

LEFTLOVERS

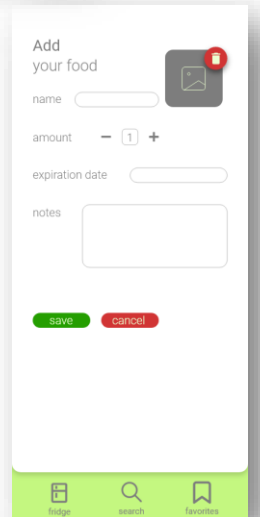
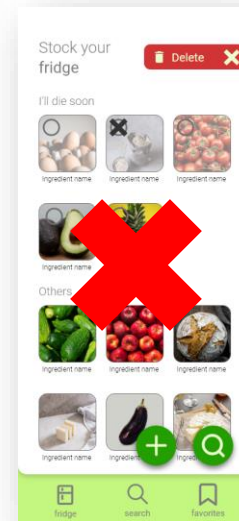
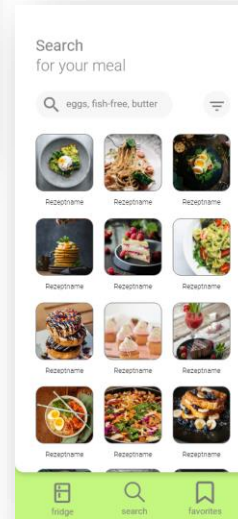
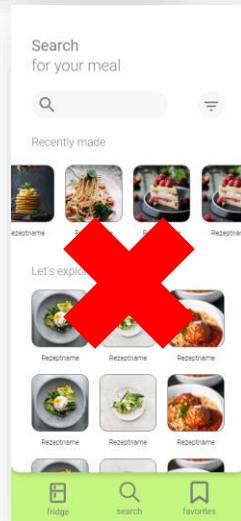
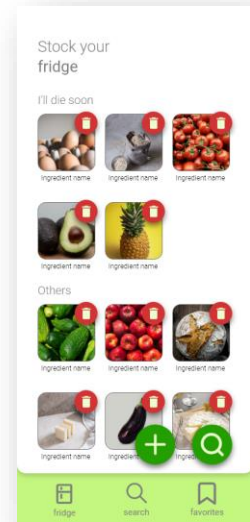
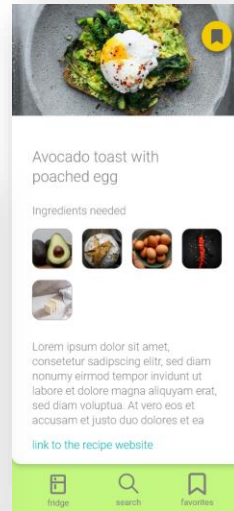
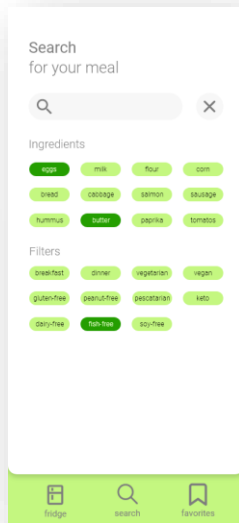
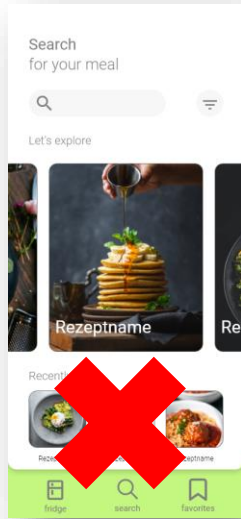
Alisa Schumann, Tom Seevers, Moumita Ahmad



