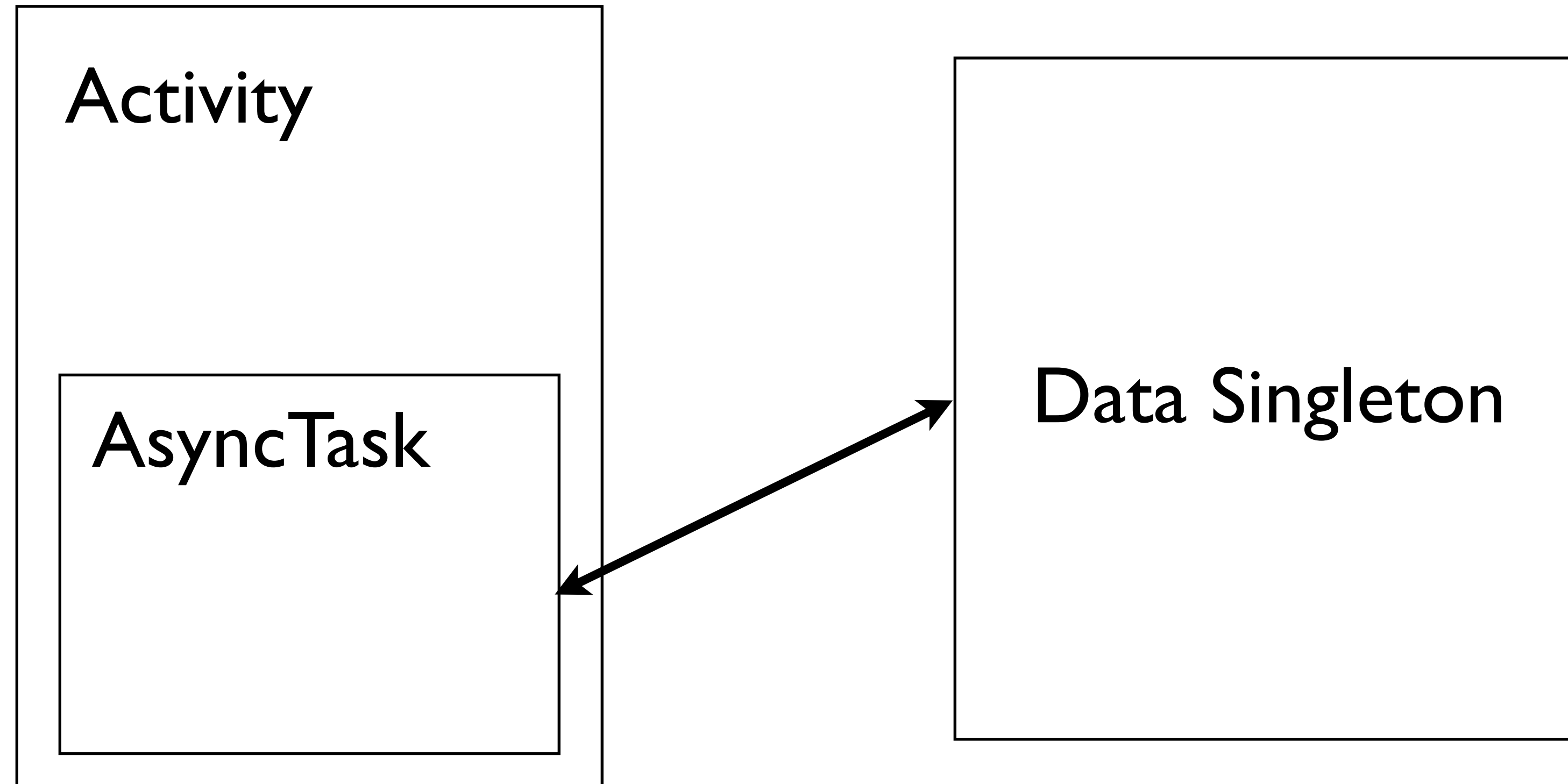


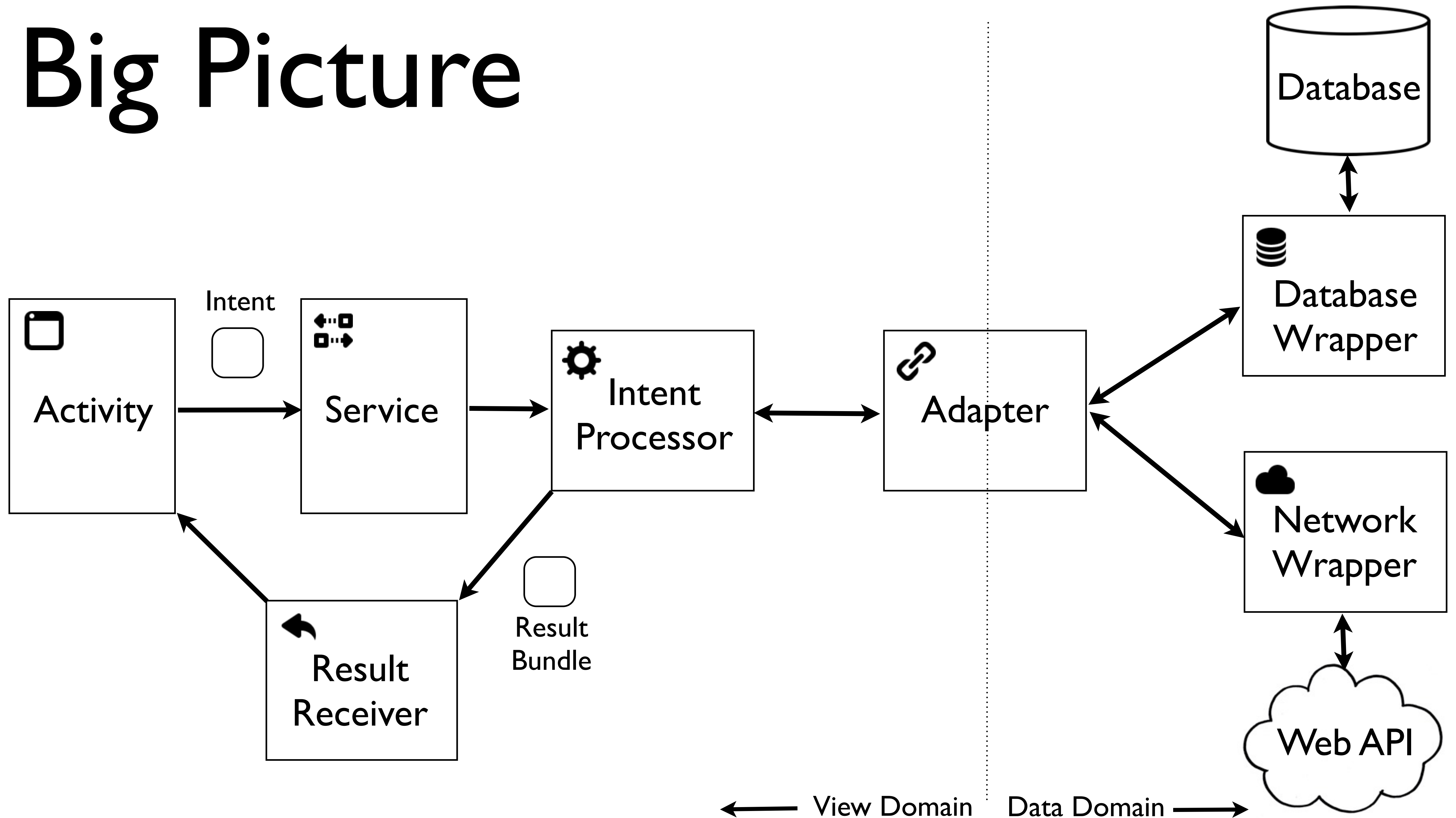
# A Software Architecture for