Filtering SQLite Queries

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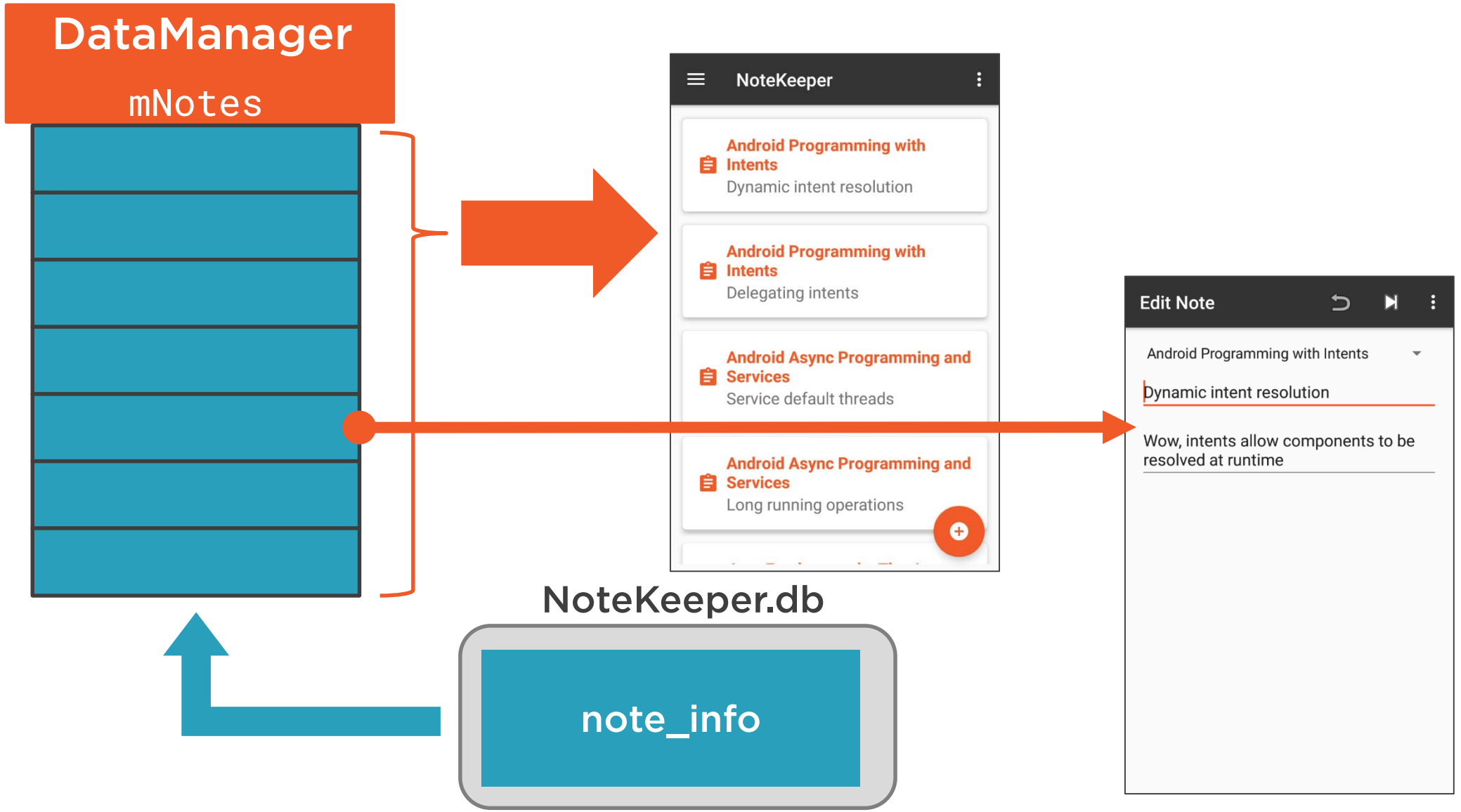
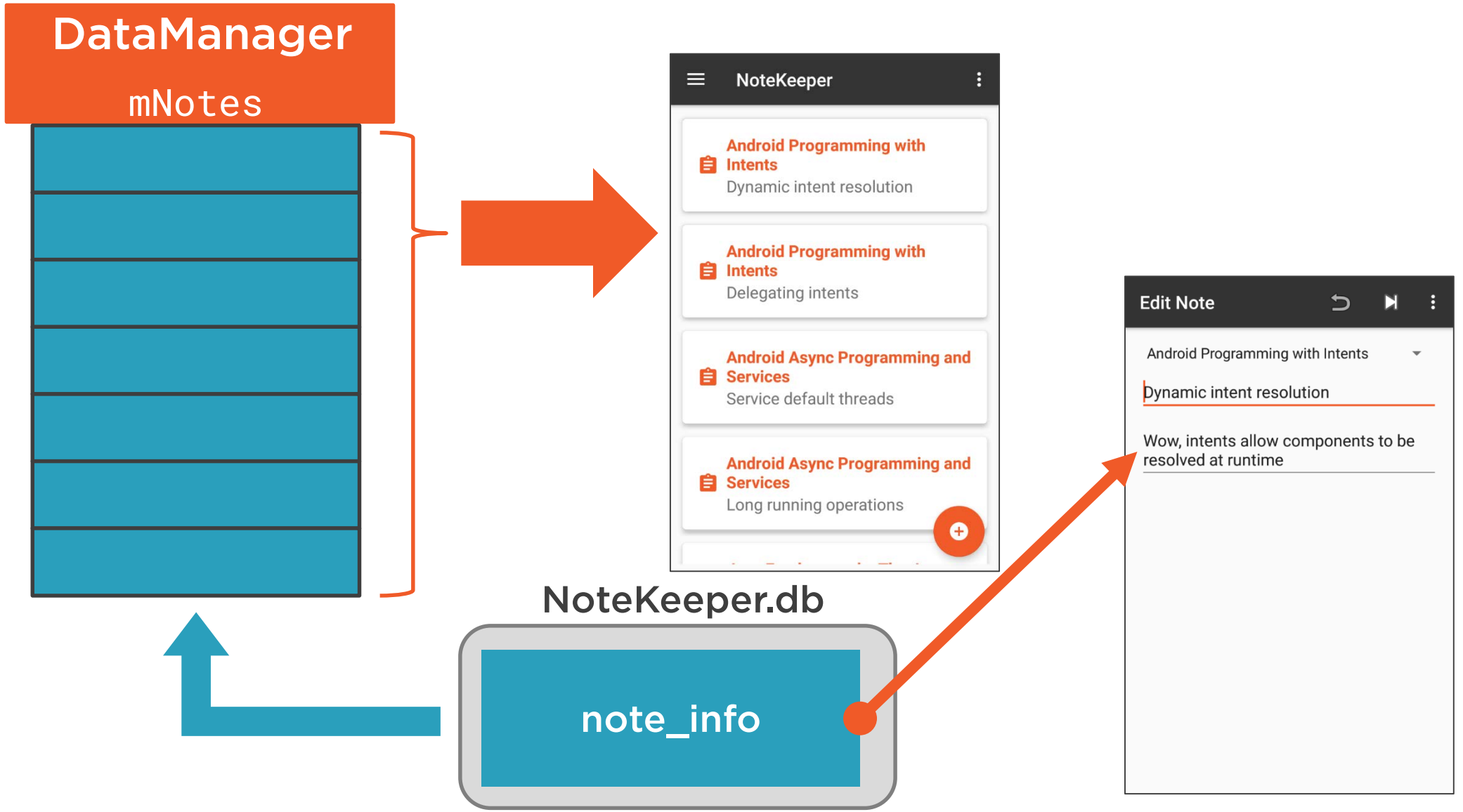
What to Expect from This Module

