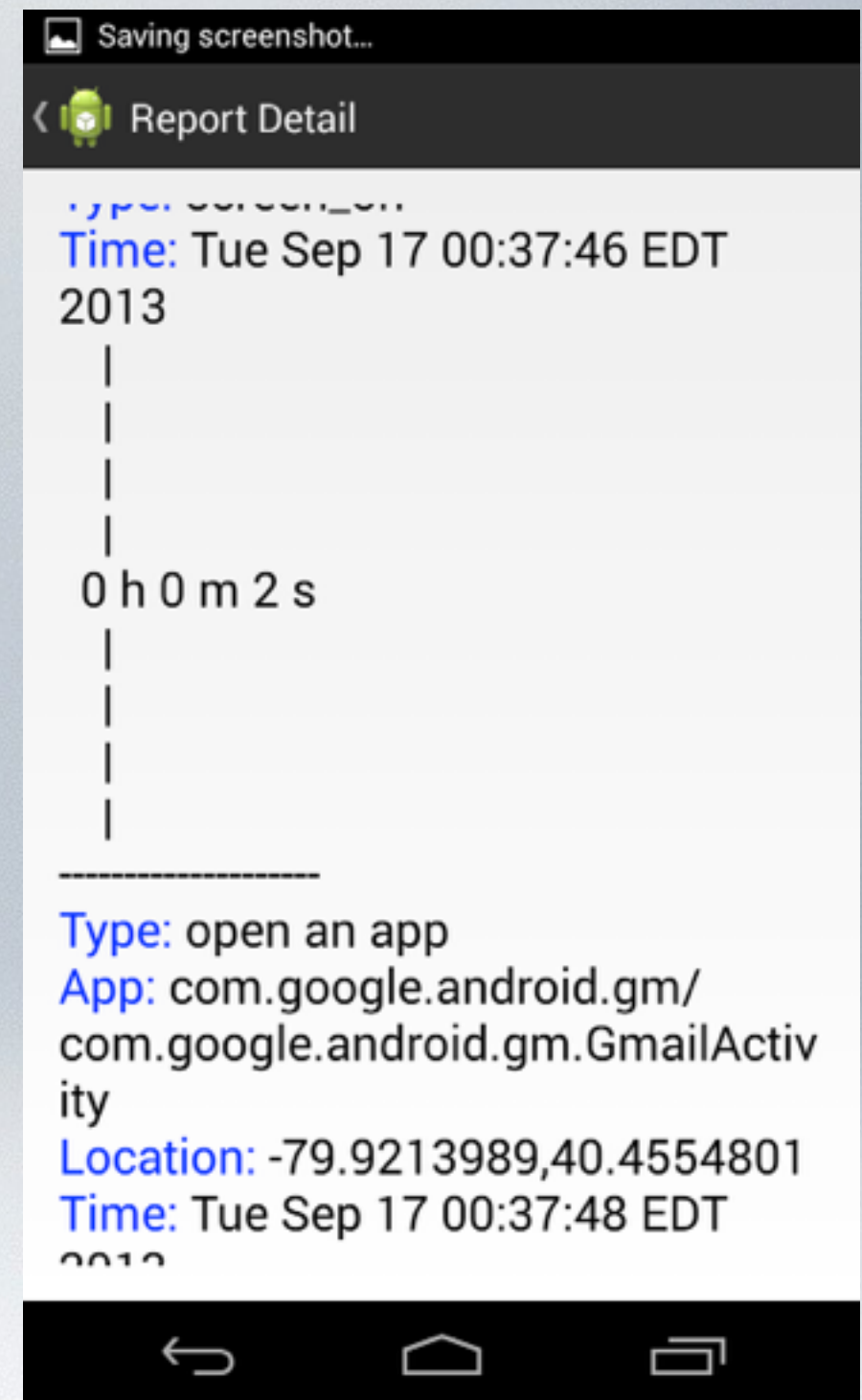
USER DATA COLLECTION AND ANALYSIS IN ANDROID SMARTPHONE



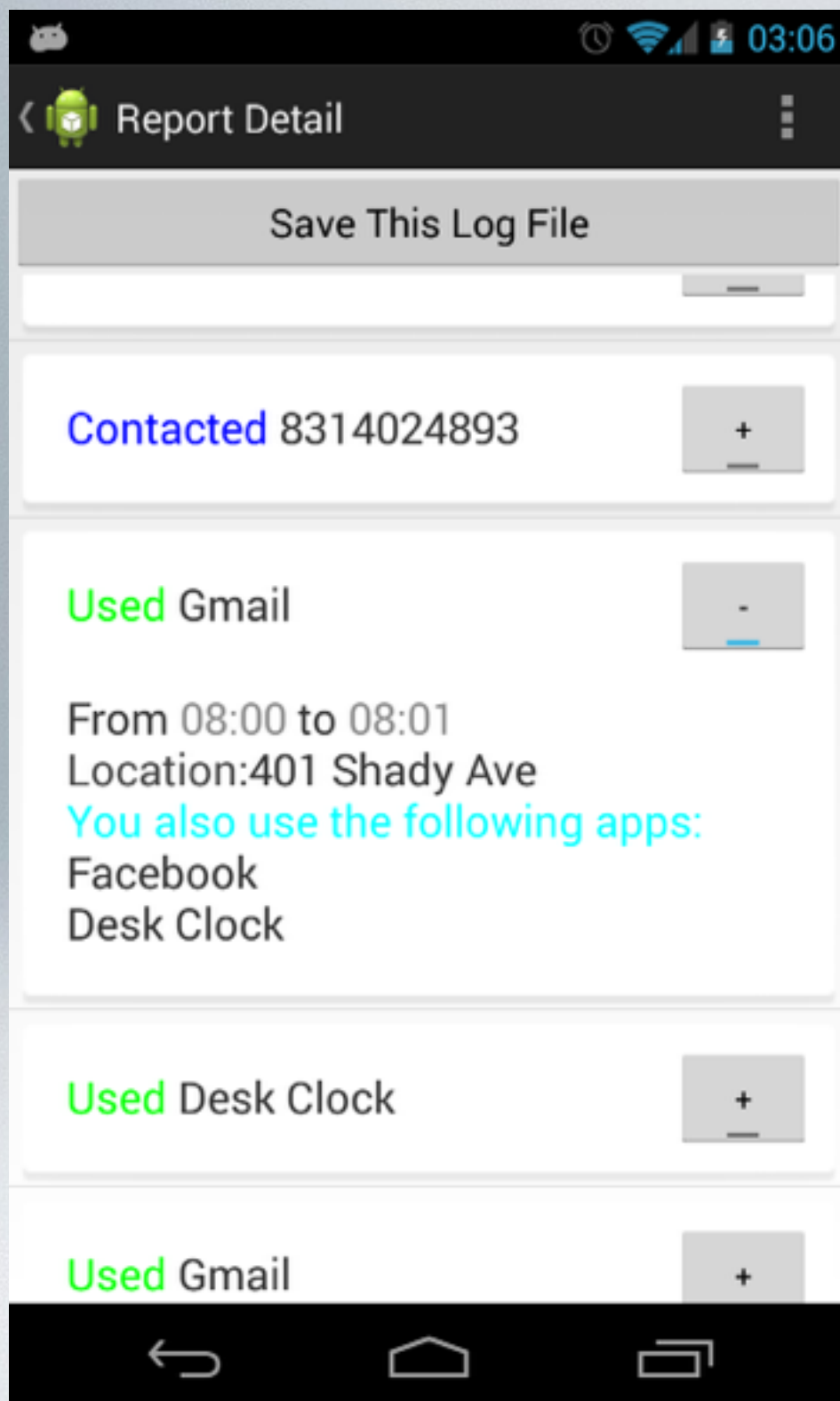
GENERAL FRAMEWORK

WHAT'S IN THE LOG?

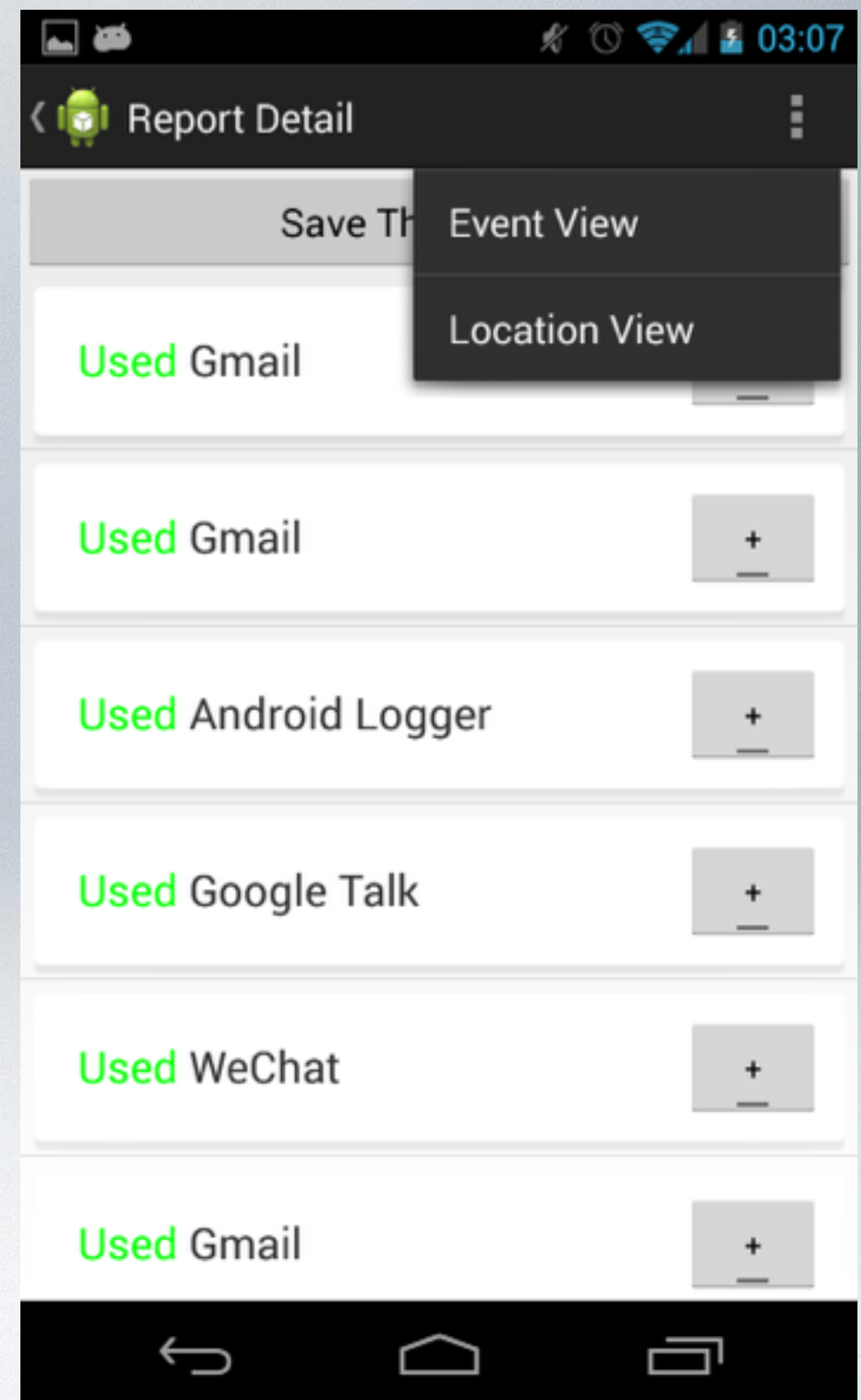
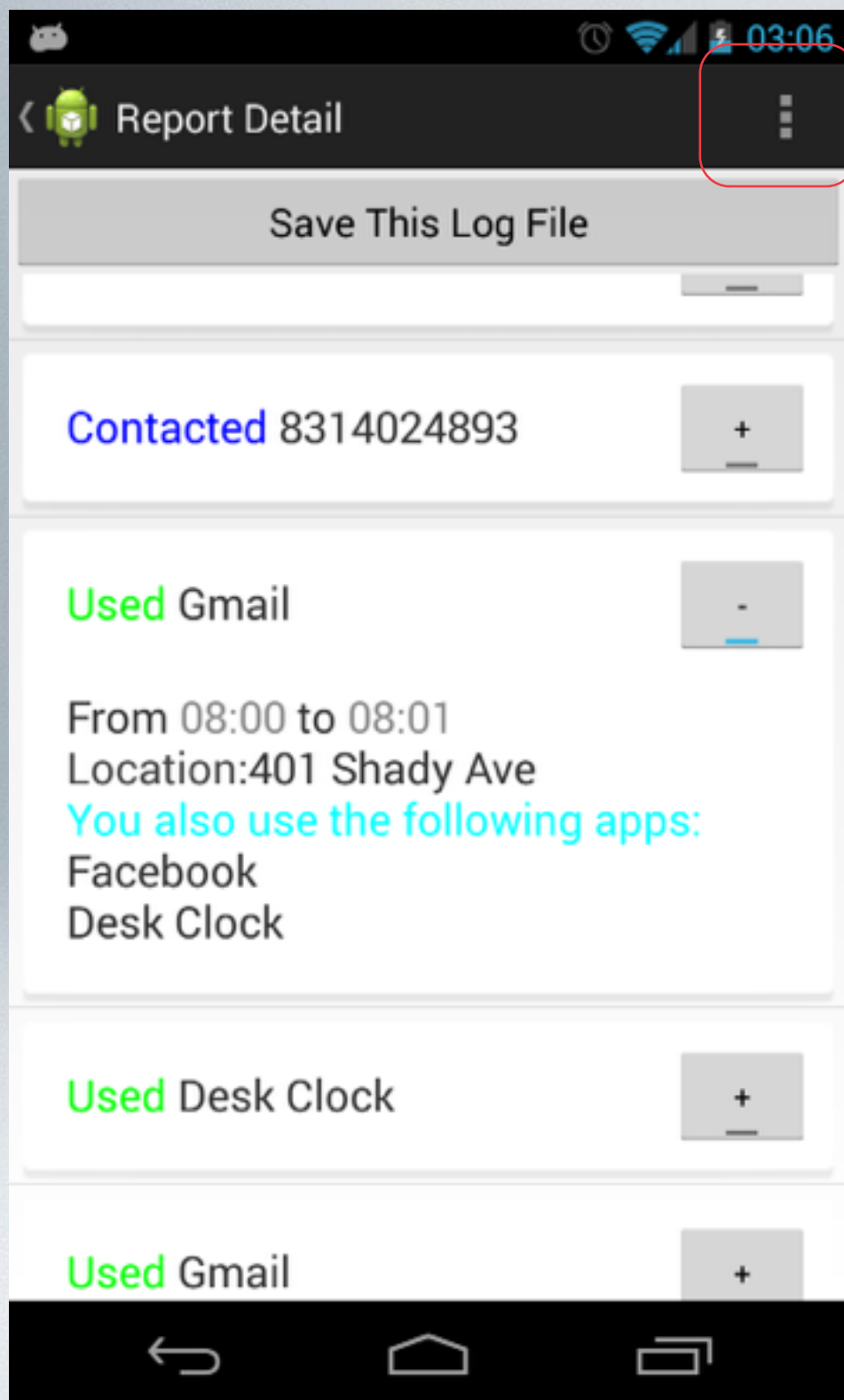
- **Events**, triggered by
 - Opening an application
 - Placing/Receiving an call
 - Sending/Receiving an SMS
 - Listening to Music via GoogleMusic
- Information in these Events
 - Event type
 - Application Name
 - Time
 - Location (Latitude, Longitude, Address/POI)
 - Phone Numbers in calls and SMS
