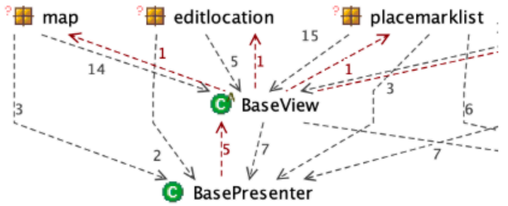
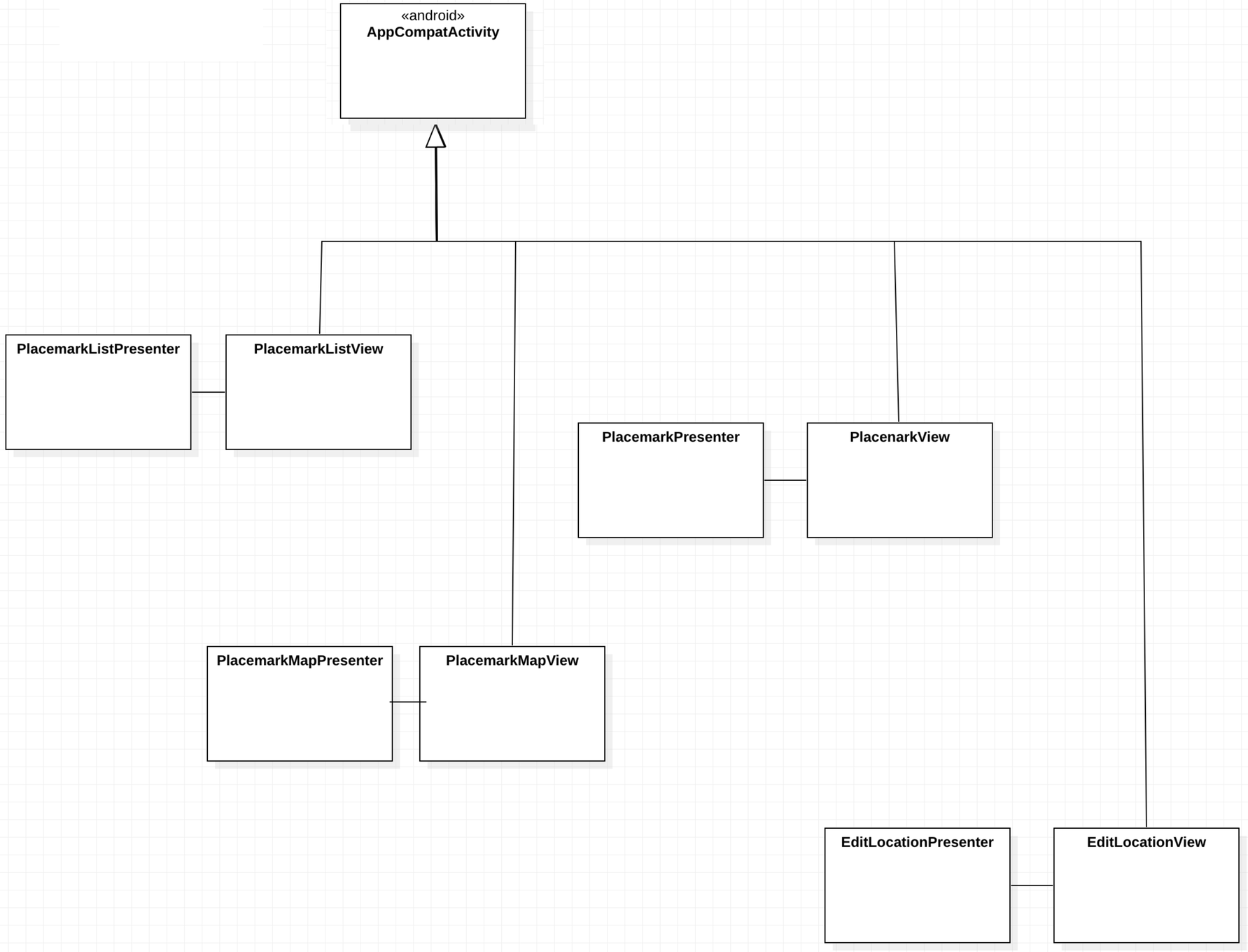
BaseView
BasePresenter