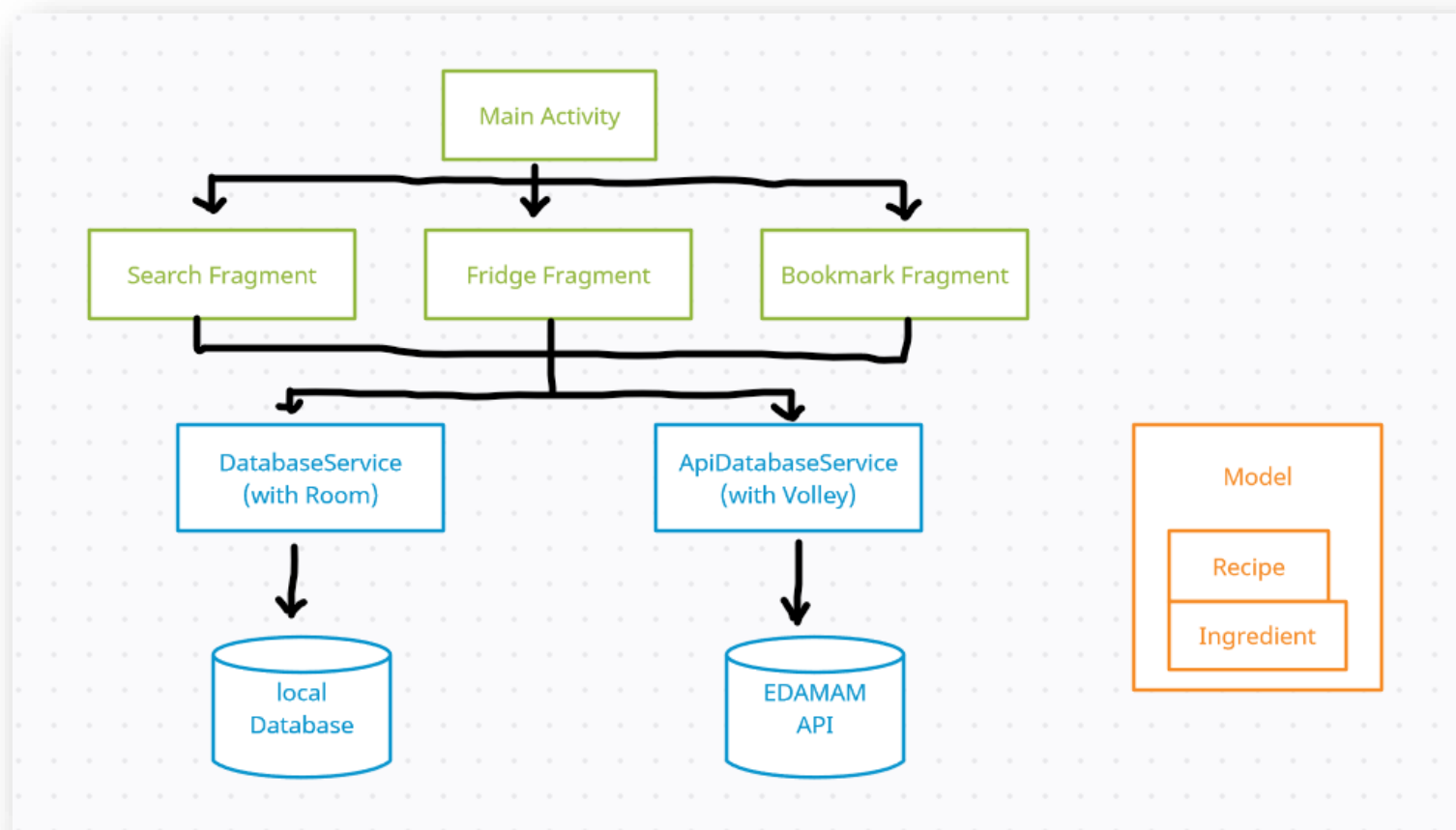
The idea

- Don't know what to cook?
- Let's get some inspiration through new and interesting recipes