 - Music Information

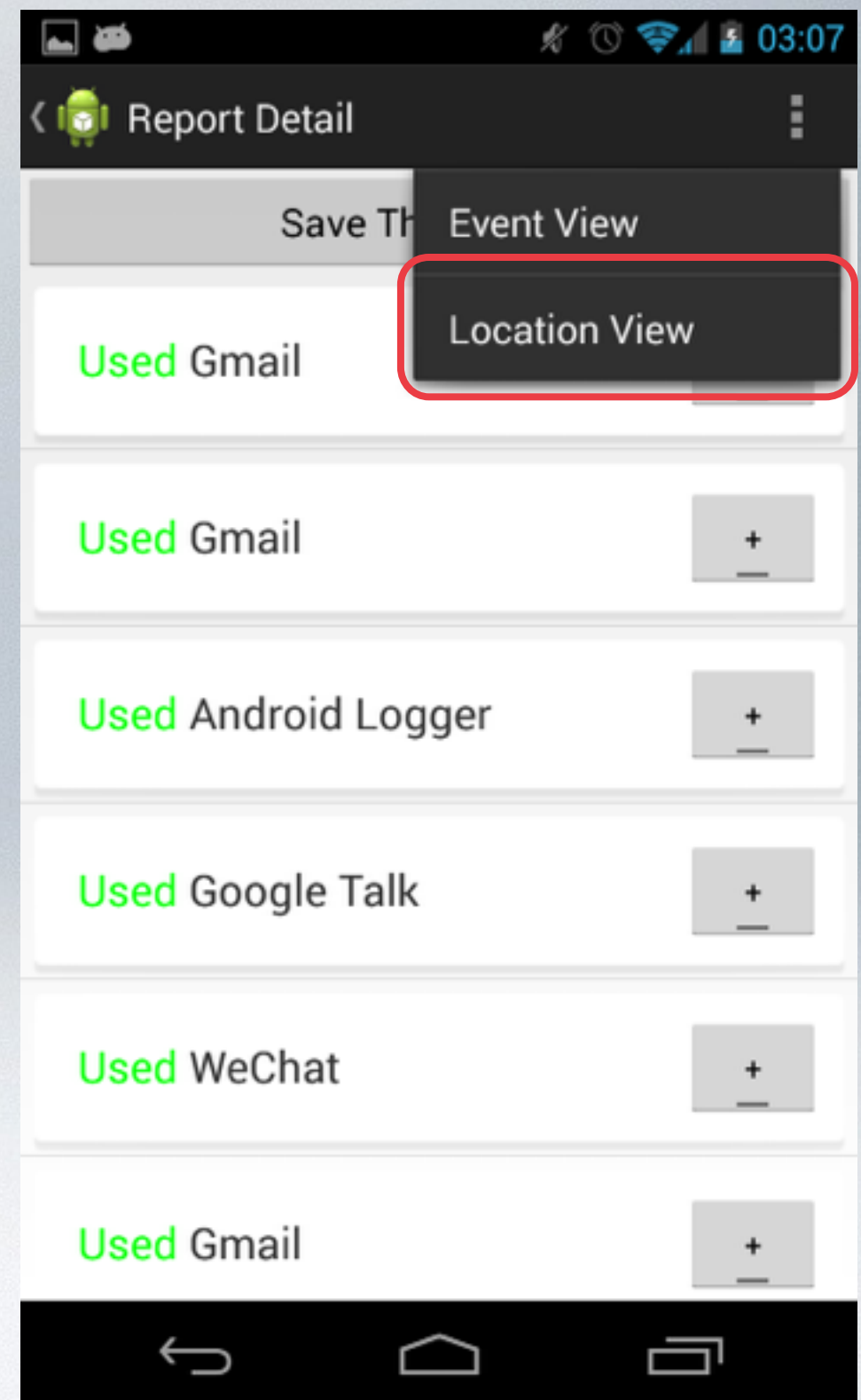
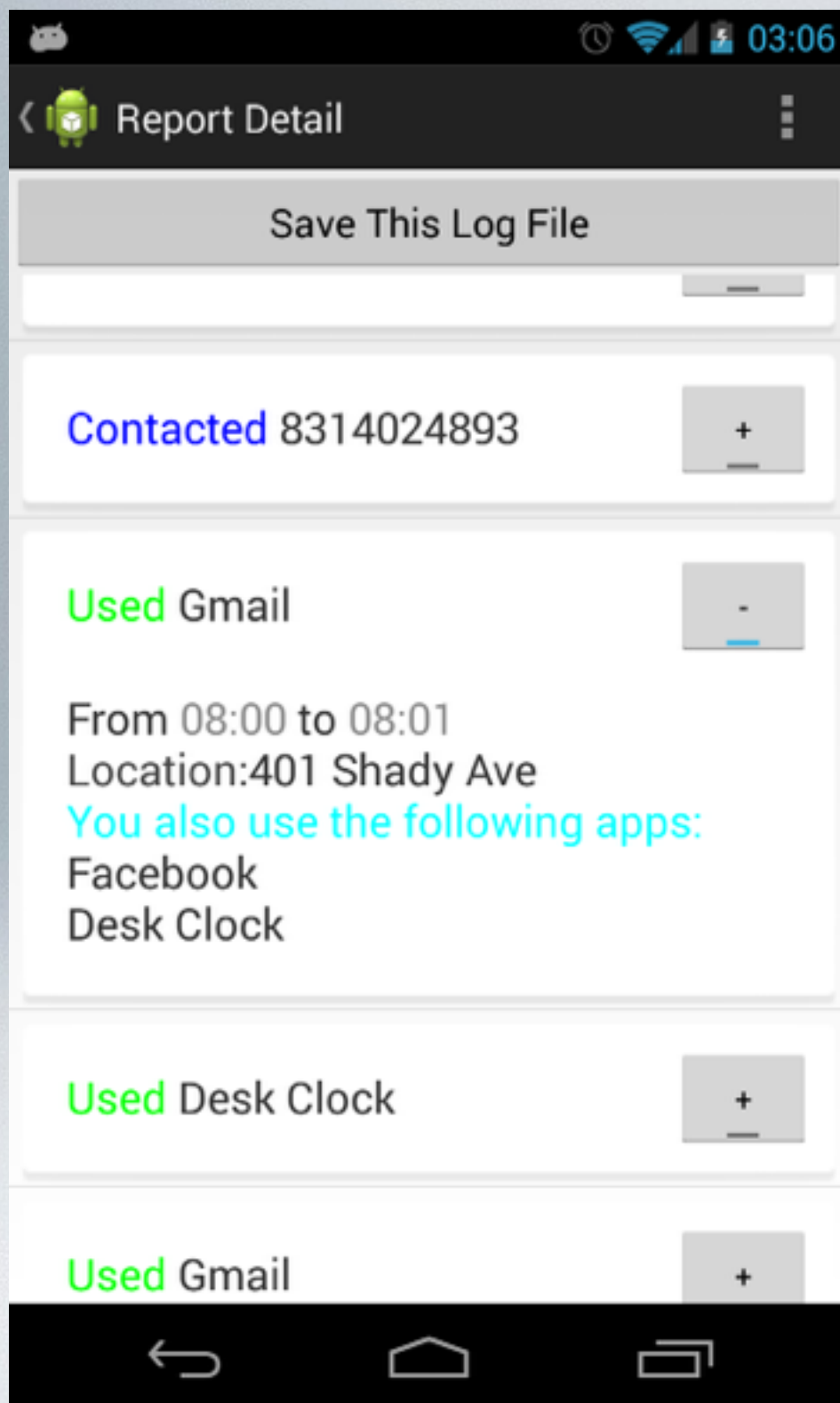


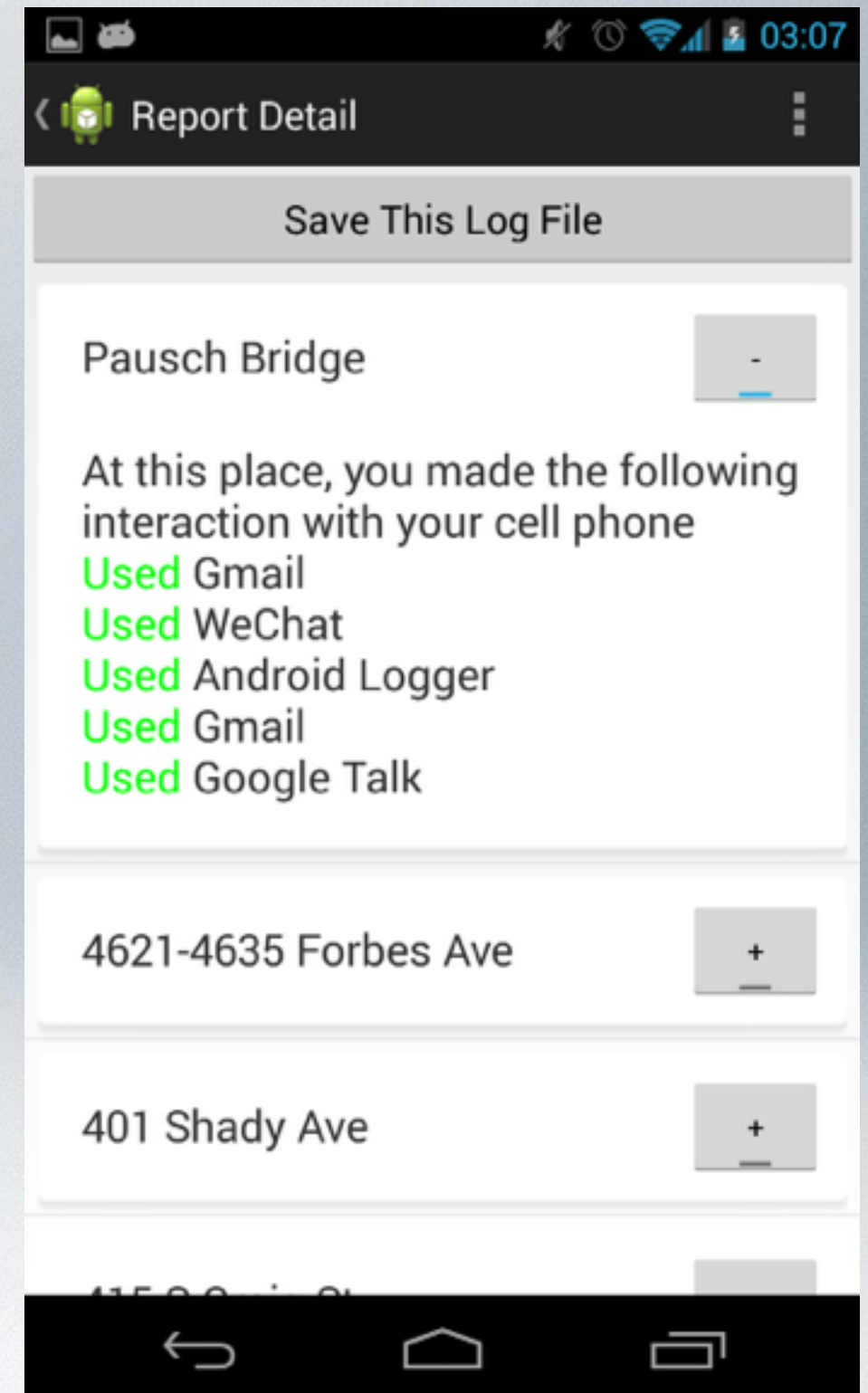
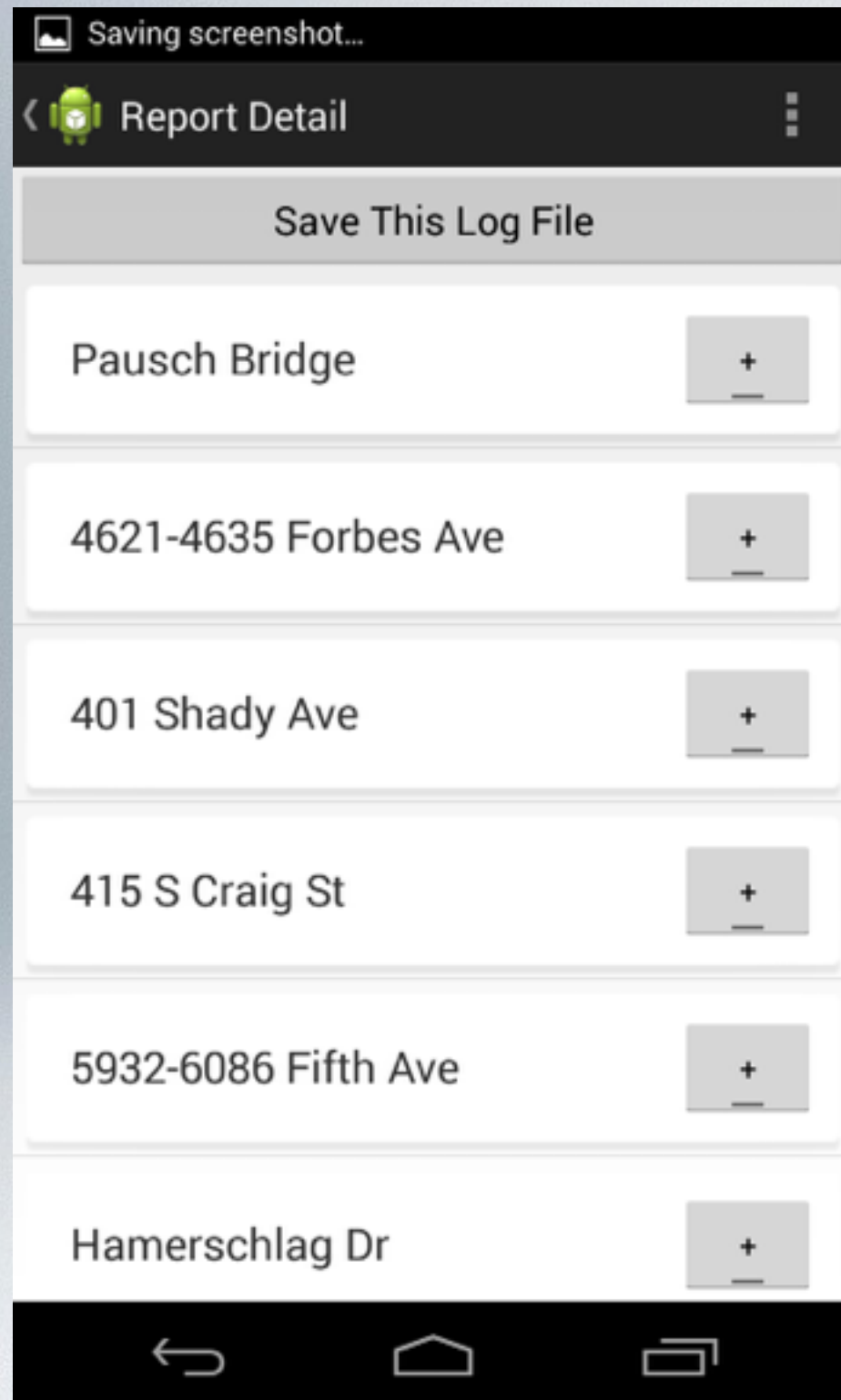
From JSON to A Shallow Parsing Result



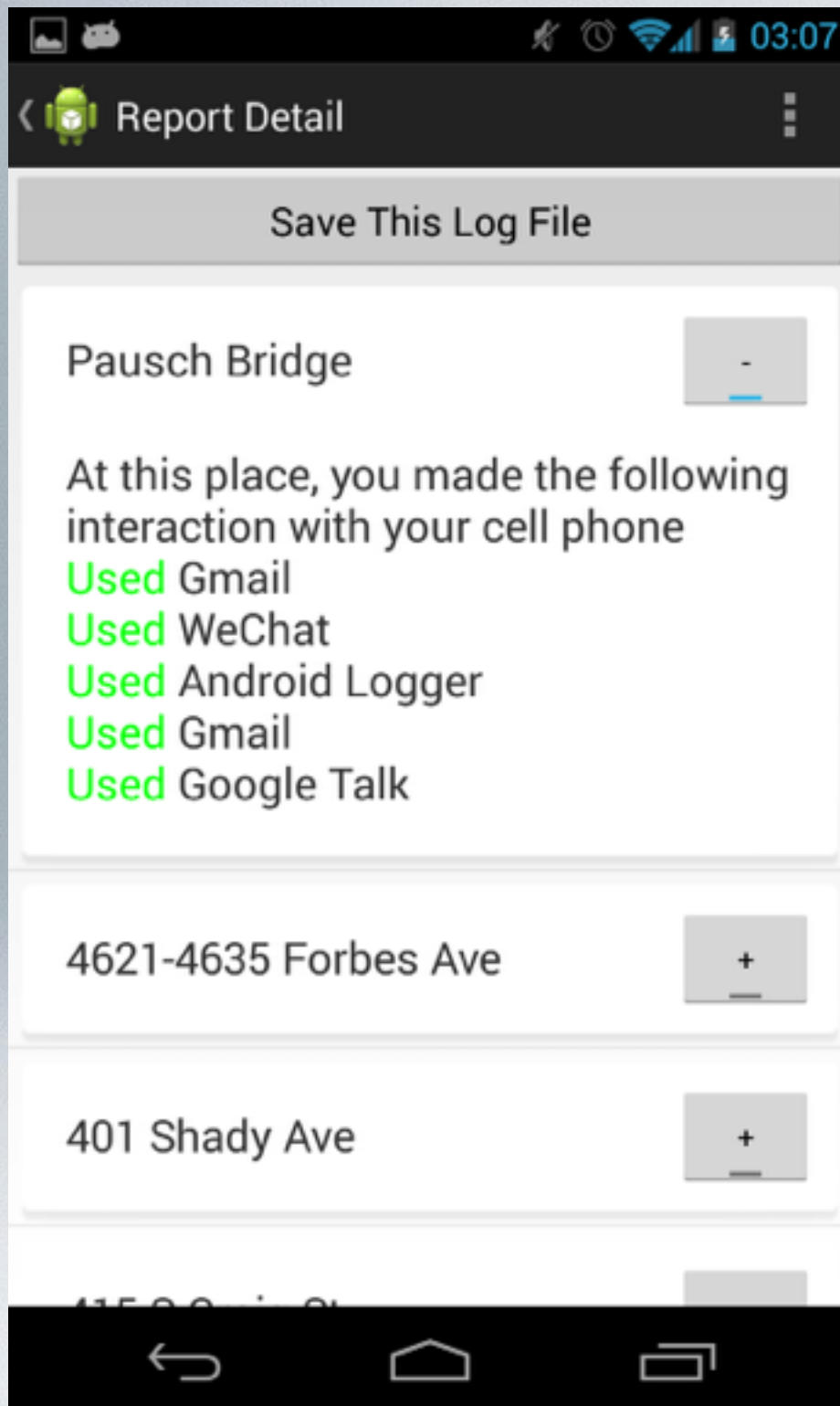
From Detailed Events to
Clustered Episodes







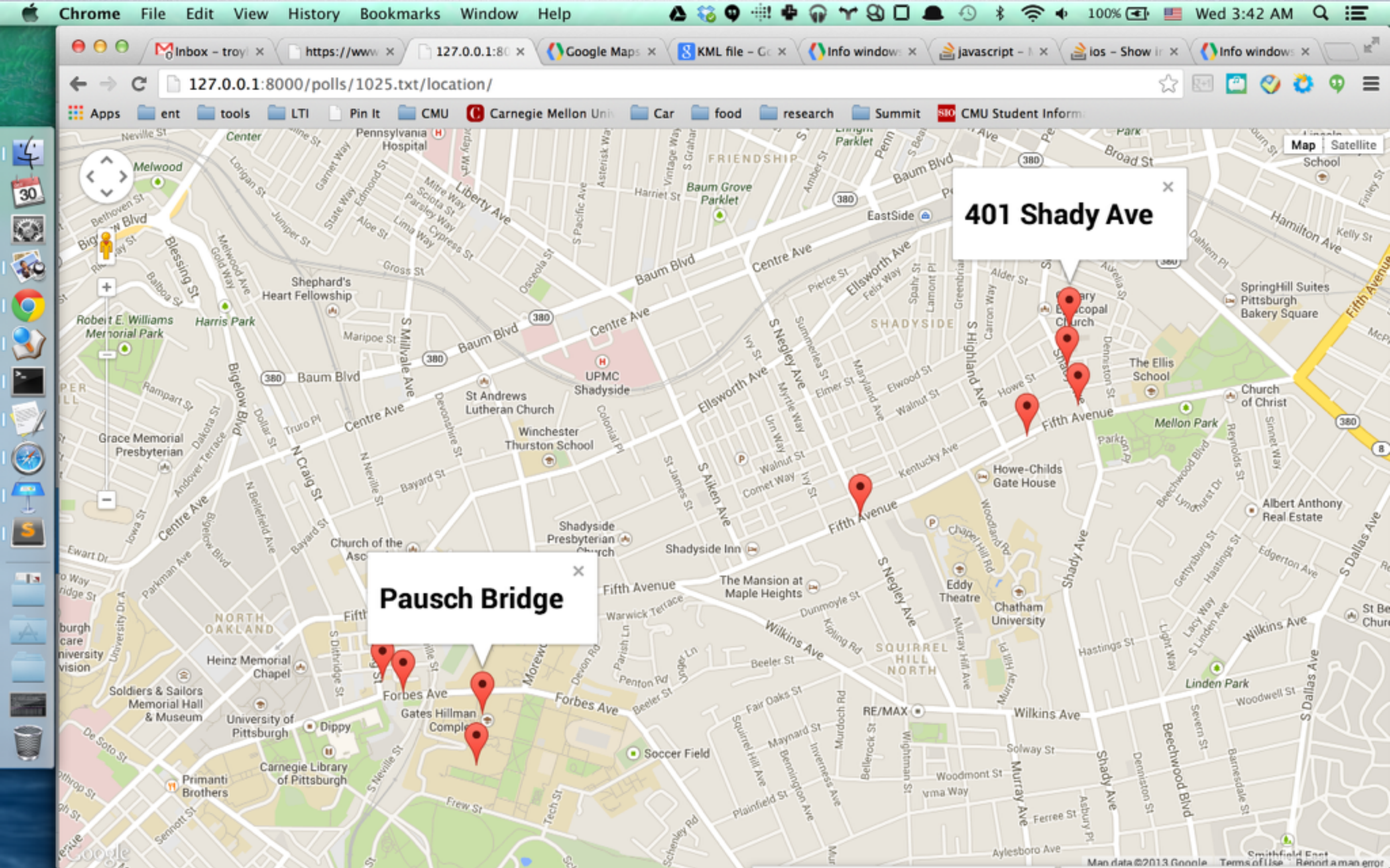
From Event Timeline to Location Clusters



1025.txt

```
{
  "id": "1382674372243",
  "time": "Fri Oct 25 00:12:52 EDT 2013",
  "log_type": "open an app",
  "country": "United States",
  "city": "Pittsburgh"