Data Driven Android Apps

Kelum Peiris  
TWG  
@kelum86

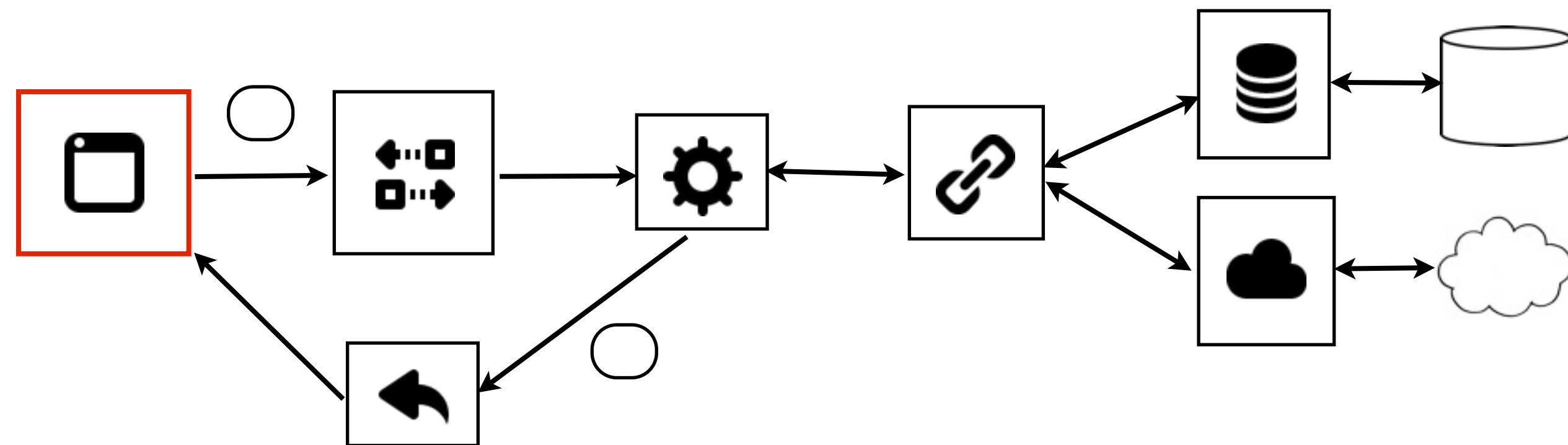
# The Ugly...