BaseView
BasePresenter

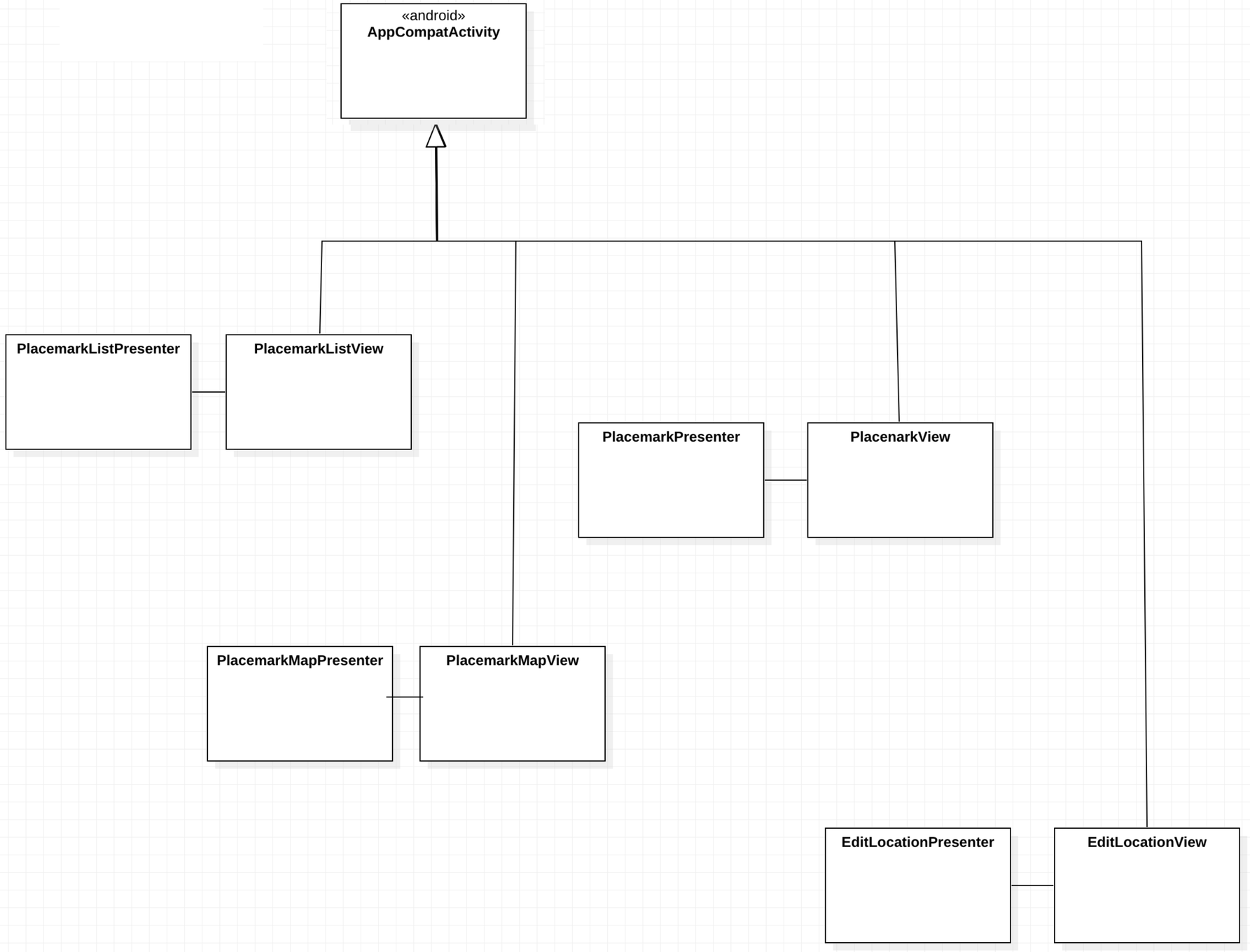


Factor out common MVP features into BaseView/Presenter classes

Current View/ Presenter classes



Current View/ Presenter classes

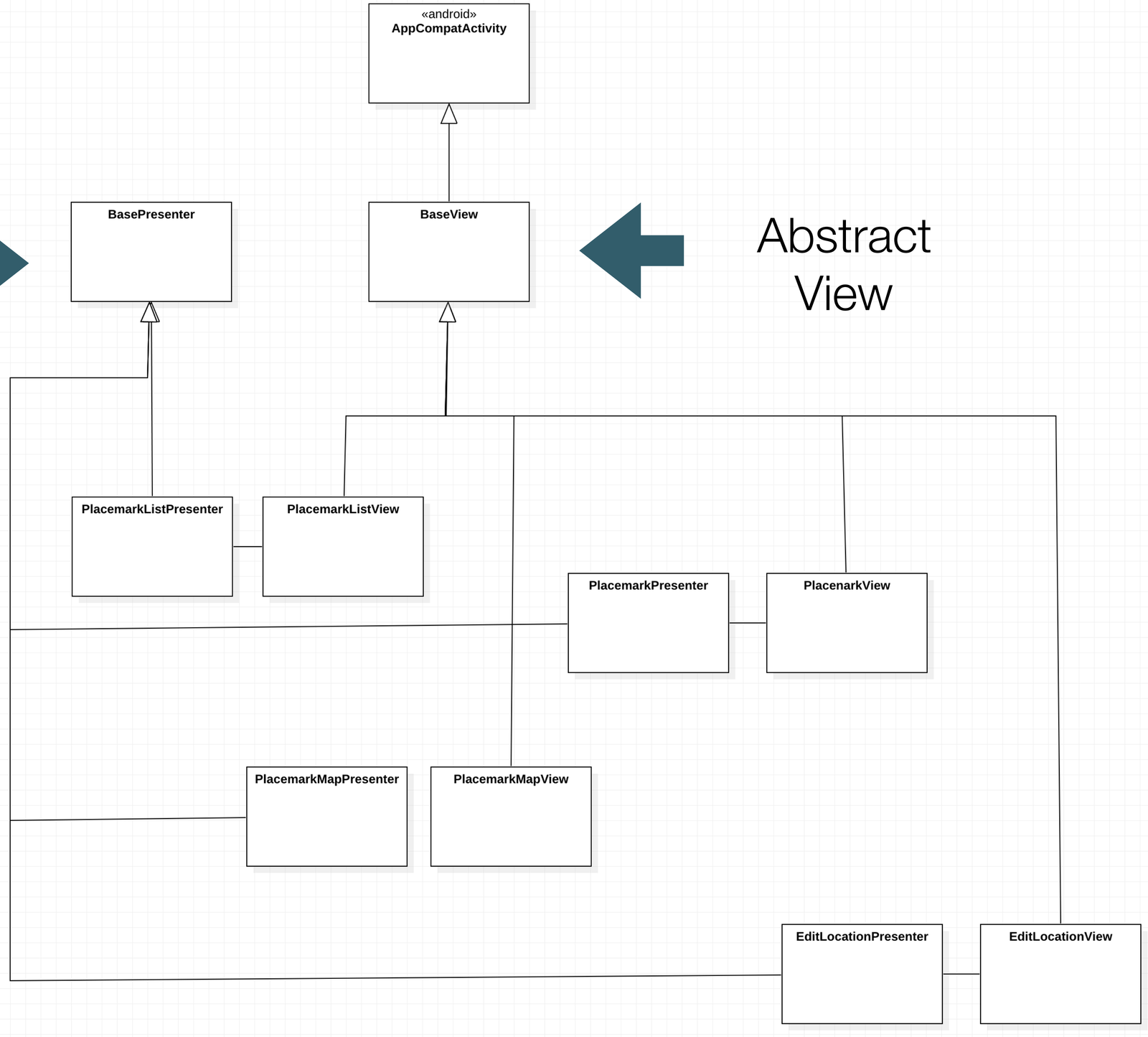


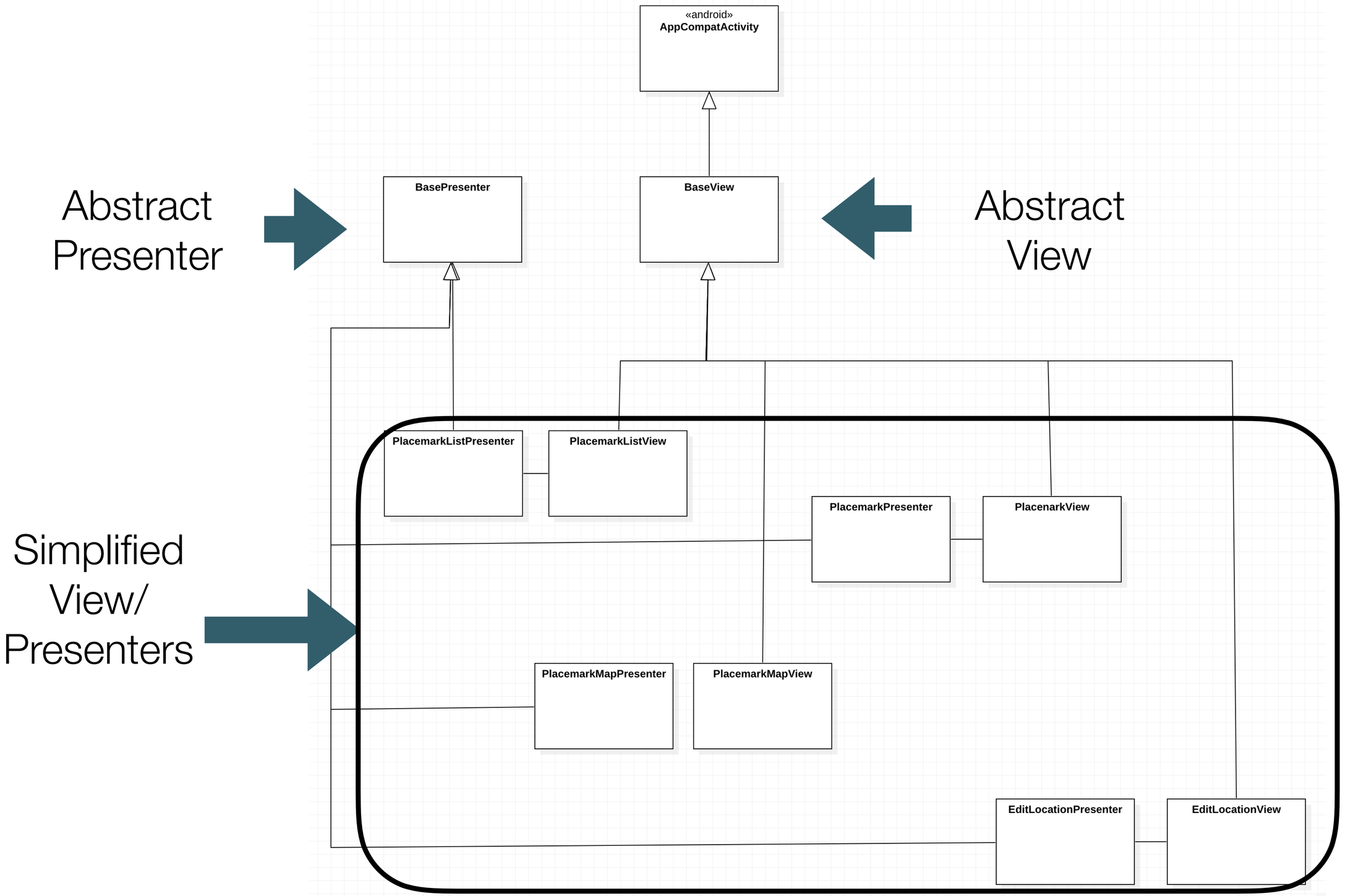
Potential commonality can be identified, and factored out into:

- BasePresenter
- BaseView

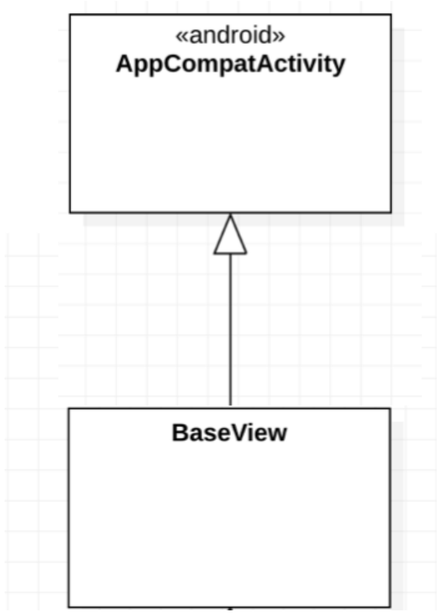
Abstract Presenter

Abstract View




«android»
AppCompatActivity
BasePresenter
BaseView
Abstract
Presenter
Abstract
View
PlacemarkListPresenter
PlacemarkListView
PlacemarkPresenter
PlacenarkView
Simplified
View/
Presenters
PlacemarkMapPresenter
PlacemarkMapView
EditLocationPresenter
EditLocationView

BaseView




```
open abstract class BaseView() : AppCompatActivity(), AnkoLogger {

  var basePresenter: BasePresenter? = null

  fun navigateTo(view: VIEW, code: Int = 0, key: String = "", value: Parcelable? = null) {
    ...
  }

  fun initPresenter(presenter: BasePresenter): BasePresenter {
    ...
  }

  fun init(toolbar: Toolbar) {
    ...
  }

  override fun onDestroy() {
    ...
  }

  override fun onActivityResult(requestCode: Int, resultCode: Int, data: Intent?) {
    ...
  }

  override fun onRequestPermissionsResult(requestCode: Int, permissions: Array<String>,
                                          grantResults: IntArray) {
    …
  }

  open fun showPlacemark(placemark: PlacemarkModel) {}
  open fun showPlacemarks(placemarks: List<PlacemarkModel>) {}
  open fun showProgress() {}
  open fun hideProgress() {}
}
```

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}
```

Centralise Intent/
StartActivity for all views

```
open abstract class BaseView() : AppCompatActivity(), AnkoLogger {

  var basePresenter: BasePresenter? = null

  fun navigateTo(view: VIEW, code: Int = 0, key: String = "", value: Parcelable? = null) {
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}
```

Common initialisation

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open abstract class BaseView() : AppCompatActivity(), AnkoLogger {

  var basePresenter: BasePresenter? = null

  fun navigateTo(view: VIEW, code: Int = 0, key: String = "", value: Parcelable? = null) {
    ...
  }

  fun initPresenter(presenter: BasePresenter): BasePresenter {
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  }

  fun init(toolbar: Toolbar) {
    ...
  }

  override fun onDestroy() {
    ...
  }

 override fun onActivityResult(requestCode: Int, resultCode: Int, data: Intent?) {
    ...
  }

  override fun onRequestPermissionsResult(requestCode: Int, permissions: Array<String>,
                                          grantResults: IntArray) {
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  open fun showPlacemark(placemark: PlacemarkModel) {}
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  open fun showProgress() {}
  open fun hideProgress() {}
}
```

Common Lifecycle handling

```
open abstract class BaseView() : AppCompatActivity(), AnkoLogger {

  var basePresenter: BasePresenter? = null

  fun navigateTo(view: VIEW, code: Int = 0, key: String = "", value: Parcelable? = null) {
    ...
  }

  fun initPresenter(presenter: BasePresenter): BasePresenter {
    ...
  }

  fun init(toolbar: Toolbar) {
    ...
  }

  override fun onDestroy() {
    ...
  }

 override fun onActivityResult(requestCode: Int, resultCode: Int, data: Intent?) {
    ...
  }

  override fun onRequestPermissionsResult(requestCode: Int, permissions: Array<String>,
                                          grantResults: IntArray) {
    …
  }

  open fun showPlacemark(placemark: PlacemarkModel) {}
  open fun showPlacemarks(placemarks: List<PlacemarkModel>) {}
  open fun showProgress() {}
  open fun hideProgress() {}
}
```

Placeholders for individual view events of interest

```
open abstract class BaseView() : AppCompatActivity(), AnkoLogger {

  var basePresenter: BasePresenter? = null

  fun navigateTo(view: VIEW, code: Int = 0, key: String = "", value: Parcelable? = null) {
    ...
  }

  fun initPresenter(presenter: BasePresenter): BasePresenter {
    ...
  }

  fun init(toolbar: Toolbar) {
    ...
  }

  override fun onDestroy() {
    ...
  }

 override fun onActivityResult(requestCode: Int, resultCode: Int, data: Intent?) {
    ...
  }

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                                          grantResults: IntArray) {
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}
```
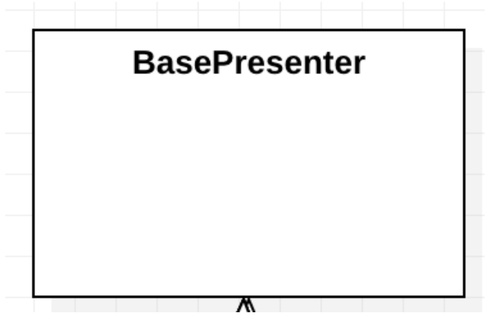

Centralise Intent/ StartActivity for all views

Common initialisation

Common Lifecycle handling

Placeholders for individual view events of interest

BasePresenter




```
open class BasePresenter(var view: BaseView?) {

  var app: MainApp =  view?.application as MainApp

  open fun doActivityResult(requestCode: Int, resultCode: Int, data: Intent) {
  }

  open fun doRequestPermissionsResult(requestCode: Int, permissions: Array<String>,
                                      grantResults: IntArray) {
  }

  open fun onDestroy() {
    view = null
  }
}
```

BasePresenter

```
open class BasePresenter(var view: BaseView?) {

  var app: MainApp =  view?.application as MainApp

  open fun doActivityResult(requestCode: Int, resultCode: Int, data: Intent) {
  }

  open fun doRequestPermissionsResult(requestCode: Int, permissions: Array<String>,
                                      grantResults: IntArray) {
  }

  open fun onDestroy() {
    view = null
  }
}
```