},
{
  "id": "1382674375634",
  "location_accuracy": 40.55699920654297,
  "time": "Fri Oct 25 00:12:07 EDT 2013",
  "location_updated_time": "Fri Oct 25 00:12:07 EDT 2013",
  "location": "Pittsburgh Bridge",
  "longitude": -79.9446299,
  "loc_available": true,
  "latitude": 40.4438814,
  "addr_available": true,
  "first": "com.google.android.gms",
  "log_type": "open an app",
  "country": "United States",
  "city": "Pittsburgh"
},
{
  "id": "1382674389462",
  "time": "Fri Oct 25 00:13:09 EDT 2013",
  "log_type": "open an app",
  "country": "United States",
  "city": "Pittsburgh"
},
{
  "id": "1382674575984",
  "time": "Fri Oct 25 00:16:15 EDT 2013",
  "log_type": "open an app",
  "country": "United States",
  "city": "Pittsburgh"
},
{
  "id": "1382674577829",
  "time": "Fri Oct 25 00:16:17 EDT 2013",
  "log_type": "open an app",
  "country": "United States",
  "city": "Pittsburgh"
},
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  "id": "1382675031120",
  "time": "Fri Oct 25 00:23:51 EDT 2013",
  "log_type": "open an app",
  "country": "United States",
  "city": "Pittsburgh"
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{
