



X03 JavaFX 3

Architecting GUIs

GUI Design Principles

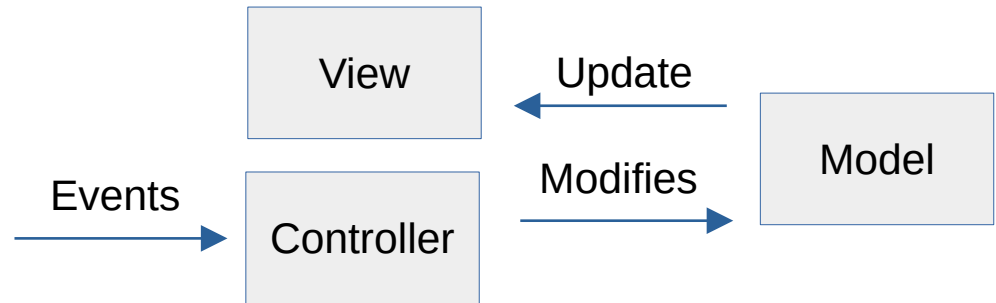
- Separation of **data** and **domain logic** from its **presentation**.
 - Enable multiple ways to display the same data, either multiple GUIs can be developed or multiple views of the same thing within the same GUI.
 - Make it easier / possible to test the domain logic.
 - Separation of responsibilities, source of truth of state.



GUI Architectural Patterns

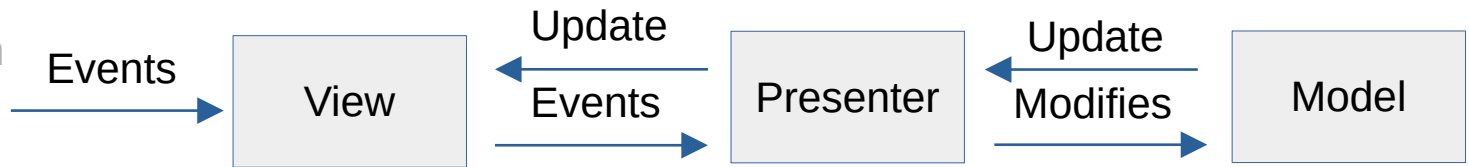
Model-View-Controller (MVC)

Separation into View and Controller



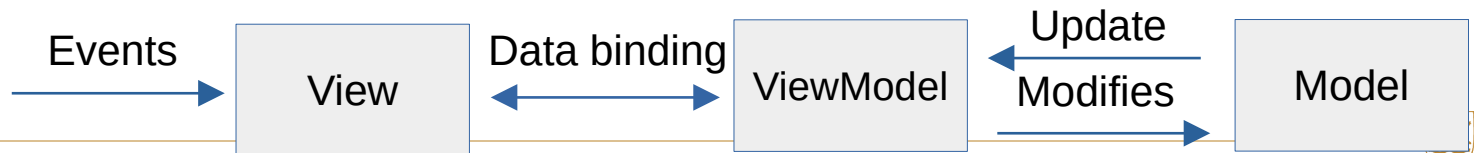
Model-View-Presenter (MVP)

Presenter is middle-man



Model-View-ViewModel (MVVM)

Leverage "data binding" to simplify event handling



Recommendations

- Separate GUI from game logic and state, **but keep it simple** (no need to try these architectural patterns).
- Don't let the GUI and Model get out of sync, and always check with the model.
 - Event -> Modify model -> Update view based on model
- Purely GUI considerations should be kept out of the model (e.g., position of object being dragged).