Common Lifecycle handling

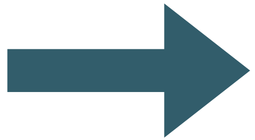
onDestroy()

```
open abstract class BaseView() : AppCompatActivity(), AnkoLogger {
  ...

  override fun onDestroy() {
    basePresenter?.onDestroy()
    super.onDestroy()
  }

}
```

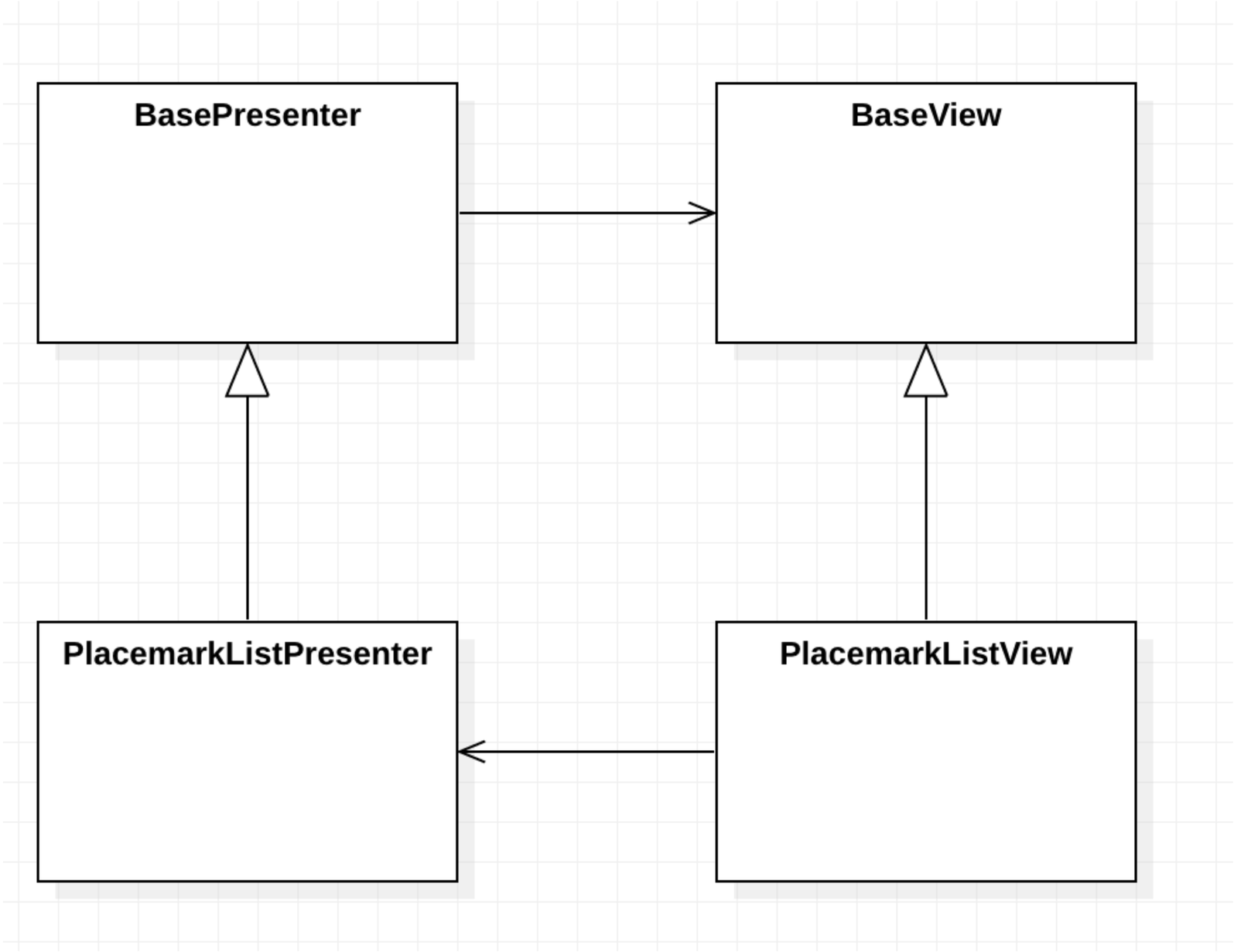
```
open class BasePresenter(var view: BaseView?) {
  ...

  open fun onDestroy() {
    view = null
  }

}
```