- Our App Plan
- Row Selection
- Row Selection Parameters
- Identifying Rows Between Activities

Note Display in Our App



Note Display in Our App



Row Selection

Often want only a subset of table rows

- Let the database do the filtering work
- Can pass selection criteria to query

Row Selection

Parts of a simple selection

- Column name
- Operator
- Value

```
course_id = “android_intents”
```

Row Selection

Common operators

- = or ==
- != or <>
- >
- <
- >=
- <=
- LIKE

Row Selection

Common uses of LIKE

- note_title LIKE “dynamic**%**”
  - Rows with a note_title value that starts with dynamic
- note_title LIKE “**%**intent**%**”
  - Rows with a note_title value that contains intent

Row Selection

AND operator

- Combines two conditions
- True result only if both are true

```
course_id = “android_intents”
    AND note_title LIKE “dynamic%”
```

Rows with both a course_id value of android_intents and a note_title value that starts with dynamic

Row Selection

OR operator

- Combines two conditions
- True result when one or both are true

```
course_id = “android_intents”
      OR note_title LIKE “dynamic%”
```

Rows with either a course_id value of android_intents or a note_title value that starts with dynamic

Row Selection Parameters

Selection passed to query in two parts

- Selection clause as a string
  - Uses ?'s as value position holders
- Selection value as a string array
  - Values replace ?'s in order

Row Selection Parameters

```
Cursor queryCourse(String courseId) {
  String selection = “course_id = ?”;
  String[] selectionArgs = { courseId };
  // return result of query with selection and selectionArgs
}
```

Row Selection Parameters

```
Cursor queryNote(String courseId, String titleStart) {
  String selection = “course_id = ? AND note_title LIKE ?”;
  String[] selectionArgs = { courseId, titleStart + “%” };
  // return result of query with selection and selectionArgs
}
```