# Big Picture

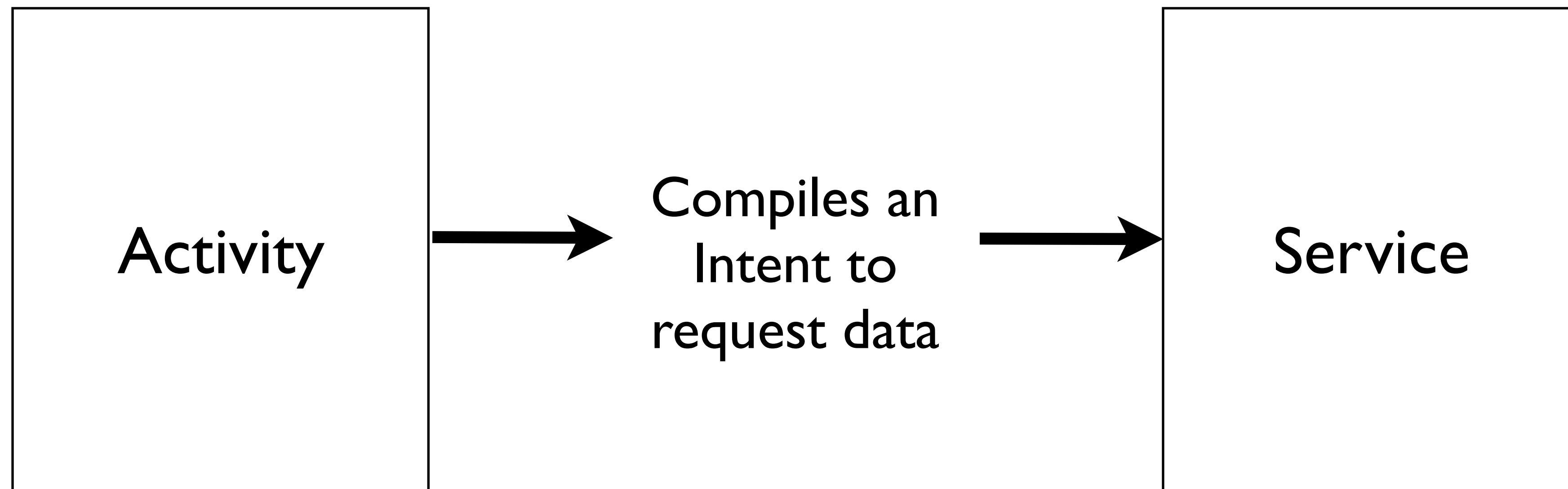


# Activities

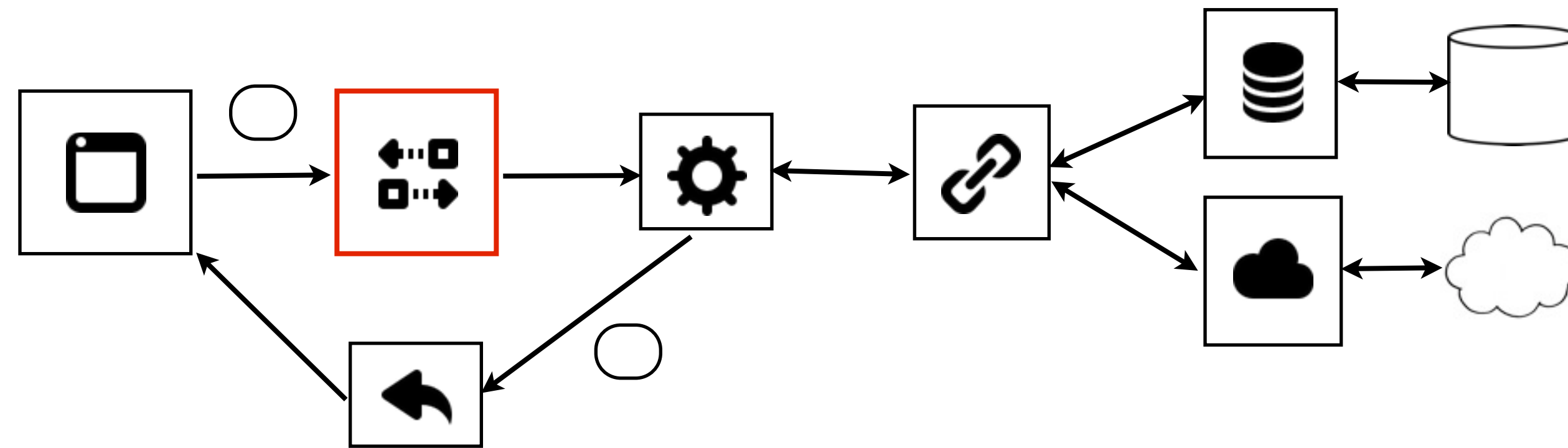


# ☐ Activities

**Responsibility:**  
Render UI Elements



# Service



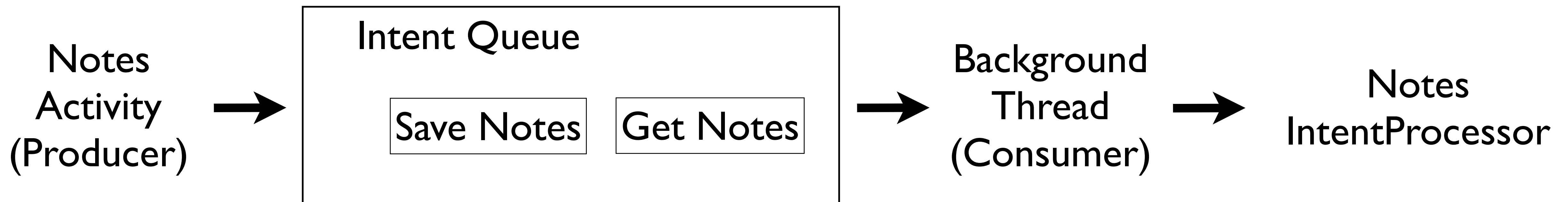


# Service

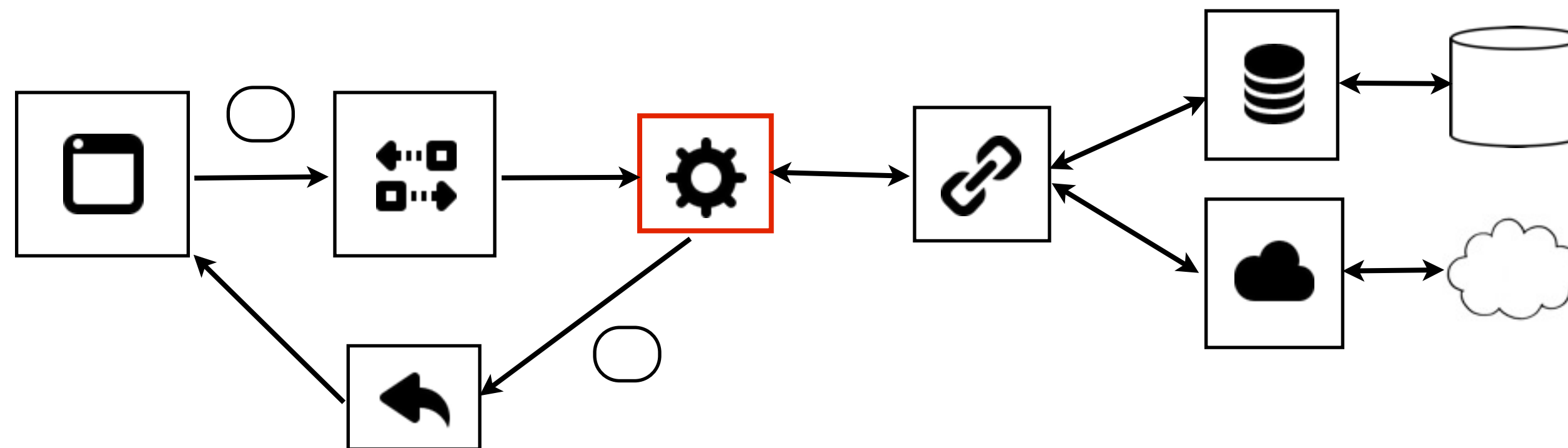
## Responsibility

Manages background threads

Create all the service components