Will be called when the Activity is being removed by Android

invoke destroy in presenter

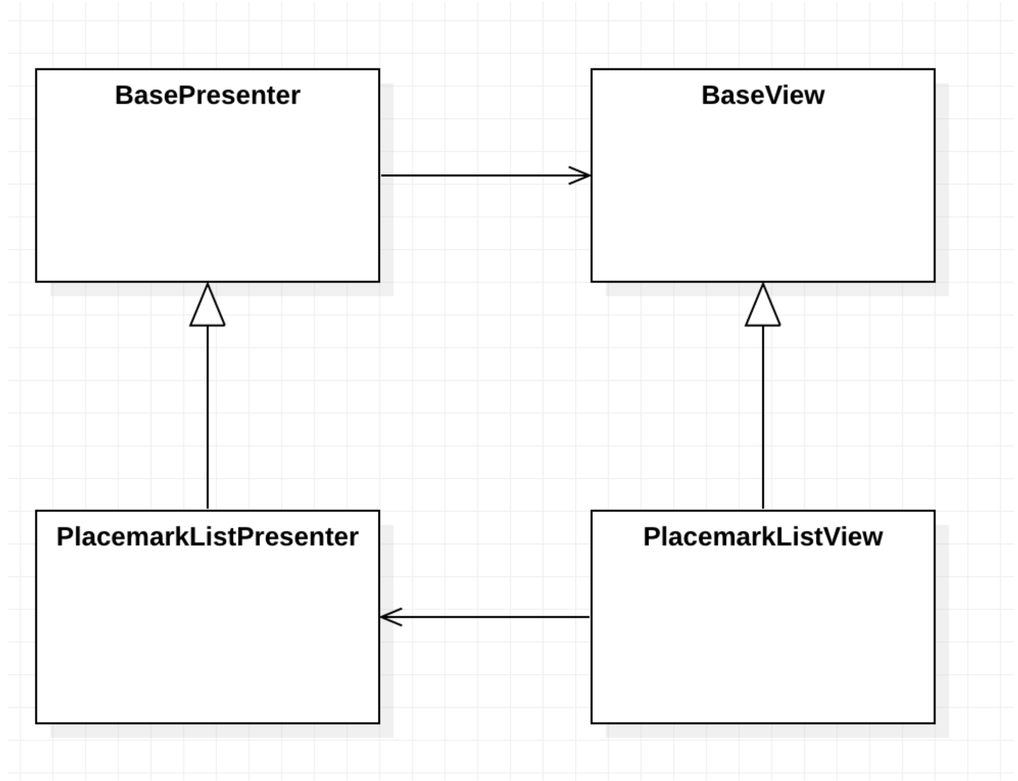


Set the view to null - to avoid potential null point violations



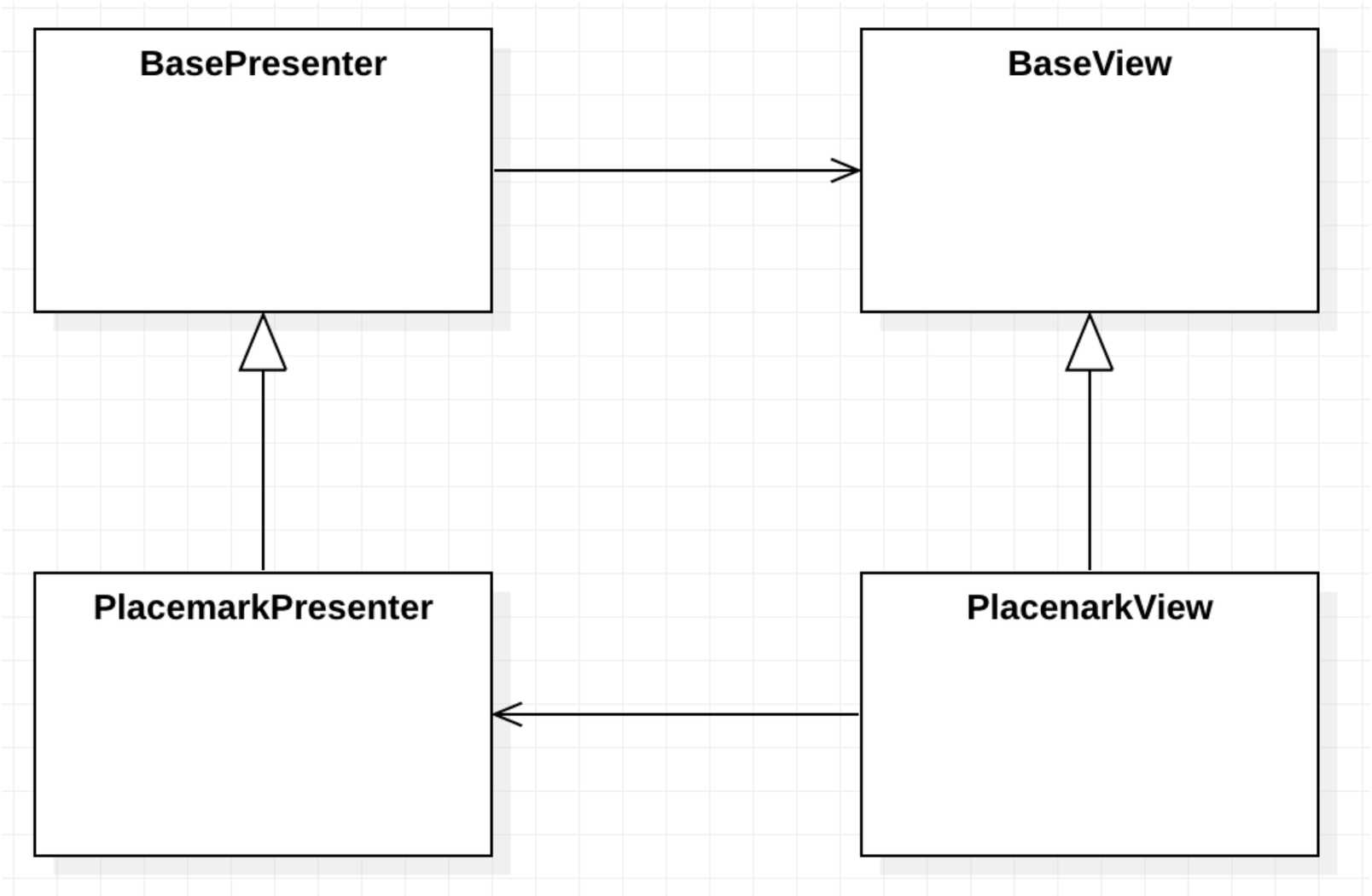
BasePresenter has reference to BaseView

PlacemarkListView has reference to PlacemarListPresenter

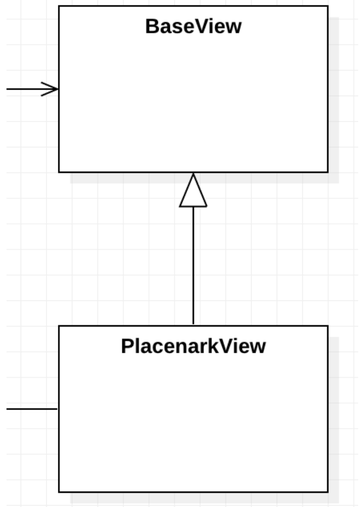



```
class PlacemarkListPresenter(view: BaseView) : BasePresenter(view) {

  fun doAddPlacemark() {
    view?.navigateTo(VIEW.PLACEMARK)
  }

  fun doEditPlacemark(placemark: PlacemarkModel) {
    view?.navigateTo(VIEW.PLACEMARK, 0, "placemark_edit", placemark)
  }

  fun doShowPlacemarksMap() {
    view?.navigateTo(VIEW.MAPS)
  }

  fun loadPlacemarks() {
    view?.showPlacemarks(app.placemarks.findAll())
  }
}
```

```
class PlacemarkListView :  BaseView(), PlacemarkListener {

  lateinit var presenter: PlacemarkListPresenter

  override fun onCreate(savedInstanceState: Bundle?) {
    super.onCreate(savedInstanceState)
    setContentView(R.layout.activity_placemark_list)
    init(toolbarMain, false)

    presenter = initPresenter(PlacemarkListPresenter(this)) as PlacemarkListPresenter

    val layoutManager = LinearLayoutManager(this)
    recyclerView.layoutManager = layoutManager
    presenter.loadPlacemarks()
  }

  override fun showPlacemarks(placemarks: List<PlacemarkModel>) {
    recyclerView.adapter = PlacemarkAdapter(placemarks, this)
    recyclerView.adapter?.notifyDataSetChanged()
  }

  override fun onCreateOptionsMenu(menu: Menu?): Boolean {
    menuInflater.inflate(R.menu.menu_main, menu)
    return super.onCreateOptionsMenu(menu)
  }

  override fun onOptionsItemSelected(item: MenuItem?): Boolean {
    when (item?.itemId) {
      R.id.item_add -> presenter.doAddPlacemark()
      R.id.item_map -> presenter.doShowPlacemarksMap()
    }
    return super.onOptionsItemSelected(item)
  }

  override fun onPlacemarkClick(placemark: PlacemarkModel) {
    presenter.doEditPlacemark(placemark)
  }

  override fun onActivityResult(requestCode: Int, resultCode: Int, data: Intent?) {
    presenter.loadPlacemarks()
    super.onActivityResult(requestCode, resultCode, data)
  }
}
```