Row Selection Parameters

Benefits of separating selection and values

- Protects against SQL attacks
- In some cases helps query performance

Passing Row Information Between Activities

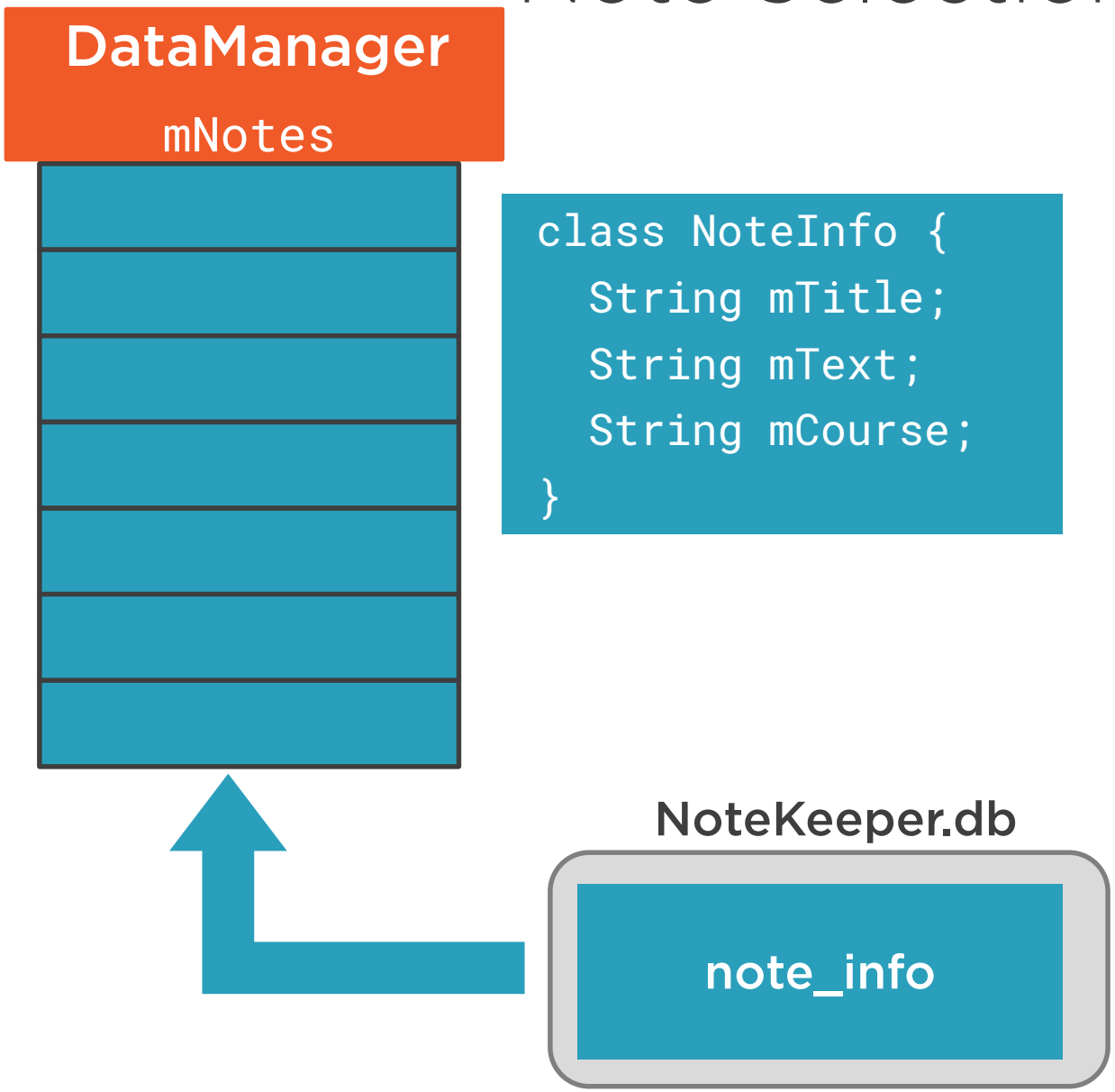