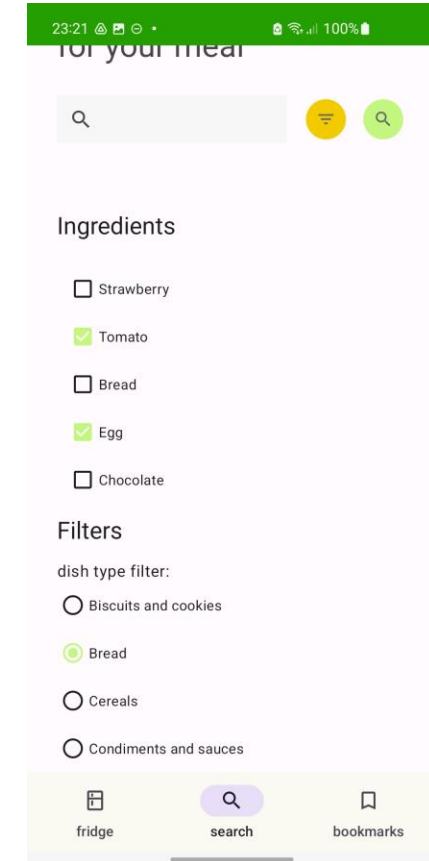
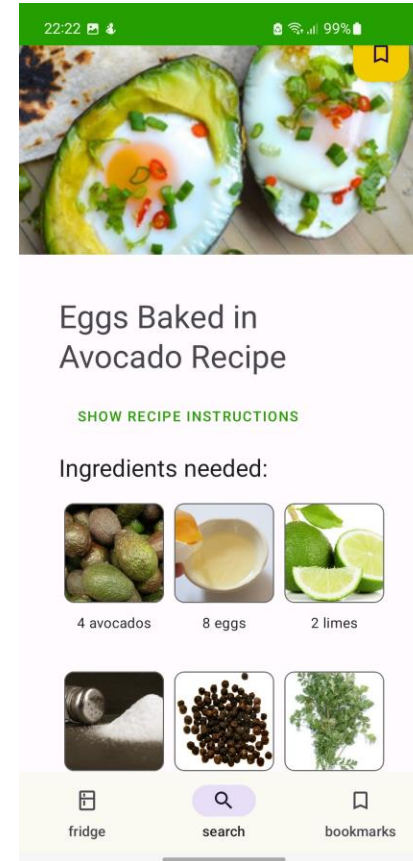
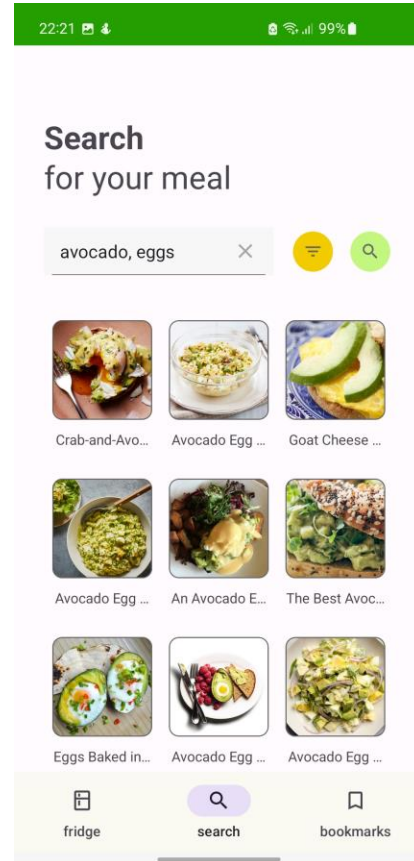
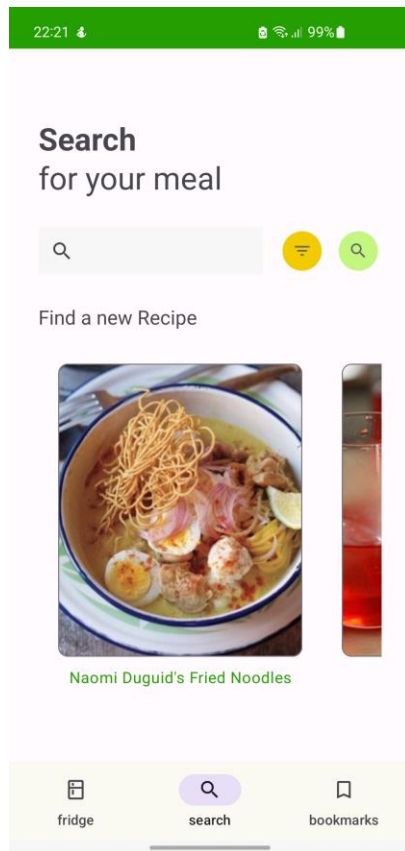
Process