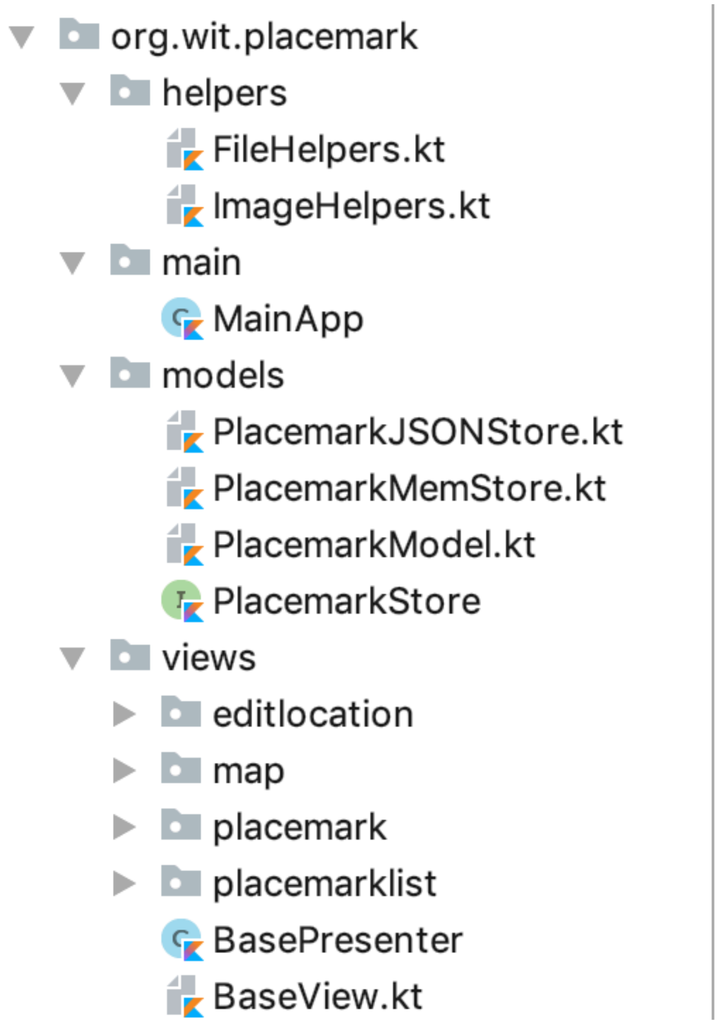

BasePresenter
BaseView
PlacemarkPresenter
PlacenarkView

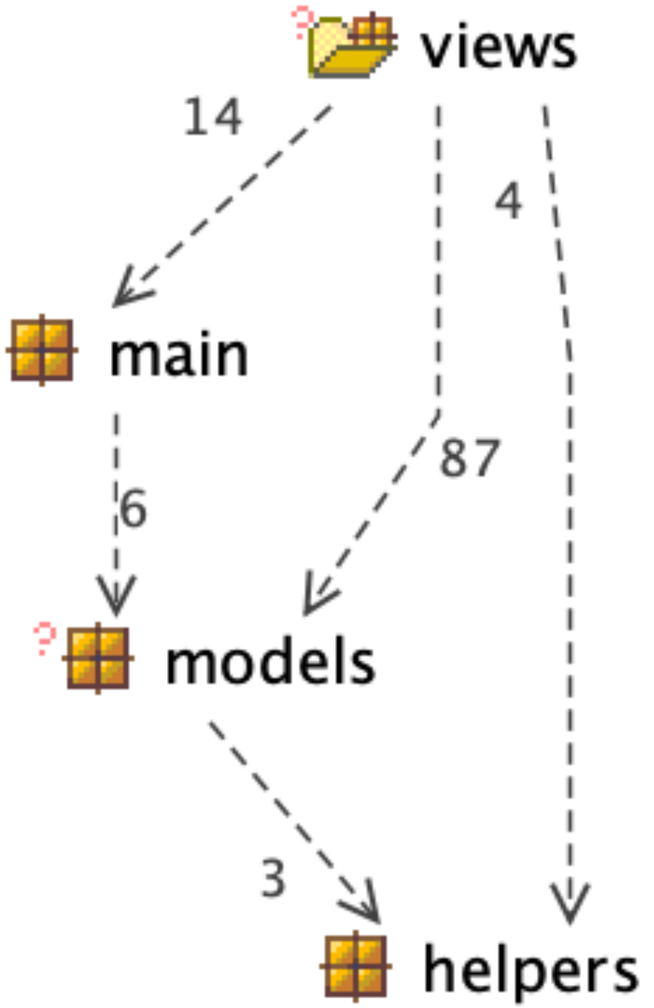
```kotlin
class PlacemarkView : BaseView(), AnkoLogger {

  lateinit var presenter: PlacemarkPresenter
  var placemark = PlacemarkModel()

  override fun onCreate(savedInstanceState: Bundle?) {
    super.onCreate(savedInstanceState)
    setContentView(R.layout.activity_placemark)

    init(toolbarAdd)

    presenter = initPresenter (PlacemarkPresenter(this)) as PlacemarkPresenter

    chooseImage.setOnClickListener { presenter.doSelectImage() }
    placemarkLocation.setOnClickListener { presenter.doSetLocation() }
  }

  override fun showPlacemark(placemark: PlacemarkModel) {
    placemarkTitle.setText(placemark.title)
    description.setText(placemark.description)
    placemarkImage.setImageBitmap(readImageFromPath(this, placemark.image))
    if (placemark.image != null) {
      chooseImage.setText(R.string.change_placemark_image)
    }
  }

  override fun onCreateOptionsMenu(menu: Menu): Boolean {
    menuInflater.inflate(R.menu.menu_placemark, menu)
    return super.onCreateOptionsMenu(menu)
  }
```




```kotlin
  override fun onOptionsItemSelected(item: MenuItem?): Boolean {
    when (item?.itemId) {
      R.id.item_delete -> {
        presenter.doDelete()
      }
      R.id.item_save -> {
        if (placemarkTitle.text.toString().isEmpty()) {
          toast(R.string.enter_placemark_title)
        } else {
          presenter.doAddOrSave(placemarkTitle.text.toString(), description.text.toString())
        }
      }
    }
    return super.onOptionsItemSelected(item)
  }

  override fun onActivityResult(requestCode: Int, resultCode: Int, data: Intent?) {
    super.onActivityResult(requestCode, resultCode, data)
    if (data != null) {
      presenter.doActivityResult(requestCode, resultCode, data)
    }
  }

  override fun onBackPressed() {
    presenter.doCancel()
  }
}
```