# Intent Processors

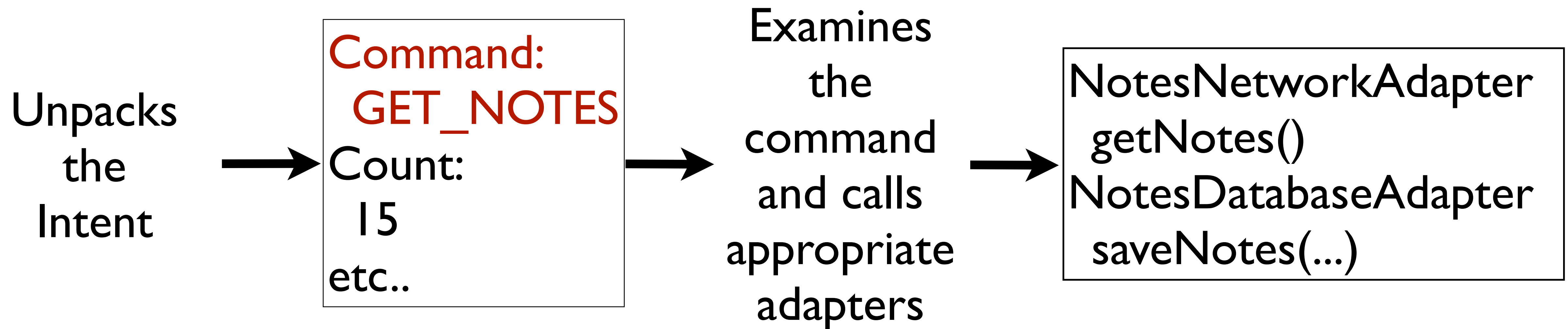




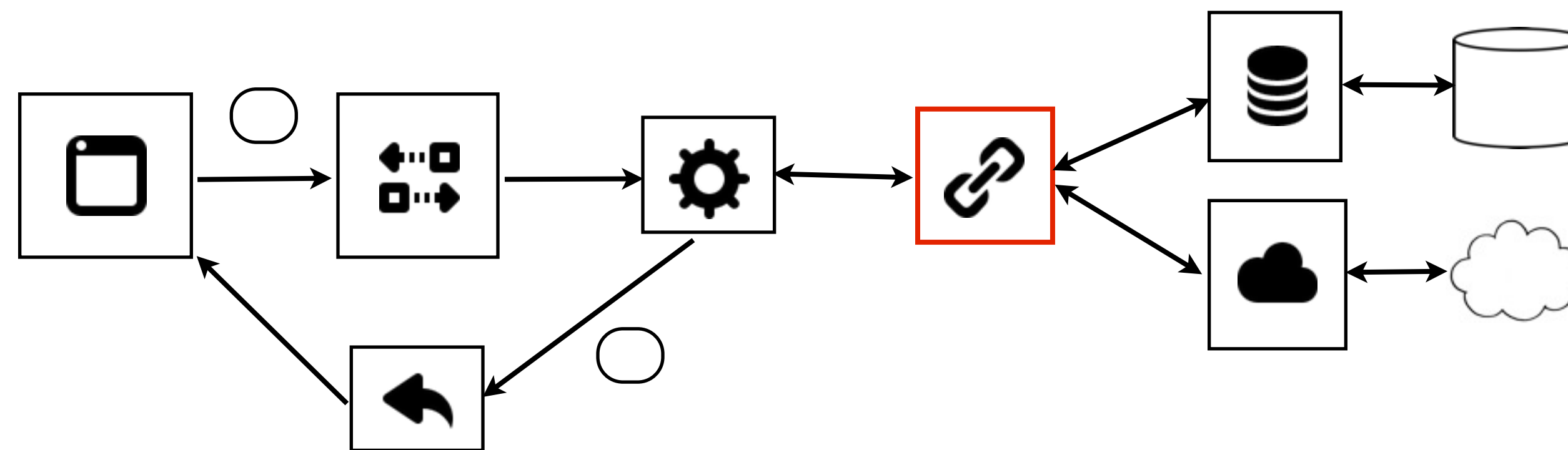
# ⚙ Intent Processors

## Responsibility

Makes sense of the Intent and delegate the work to adapters



# Adapters





# Adapters

## Responsibility

Mediate requests between the View domain and the Data domain

