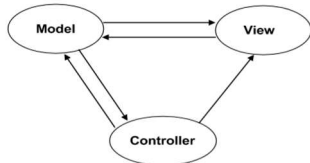


13. User Interface Design

MVC Architecture

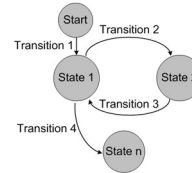
MVC = Model View Controller



Note: these are components or modules, not states.

Model = stored info/database – changing display – represents **state**
View = information stored in the model subsystem to a graphical display
Controller = buttons, external peripherals – represents **events**

state – diagram



Circles = states, Arrows = events

Layout - Gestalt Principles

- Proximity = elements close together are related
- Continuity = aligned objects are related
- Similarity = size/colour/shape are related
- Closure = objects enclosed together are related - boundaries

Gestalt Principles:

- Proximity – users assume that elements that are placed close together are related.



Gestalt Principles:

- Continuity – users assume that aligned objects are related.



Gestalt Principles:

- Similarity – users assume that objects of similar size, colour and shape are related.



Gestalt Principles:

- Closure – users naturally try to enclose objects if they form a boundary. We can use this to convey that objects within an enclosure are part of a group.



Navigation

- sequential steps
- response = clicking action (want to know something has happened)

- Good UI acknowledges user actions
- There is nothing more frustrating than clicking or tapping a button and getting no or slow response. Do you tap again?



Terminology

Short precise sentences/words e.g describing objects/stuff

Don't necessarily need instructions to be in words (universally understandable)

- Users hate inconsistent terminology in UIs.
- Ideally, use one word per concept:
 - e.g. choose one of find, search, query, inquiry and stick to it.
- Similarly, use one concept per word:
 - Be careful with words like view and format, which can be both verbs and nouns.
- Remember to be consistent across all aspects of your software:
 - Design documentation
 - Comments in code
 - variable, file & function names



Terminology

- A sensible test for good GUI design: Can all display elements be identified by cues other than by reading the words that make them up?