https://structure101.com/


org.wit.placemark
helpers
FileHelpers.kt
ImageHelpers.kt
main
MainApp
models
PlacemarkJSONStore.kt
PlacemarkMemStore.kt
PlacemarkModel.kt
PlacemarkStore
views
editlocation
map
placemark
placemarklist
BasePresenter
BaseView.kt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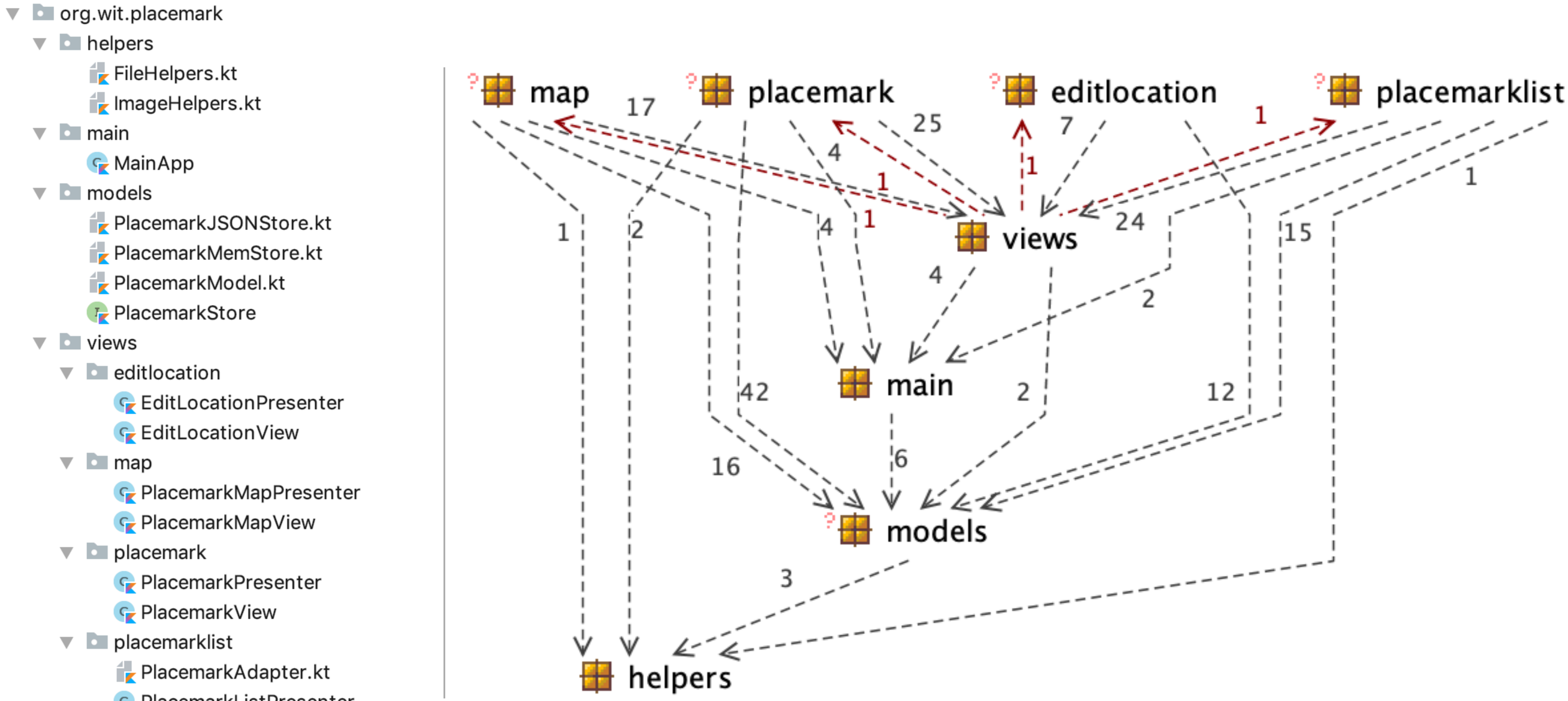
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EditLocationPresenter
EditLocationView
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PlacemarkListPresenter
PlacemarkListView
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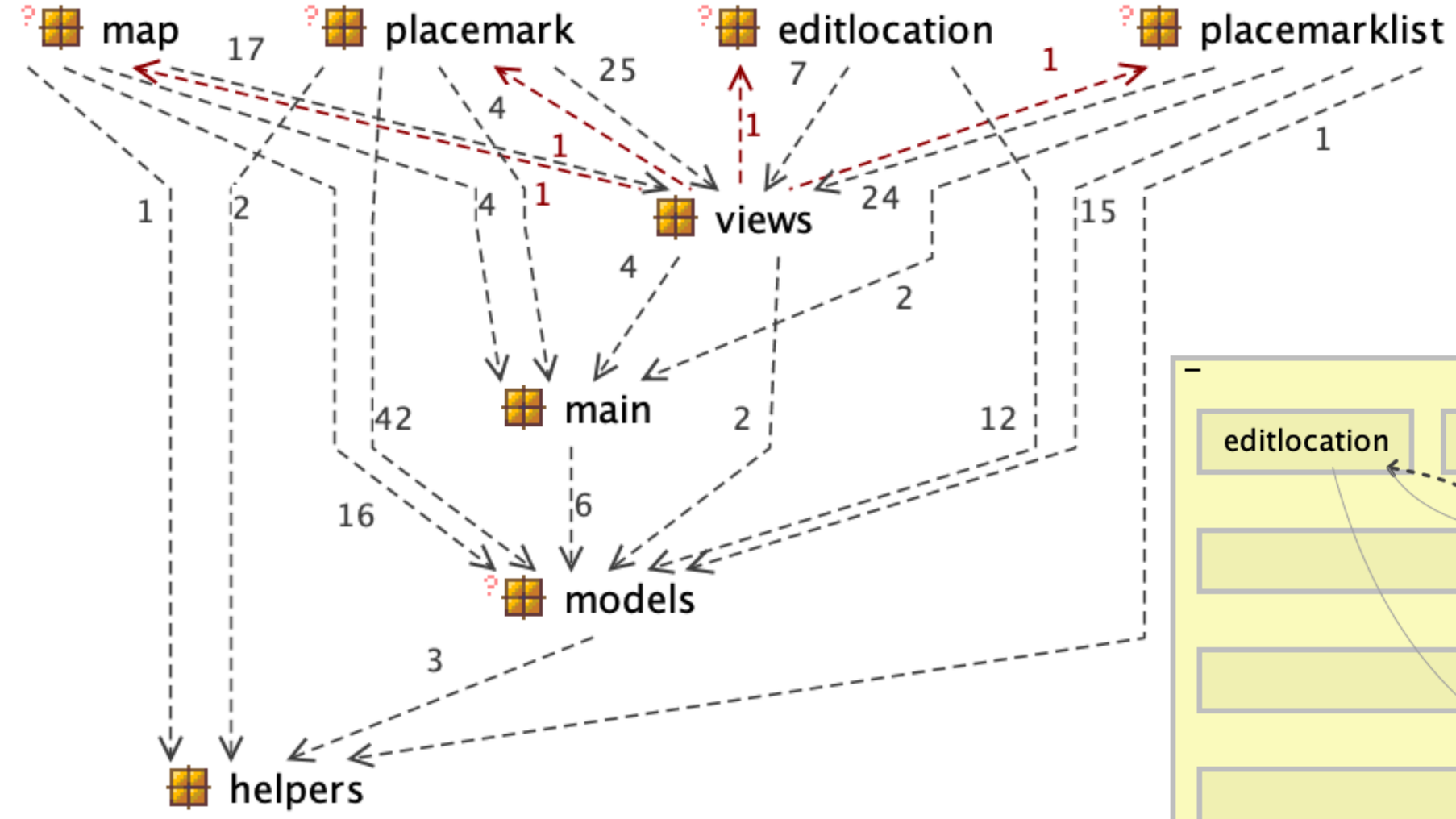
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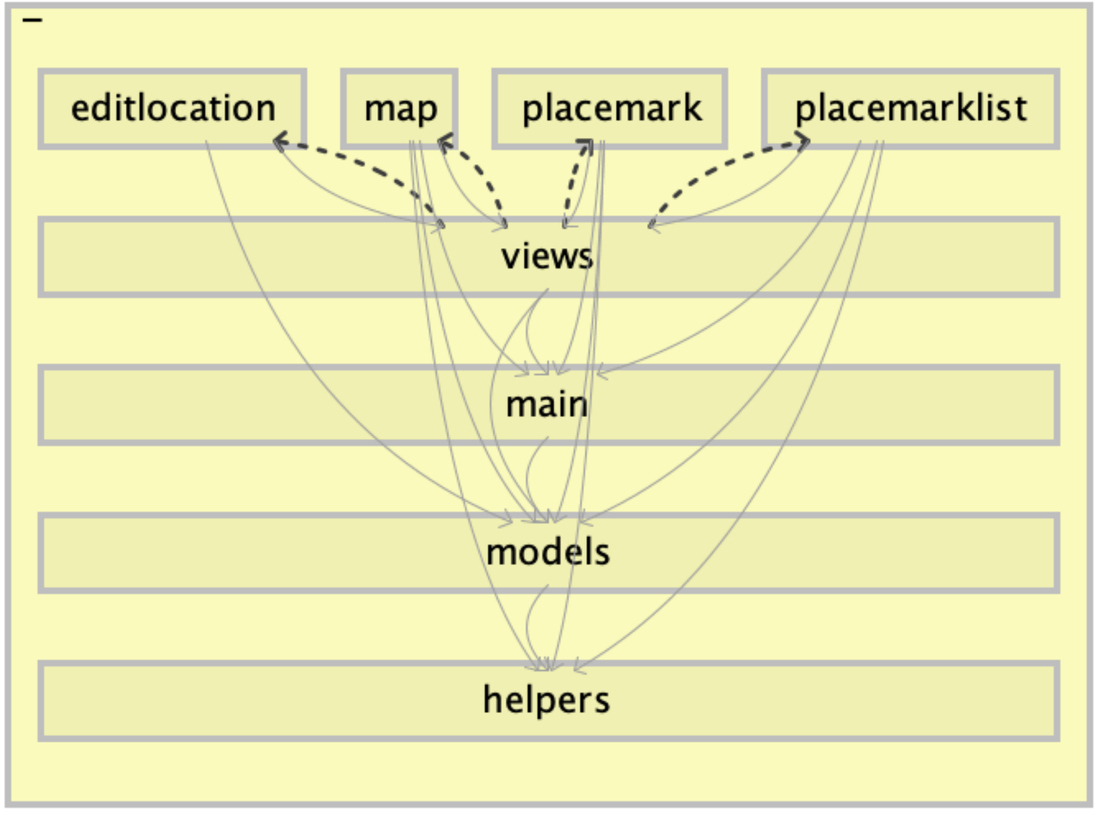
