CS 402: Mobile Development

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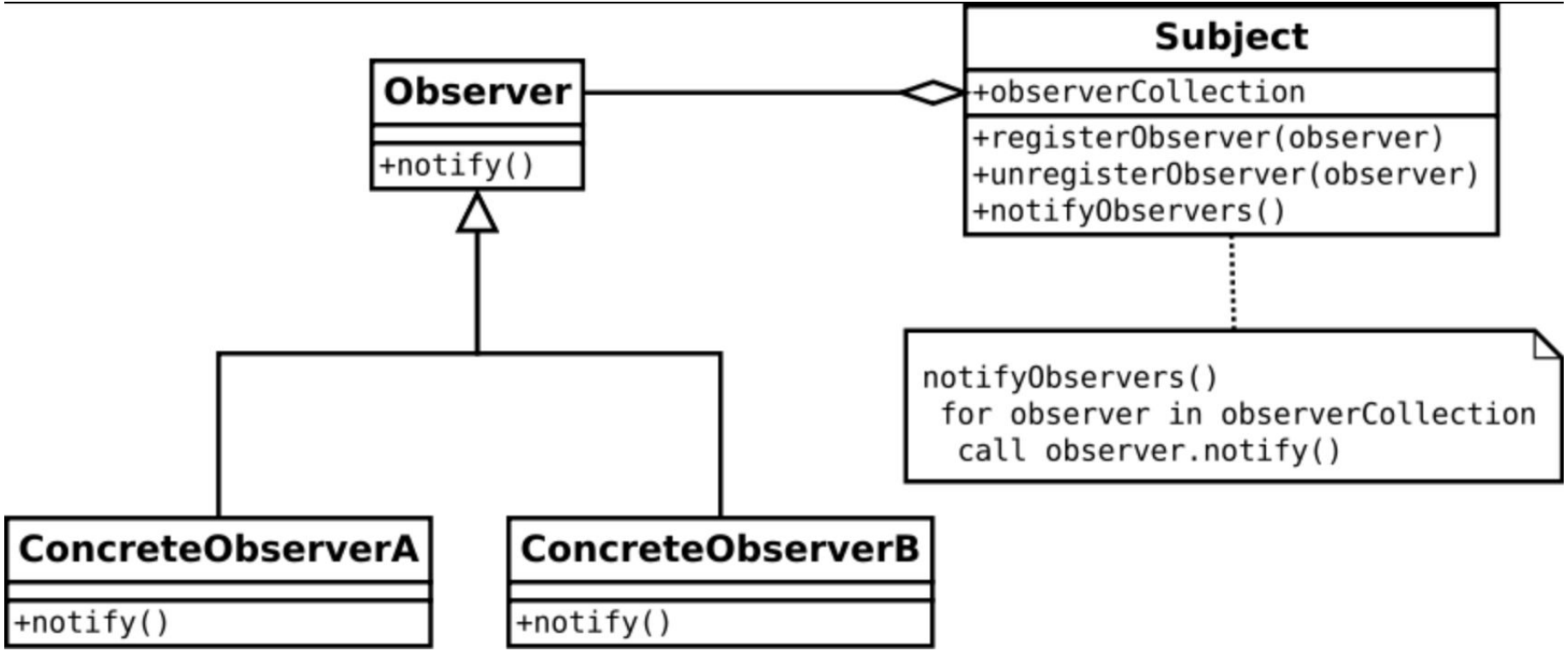
Observer Design Pattern

Observer Pattern

The **observer pattern** is a software design pattern in which an object, called the subject, maintains a list of its dependents, called observers, and notifies them automatically of any state changes, usually by calling one of their methods.

Observer UML



Observer Libraries

LocalBroadcastManager

Otto by Square Up

EventBus by GreenRobot

Otto BusProvider

```
public final class BusProvider {
    private static final Bus BUS = new Bus();

    public static Bus getInstance() {
        return BUS;
    }
    private BusProvider() {
        // No instances.
    }
}
```

Otto Registering

```
@Override
protected void onResume() {
   super.onResume();
   setUpMapIfNeeded();
   BusProvider.getInstance().register(this);
}
```

Otto Broadcast

```
// Broadcast that a pin was added
BusProvider.getInstance().post(new AddLocationEvent());
```

AddLocationEvent Class

```
public class AddLocationEvent{
  // That's it!
  // … or you can add fields to pass data
}
```

AddLocationEvent Class

```
public class AddLocationEvent{
  public Boolean isSuccess;
  public String errorMessage;
}
```

Otto Receiving Events

```
@Subscribe
public void locationsUpdated( AddLocationEvent addLocationEvent )
{
  // Retrieve locations from LocationsController
  // … or, if they’re in the addLocationEvent, pull them out
}
```