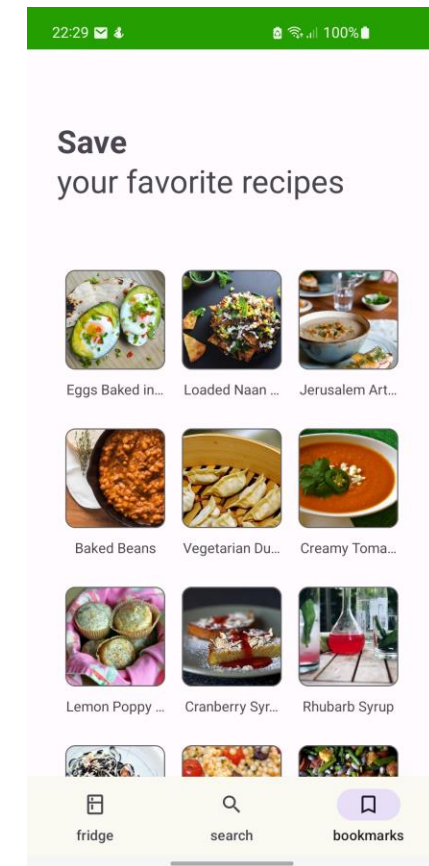
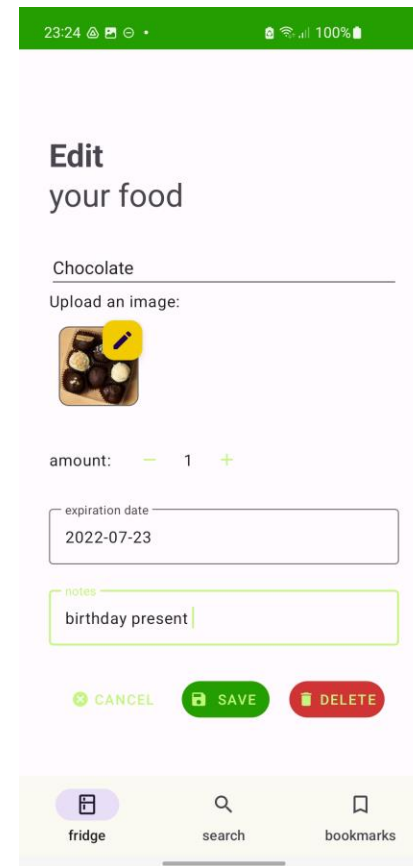
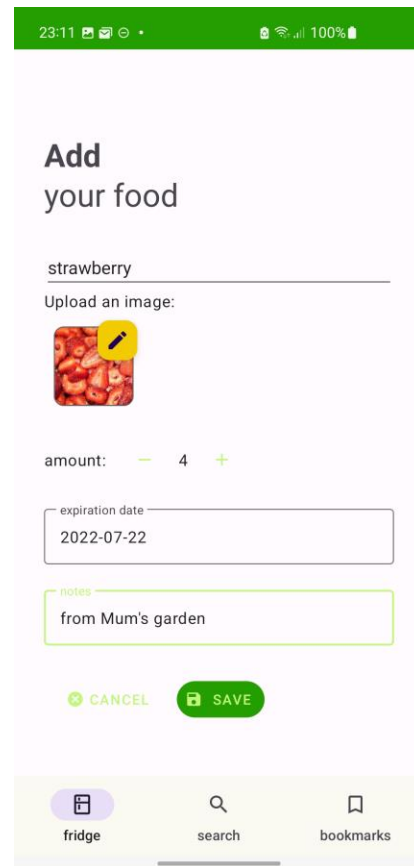
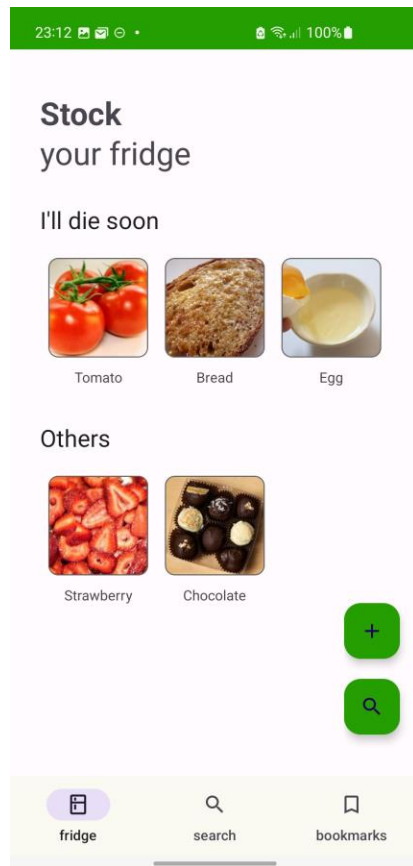
Result – app structure overview



Result – UI/UX overview



Result – UI/UX overview



NAVIGATION COMPONENT

What for?