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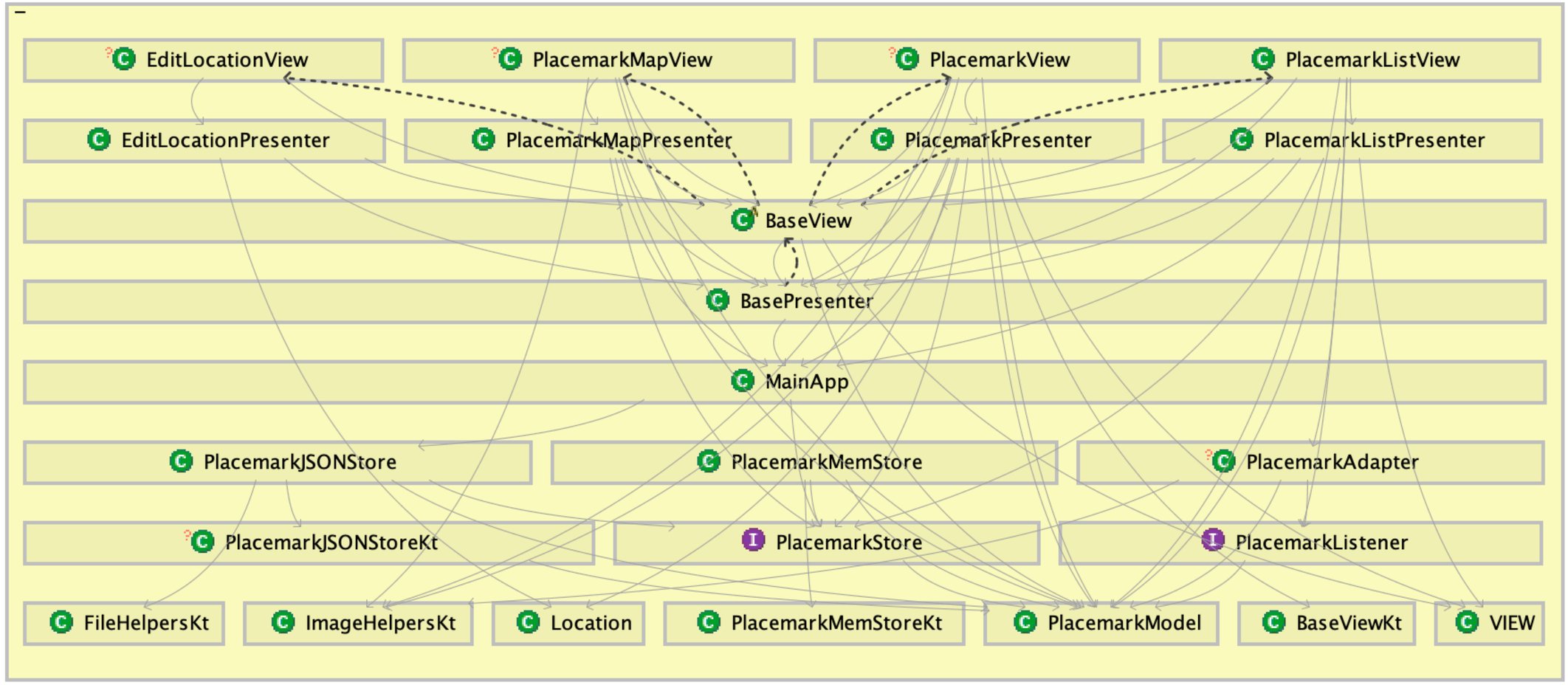
EditLocationView
PlacemarkMapView
PlacemarkView
PlacemarkListView
EditLocationPresenter
PlacemarkMapPresenter
PlacemarkPresenter
PlacemarkListPresenter
BaseView
BasePresenter
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PlacemarkJSONStore
PlacemarkMemStore
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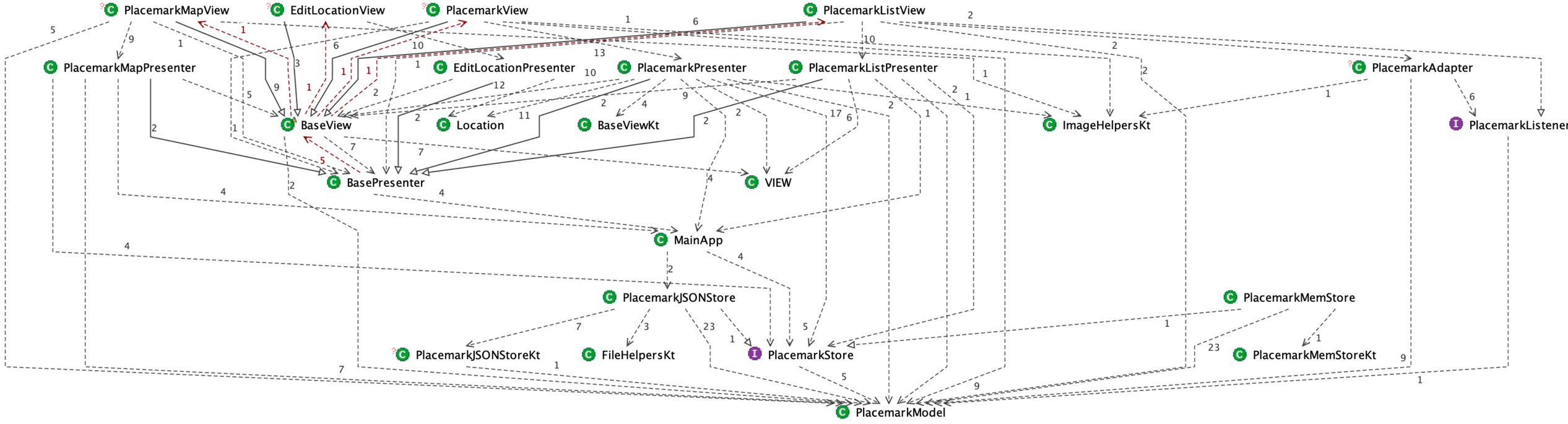
PlacemarkJSONStoreKt
PlacemarkStore
PlacemarkListener
FileHelpersKt
ImageHelpersKt
Location
PlacemarkMemStoreKt
PlacemarkModel
BaseViewKt
VIEW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