Activities often share information

- Passed in intent extras

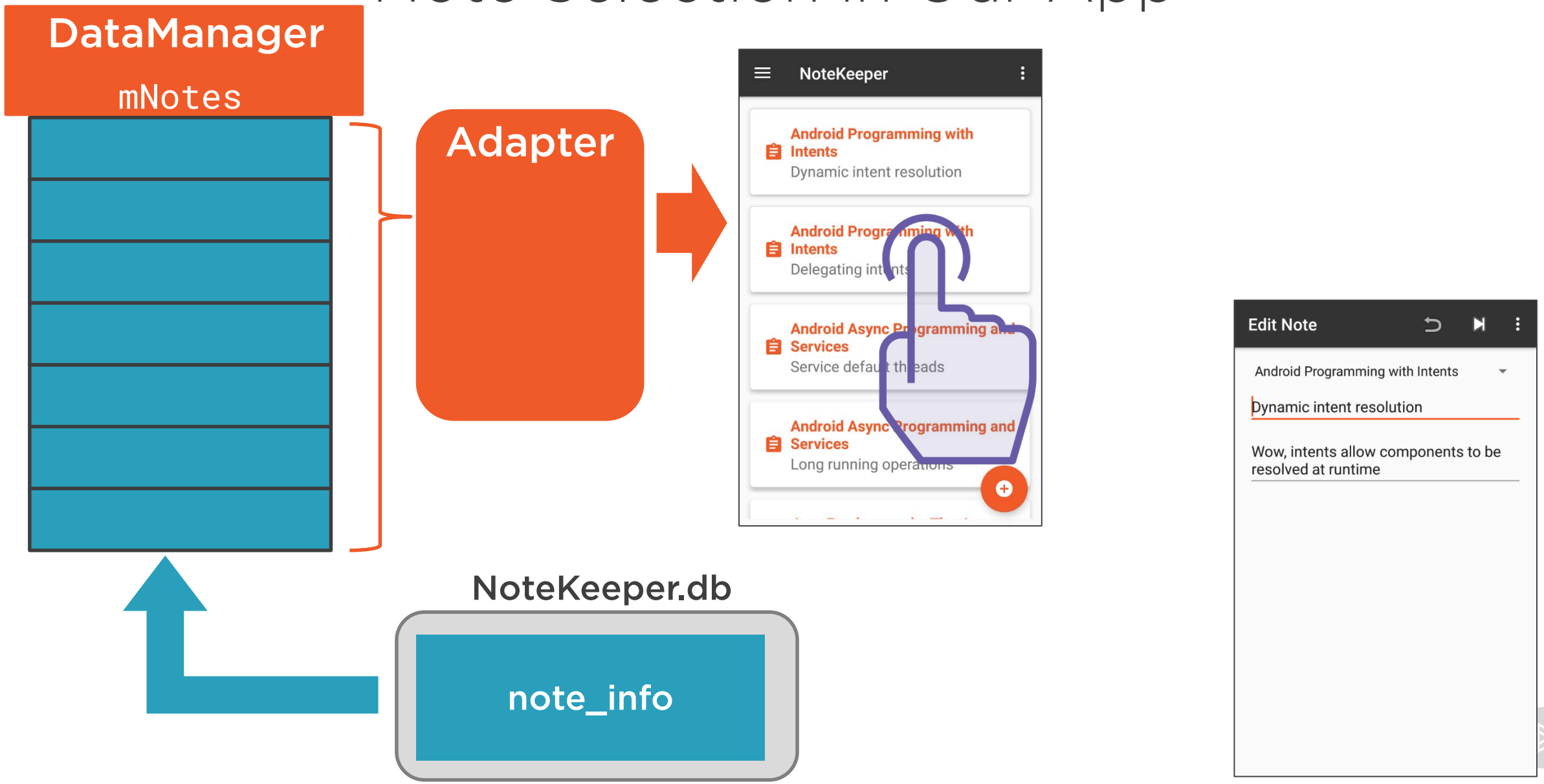
Leverage unique row identifier

- BaseColumns._ID
- Most efficient way to find row
- Provides definitive row identity