- Navigates from one screen to another
- Simplifies the navigation a lot
- Library, plugin and tooling
- Works with Fragments, Activities or custom destinations
- Navbar, different designs, gesture navigation, animated transitions between destinations, ...

Benefits

- Handles backstack
- Automates fragment transactions
- Type safe argument passing
- Handles transition animations
- Simplified deep linking
- -> gathers all these information in a visual nav_graph

How does it work

- Three major parts:
 - Navigation Graph
 - NavHostFragment
 - NavController

Basic dependencies:

```
dependencies {
    def nav_version = "2.5.0"

    // Java language implementation
    implementation "androidx.navigation:navigation-fragment:$nav_version"
    implementation "androidx.navigation:navigation-ui:$nav_version"

    // Kotlin
    implementation "androidx.navigation:navigation-fragment-ktx:$nav_version"
    implementation "androidx.navigation:navigation-ui-ktx:$nav_version"

    // Feature module Support
    implementation "androidx.navigation:navigation-dynamic-features-fragment:$nav_version"

    // Testing Navigation
    androidTestImplementation "androidx.navigation:navigation-testing:$nav_version"

    // Jetpack Compose Integration
    implementation "androidx.navigation:navigation-compose:$nav_version"
}
```

activity_main (fragmentContainerView)

▼ 📄 nav_graph - navigation

- ▼ 📄 fridgeFragment - fragment
 - action_fridgeFragment_to_searchFragment
- ▼ 📄 bookmarkFragment - fragment
 - action_bookmarkFragment_to_searchFragment
- ▼ 📄 searchFragment - fragment
 - action_searchFragment_to_bookmarkFragment

fridgeFragment



bookmarkFragment



🏠 searchFragment



📄 navigation

nav_graph

id nav_graph

label

startDestinati... searchFragment ▼

> Argument Default Values

> Global Actions

+

-

▼ Deep Links

+

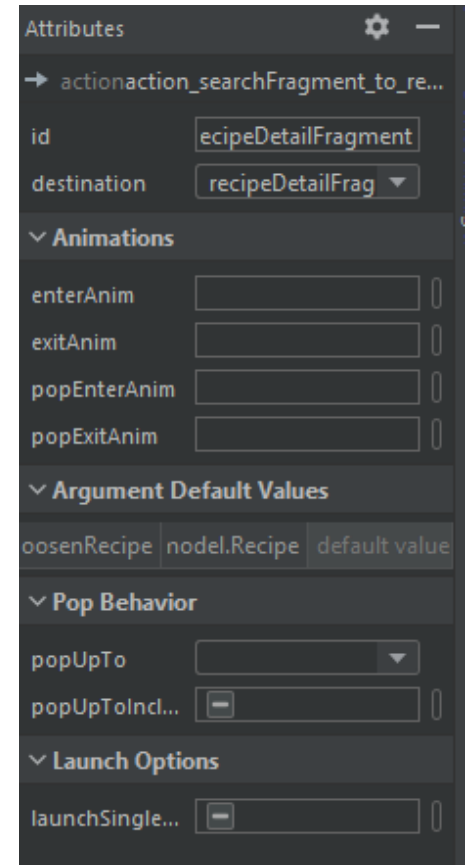
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Nothing to show



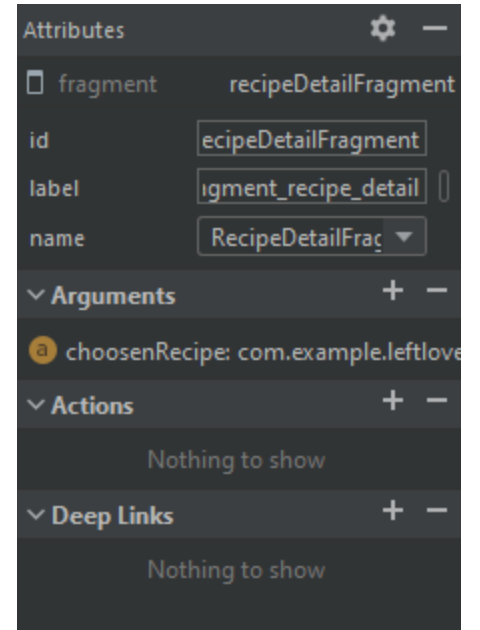
Navigation Graph

- Graphical Editor to create Navigation Graph
- First thing to be created
- Arrows (actions) represent paths a user can take through app
- Things to change:
 - Animations
 - Destination
 - Arguments to be passed
 - ...