  "id": "1382675040070",
  "time": "Fri Oct 25 00:24:00 EDT 2013",
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  "country": "United States",
  "city": "Pittsburgh"
},
{
  "id": "1382675466551",
  "time": "Fri Oct 25 00:31:06 EDT 2013",
  "log_type": "open an app",
  "country": "United States",
  "city": "Pittsburgh"
},
{
  "id": "1382675468282",
  "time": "Fri Oct 25 00:31:08 EDT 2013",
  "log_type": "open an app",
  "country": "United States",
  "city": "Pittsburgh"
},
{
  "id": "1382676041140",
  "time": "Fri Oct 25 00:40:41 EDT 2013",
  "log_type": "open an app",
  "country": "United States",
  "city": "Pittsburgh"
},
{
  "id": "1382676106239",
  "time": "Fri Oct 25 00:41:46 EDT 2013",
  "log_type": "open an app",
  "country": "United States",
  "city": "Pittsburgh"
},
{
  "id": "1382676173404",
  "time": "Fri Oct 25 00:42:53 EDT 2013",
  "log_type": "open an app",
  "country": "United States",
  "city": "Pittsburgh"
},
{
  "id": "1382676209834",
  "time": "Fri Oct 25 00:43:29 EDT 2013",
  "log_type": "open an app",
  "country": "United States",
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},
{
  "id": "1382676220100",
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  "log_type": "open an app",
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{
  "id": "1382676223644",
  "location_accuracy": 20,
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  "longitude": -79.9214305,
  "loc_available": true,
  "latitude": 40.4554433,
  "addr_available": true,
  "first": "com.supercell.clashofclans",
  "log_type": "open an app",
  "country": "United States",
  "city": "Pittsburgh"
},
{
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  "log_type": "incoming call"
},
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  "location_updated_time": "Fri Oct 25 00:43:22 EDT 2013",
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  "longitude": -79.9214305,
  "loc_available": true,
  "latitude": 40.4554433,
  "addr_available": true,
  "first": "com.supercell.clashofclans",
  "log_type": "open an app",
  "country": "United States",
  "city": "Pittsburgh"
}
```

Save back to JSON files and upload to our computers



Building Application and Analysis over the Data more precisely