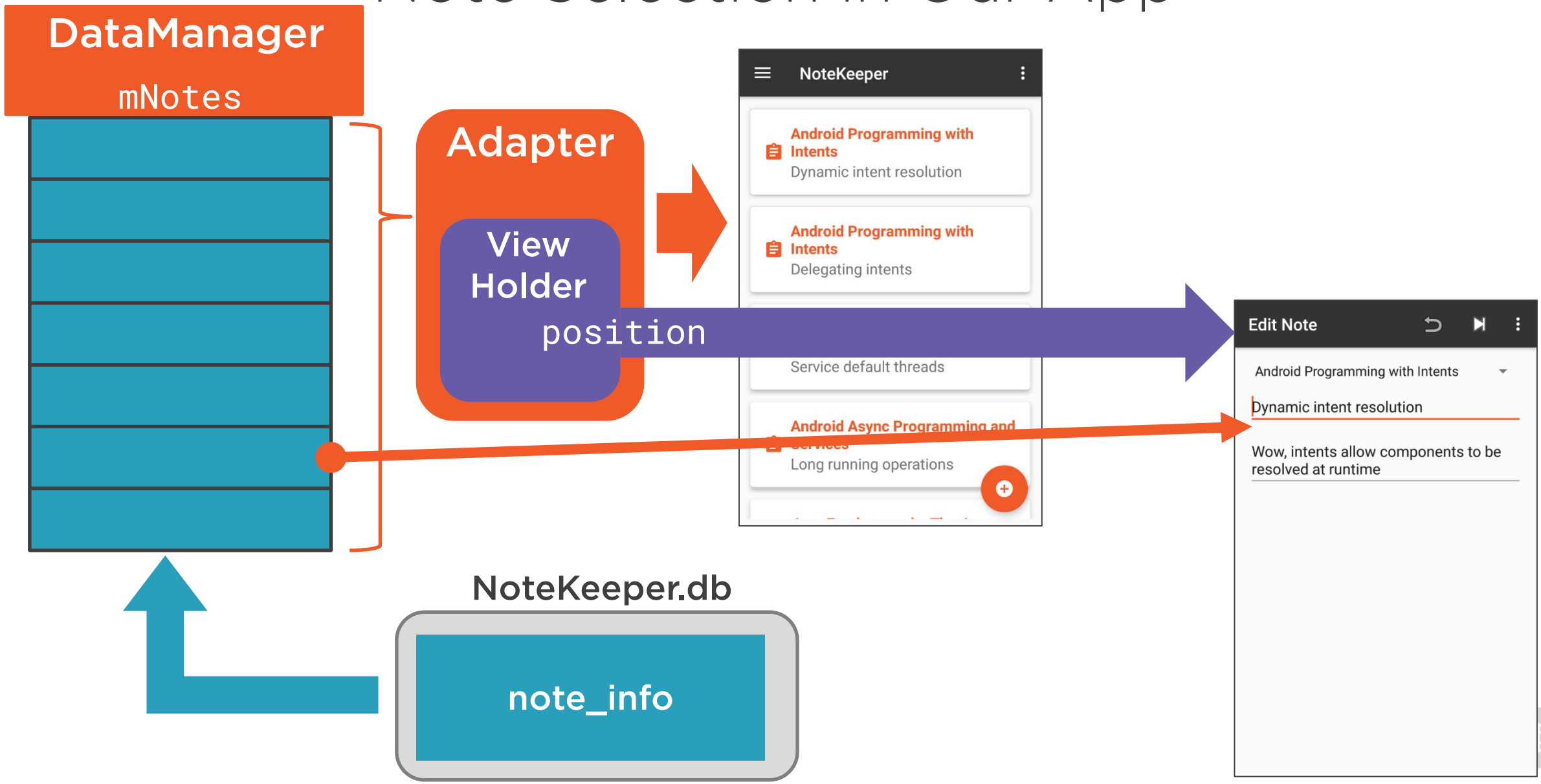
Note Selection in Our App



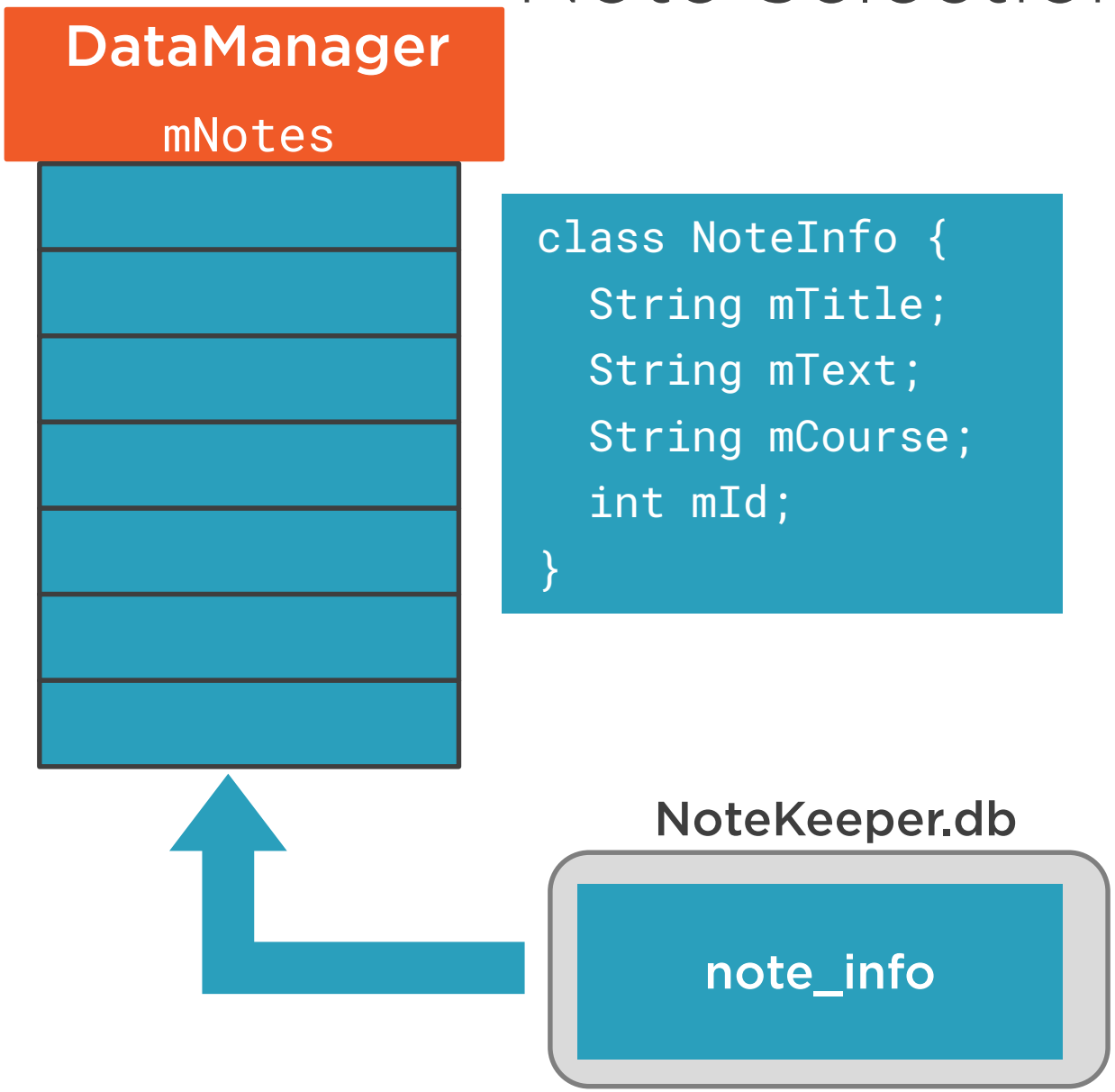
Note Selection in Our App



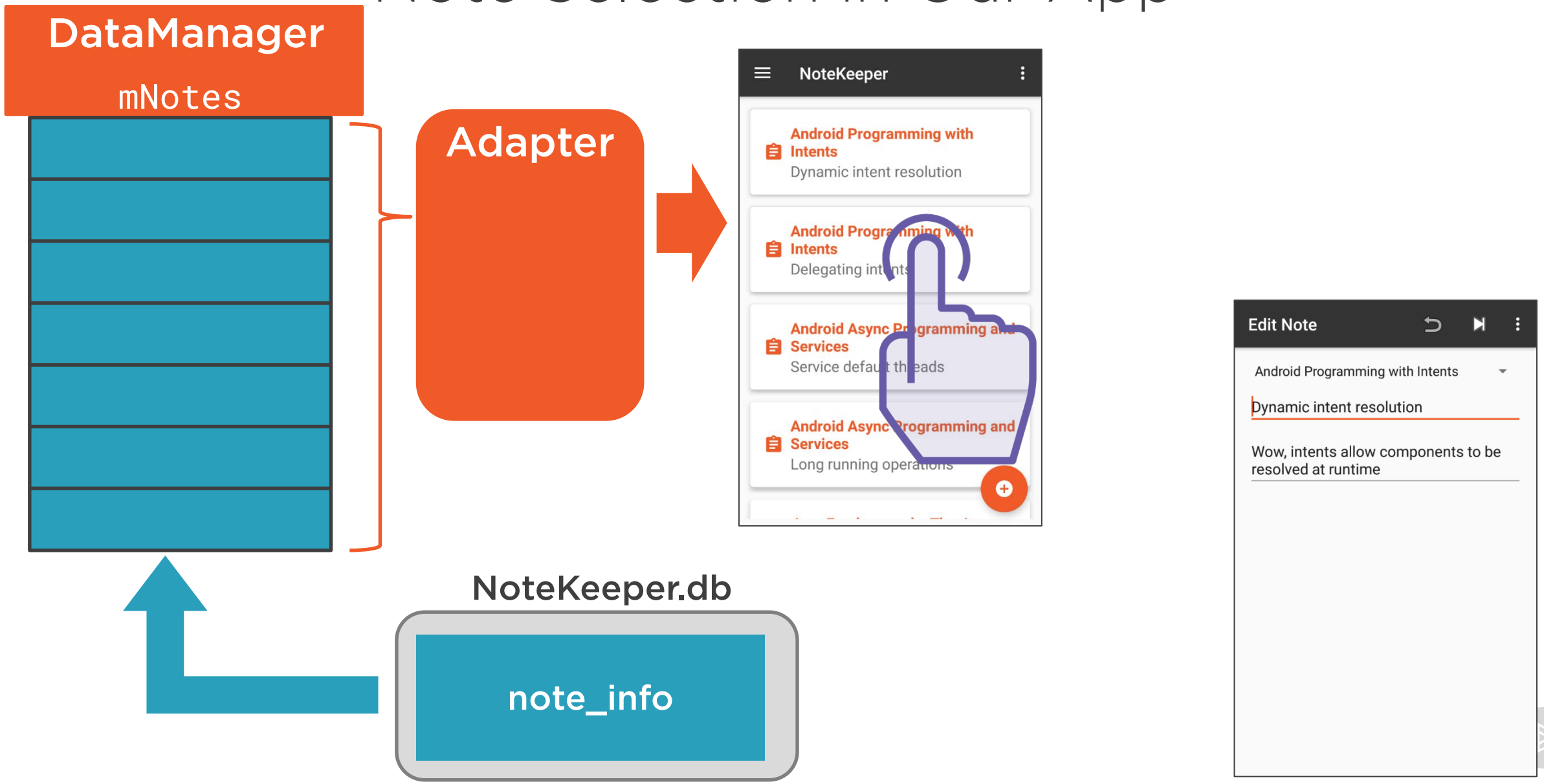
Note Selection in Our App