Navigation Graph

- Click on Fragments gives more information about Fragments
- Things to change:
 - Arguments
 - Deep Links
 - ...



NavHostFragment

- NavHostFragment  NavHostFrag... is a space to display your self-contained Navigation Fragments in an .xml-file

```
<com.google.android.material.navigation.NavigationView  
    android:layout_width="wrap_content"  
    android:layout_height="match_parent"  
    android:layout_gravity="start"/>  
</androidx.drawerlayout.widget.DrawerLayout>
```

- In that .xml file's NavHostFragment all the destinations will be swapped and shown

NavController

- Each NavHostFragment has its own NavController
- Actually instructs navigation

```
NavHostFragment navHostFragment = (NavHostFragment) getSupportFragmentManager().findFragmentById(R.id.fragmentContainerView);  
NavController navController = navHostFragment.getNavController();  
BottomNavigationView bottomNav = findViewById(R.id.bottom_navigation);  
NavigationUI.setupWithNavController(bottomNav, navController);
```

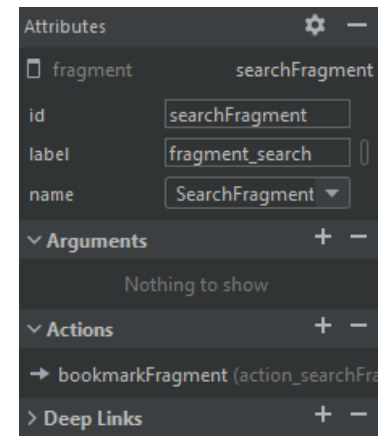
- Code that creates the NavController + the bottomNav
- Connects the bottomNav with the NavController
- NavController gets ids of fragments for navigating

Safe Args Plugin

- Recommended plugin to navigate between components
- Automaticcaly generated code
- For every fragment that accepts arguments -> new class
- i.e. SearchDetailFragment.java -> SearchDetailFragmentArgs.java
- For every fragment that has an action -> new class
- i.e. SearchDetailFragment.java -> SearchDetailFragmentDirections.java
- Hand over data from one fragment to another
 - i.e. recipe