### View Domain

The activity wants to show notes and reminders

Adapter  
mediates...

Calls  
getNotes() and  
getReminders()  
synchronously

Returns results of  
notes and reminders  
in a single list

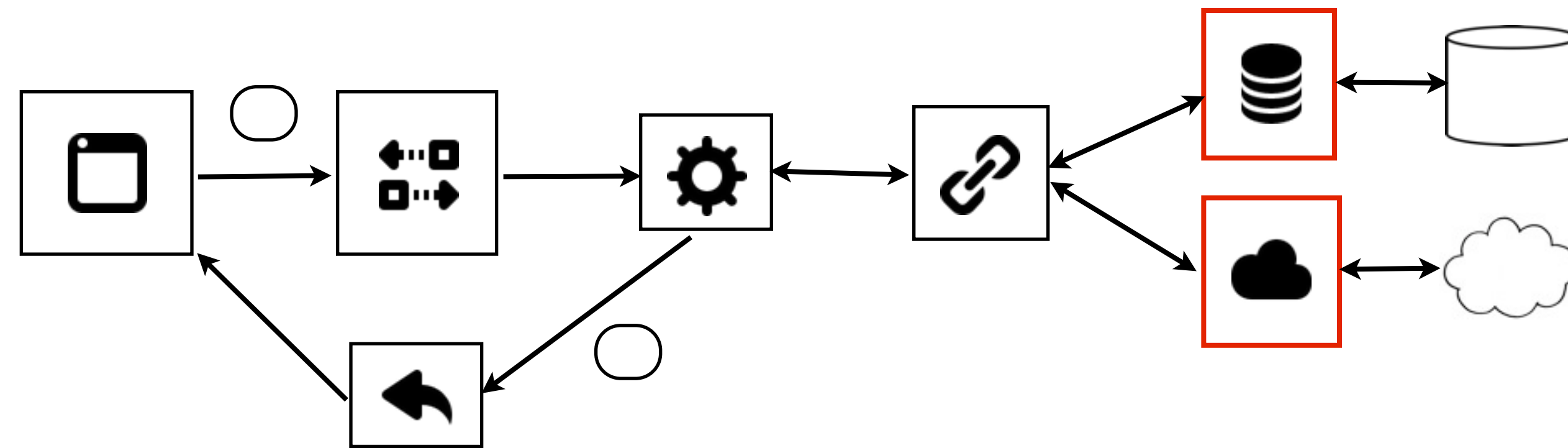
### Data Domain

The web API have two  
separate methods to get  
notes and reminders

getNotes()

getReminders()