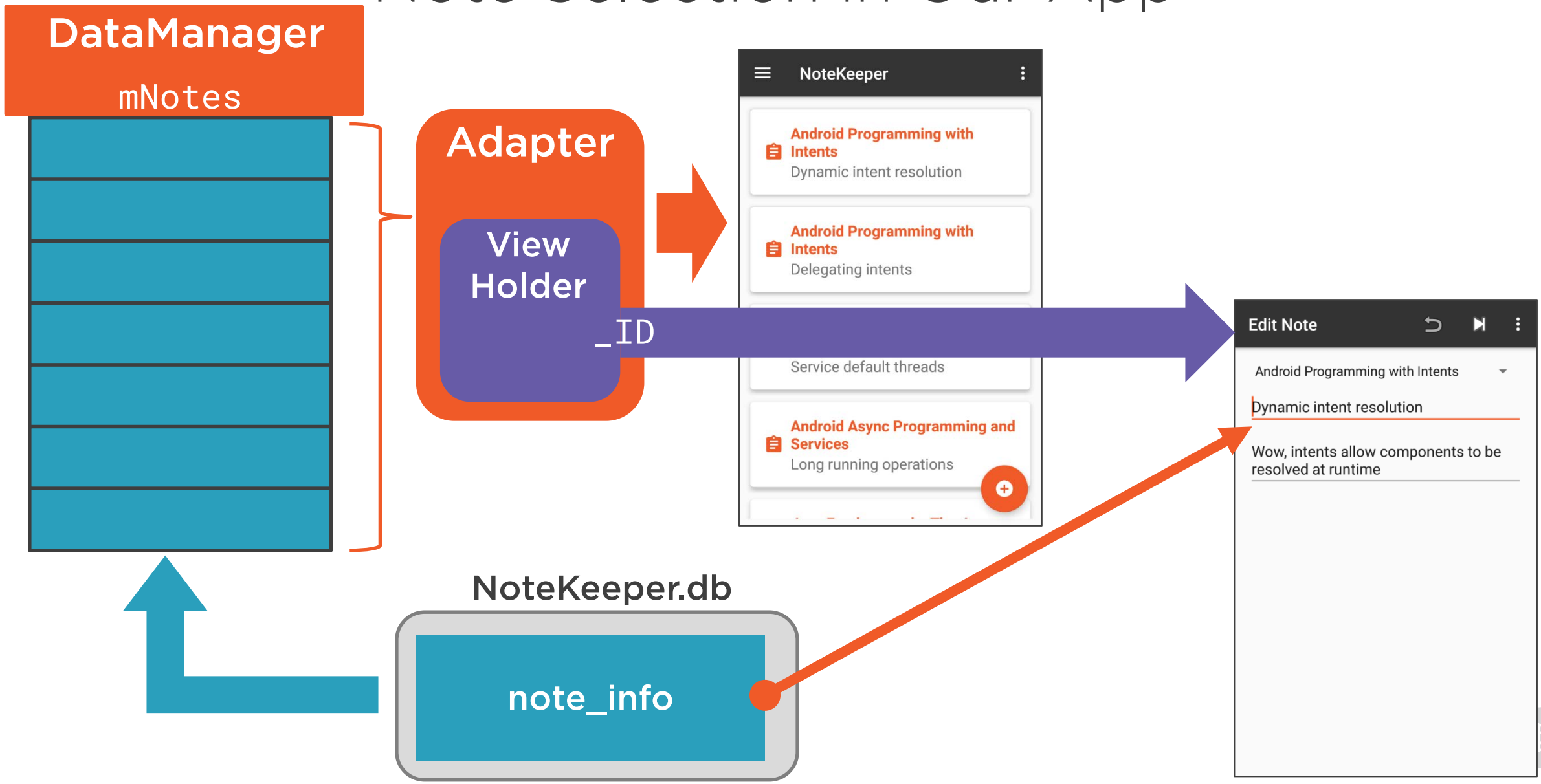
Note Selection in Our App



Note Selection in Our App



Note Selection in Our App



Summary

Parts of a simple selection

- Column name
- Operator
- Value

Selections can be combined

- AND
  - True when both are true
- OR
  - True when one or both are true

Summary

Common condition operators

- Equality, inequality
- Greater-than, less-than, etc.
- LIKE

Summary

Selection passed to query in two parts

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Summary

Leverage unique row identifier

- BaseColumns._ID
- Most efficient way to find row
- Provides definitive row identity