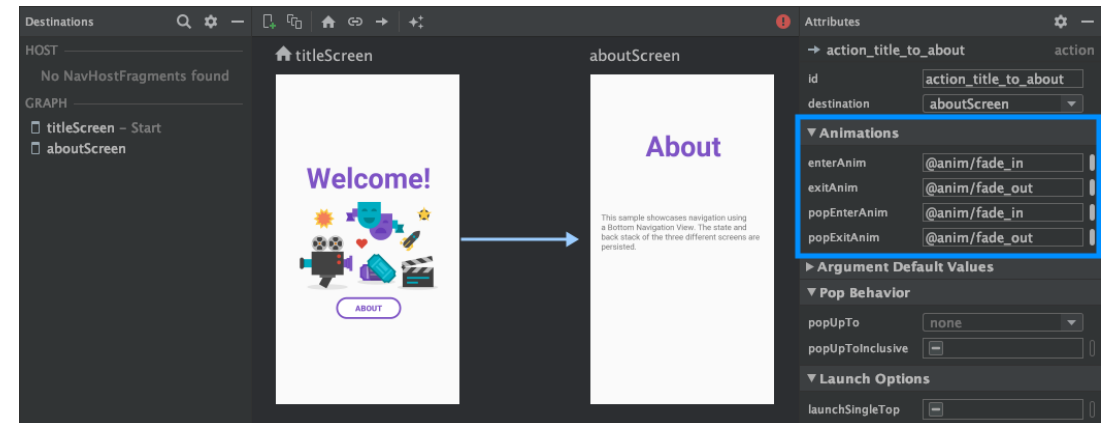
Deep Links

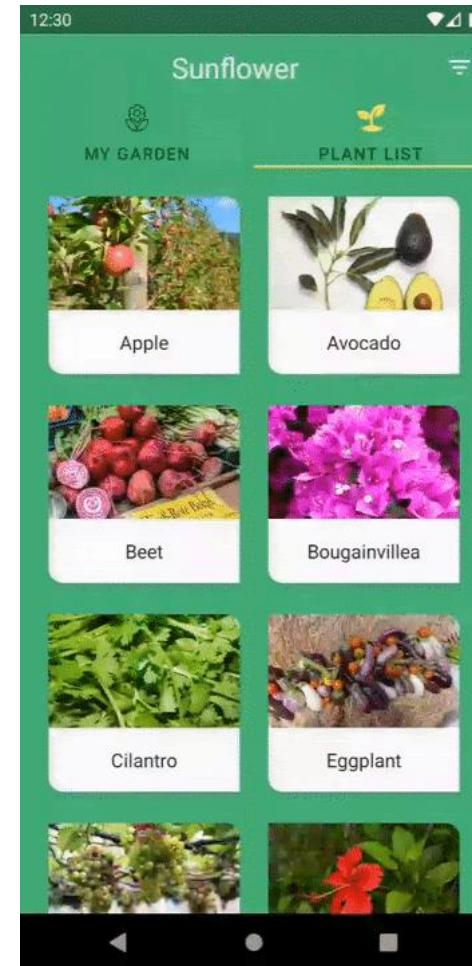
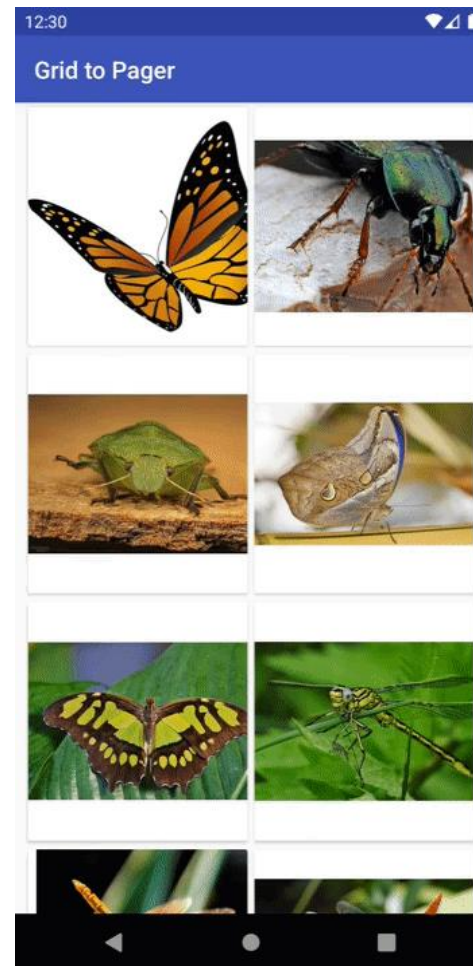
- a link that guides to specific content in the app
- Not the homepage
- <https://www.amazon.de/Deportiva-Impermeable-Sumergible-Accesorios-Múltiples/dp/B01N6L87A6> -> Deep Link
- <https://www.amazon.es/> -> no Deep Link
- Can be set in the attributes of the fragments



Animations

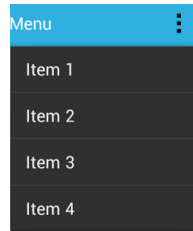
- Animations between change of fragments
- Can be set in attributes of the fragments



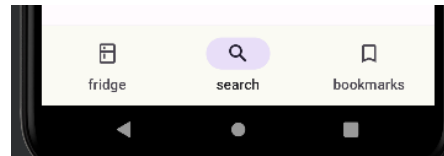


Navigation User Interface

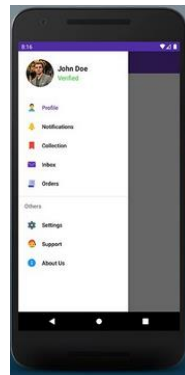
- Options Menu



- Bottom Navigation

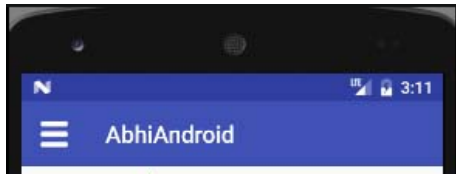


- Navigation View



Navigation User Interface

- Navigation Drawer
- Action Bar
- Toolbar
- Collapsing Toolbar



Further Reading

- <https://developer.android.com/reference/androidx/navigation/NavController>
- <https://developer.android.com/guide/navigation/navigation-getting-started>
- <https://developer.android.com/guide/navigation>

Links

Image Source

- <https://www.bbc.com/news/magazine-30720662>