# Data Wrappers



# Data Wrappers

## Database Wrapper

### **Responsibility**

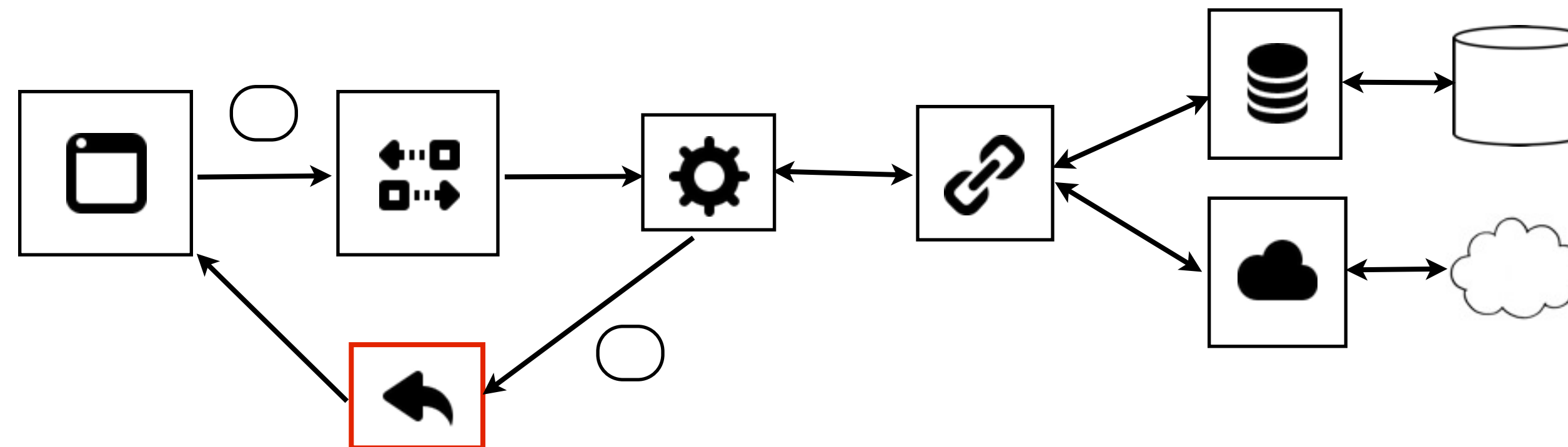
Performs SQL commands to read/write to the SQLite Database

## Network Wrapper

### **Responsibility**

Performs network calls to read/write data to the web API

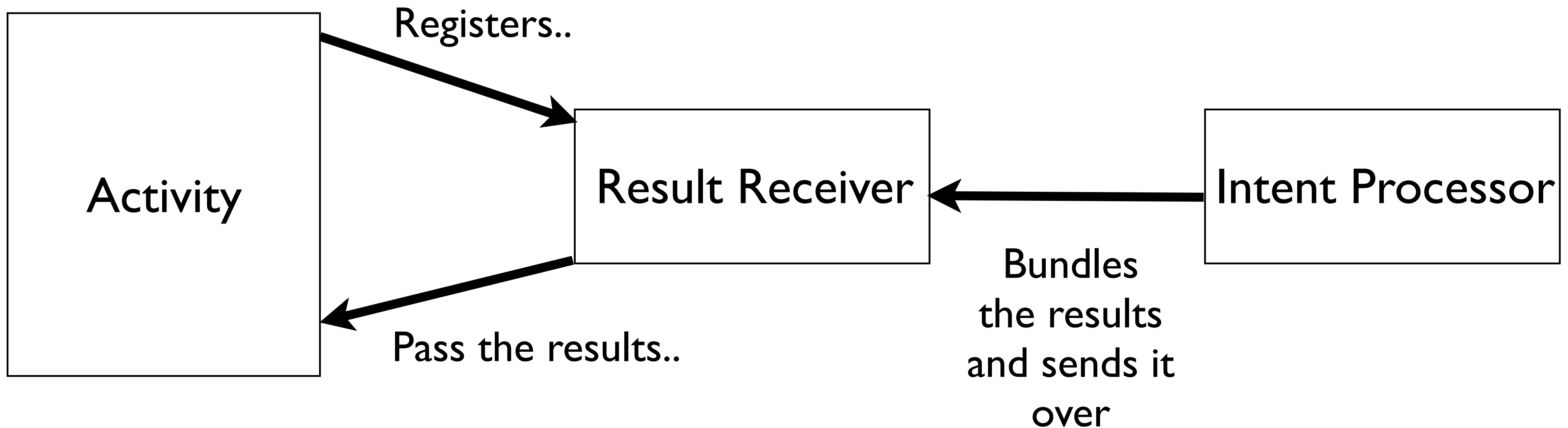
# Result Receiver



# ← Result Receiver

## Responsibility

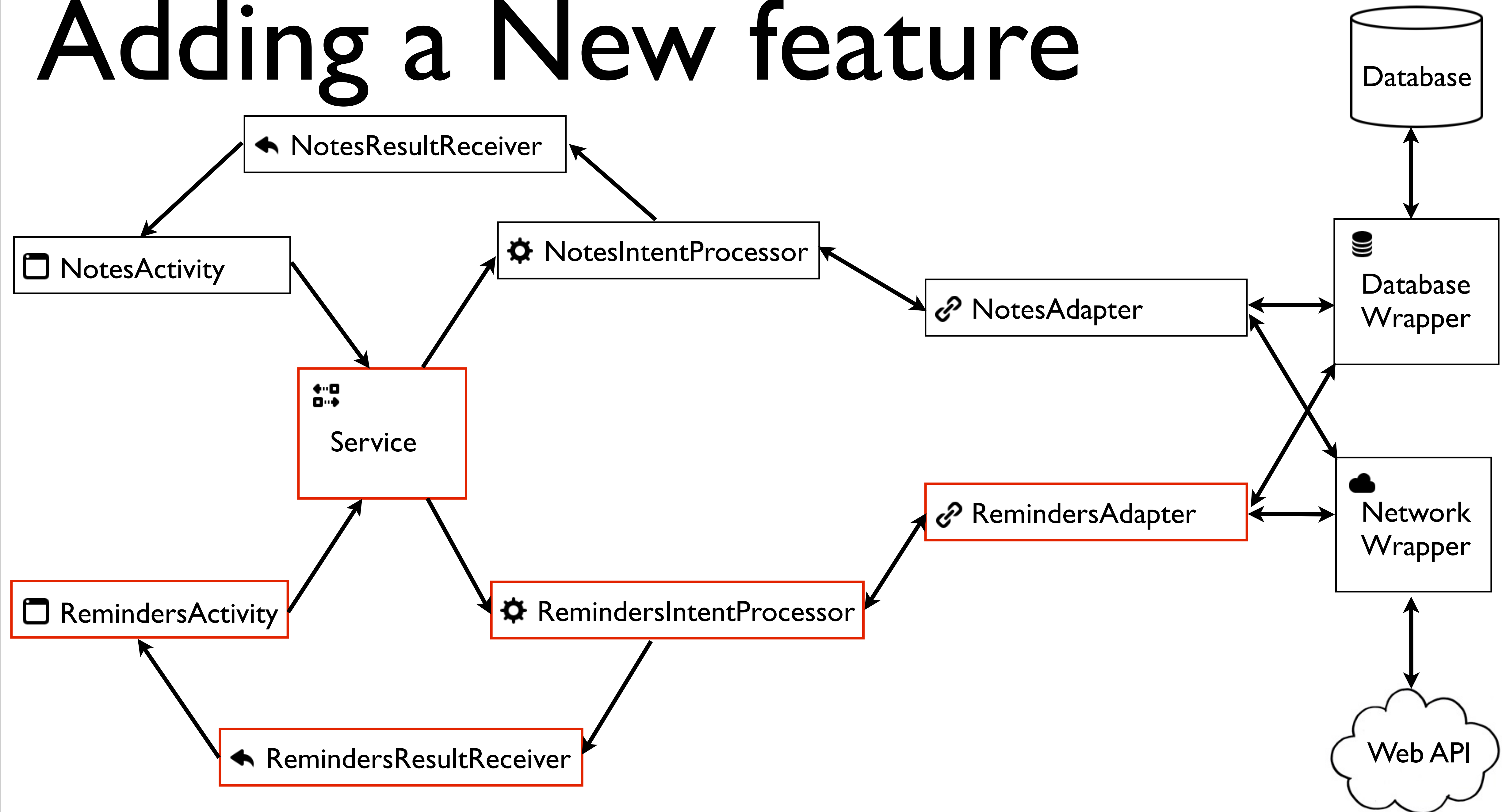
Returns data back to the activity



# Change is Important!



# Adding a New feature



# OOP Concepts

## **Separation of Concerns**

Idea of breaking a computer program into distinct features that overlap in functionality as little as possible

## **Single Responsibility Principle**

Idea of designing classes that has only one responsibility

## **Open-Closed Principle**

Idea of extending classes to add new features instead of modifying classes

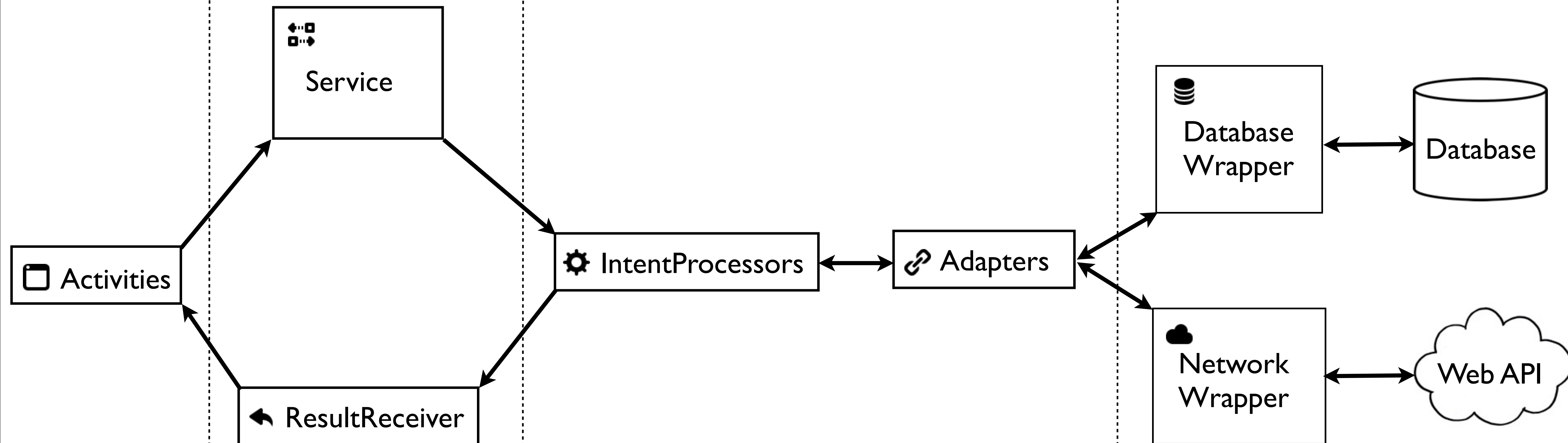
# Separation of Concerns

View

Async

Translation

Data



# Single Responsibility Principle

## Activity

Renders UI Elements

## Adapters

Mediate requests between the  
View domain and the Data domain

## Database Wrapper

Performs SQL commands to  
read/write to the SQLite Database

## Service

Manages Background Threads

## Intent Processors

Makes sense of the Intent then  
delegate work to adapters

## Network Wrapper

Performs network calls to  
read/write data to the web API

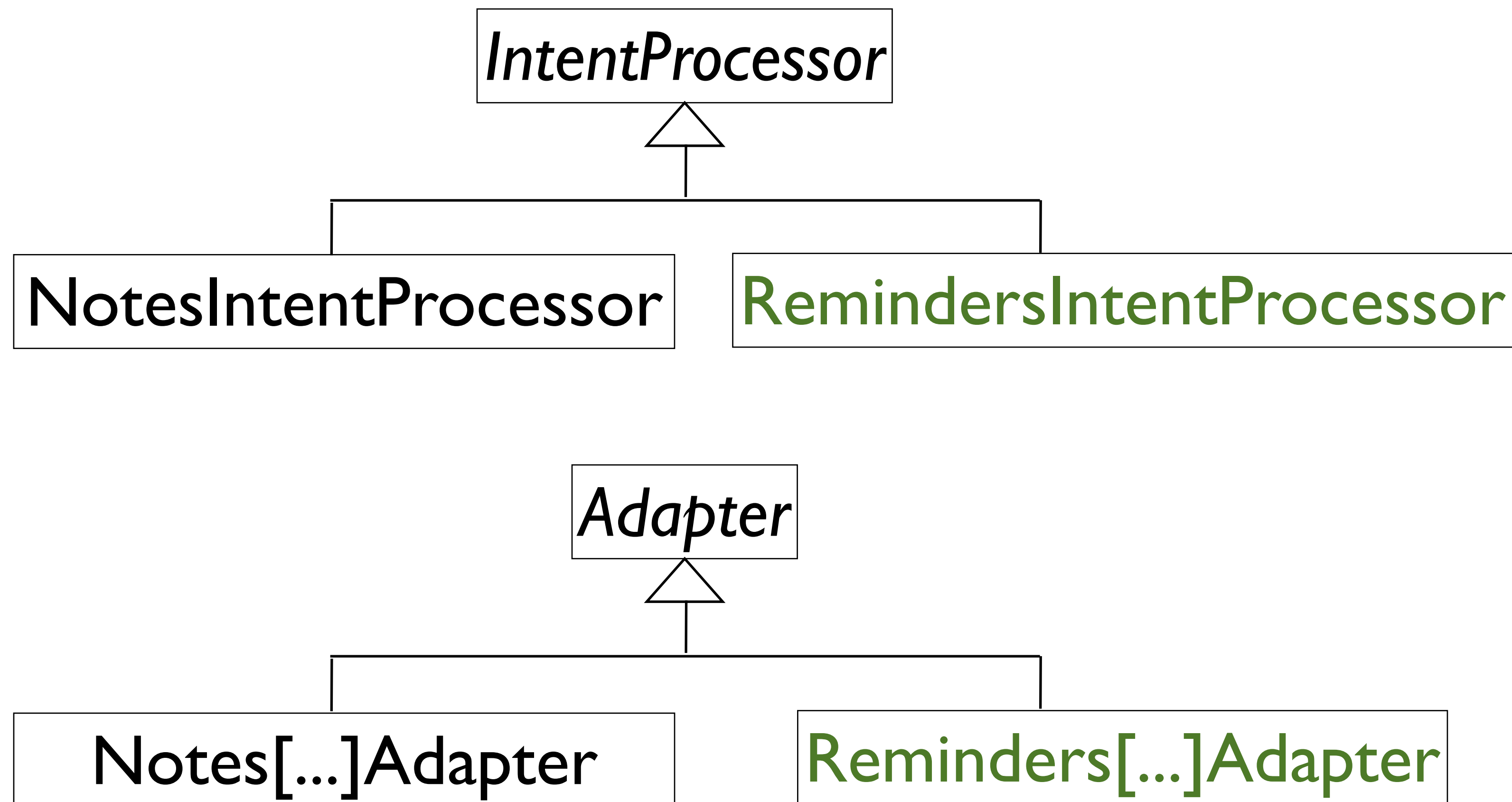
## Result Receiver

Returns data back to the activity

**There should never be more  
than one reason for a class to change!**

# Open-Closed Principle

Extend Classes!



Avoid  
Modification

```
IntentProcessor
processNotes()

processReminders()
```

# Thank you!

Clone the skeleton app at  
`git://github.com/twg/samsung-oh-notesapp.git`

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