# COMP1531

8.3 Conceptual Modelling

System Modelling

- Structural – Emphasise the static structure of the system
    - UML class diagrams
    - ER diagrams
    - ... many others
- Behavioural - Emphasise the dynamic behaviour
   - State diagrams
    - ... some others

State Machines

- Machines made up of a finite number of states.
- The machine can be *transitioned* from one state to another
- Simple example: a door

Open

Closed   Opened

Close
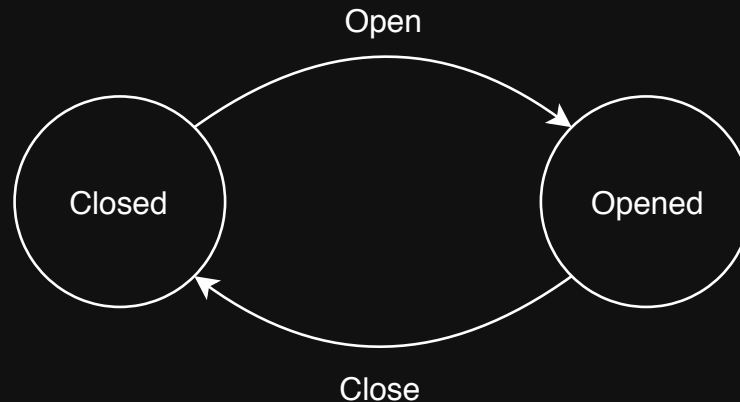
State diagrams

- A diagrammatic representation of a state.
- Some variation in notation.
- Typically: states are circles, transitions are labelled arrows connecting

Open

Closed

Opened
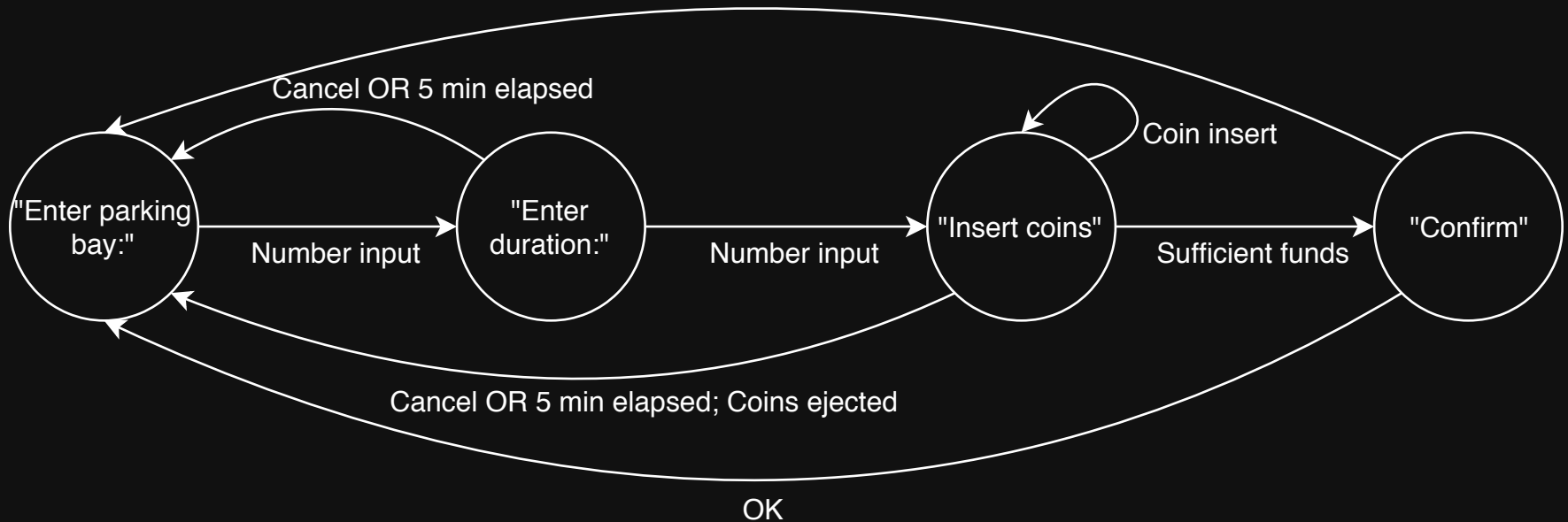
Close
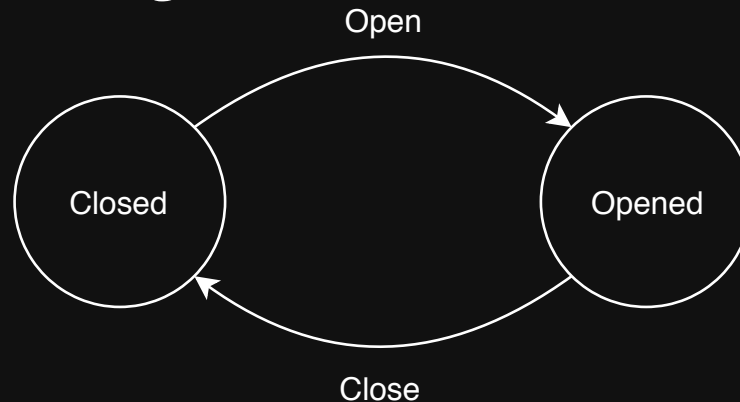
State machines

- Useful for modelling systems that have clearly defined states. For example:
    - UIs with different screens
    - Network protocols
    - Conversational interfaces

Parking meter
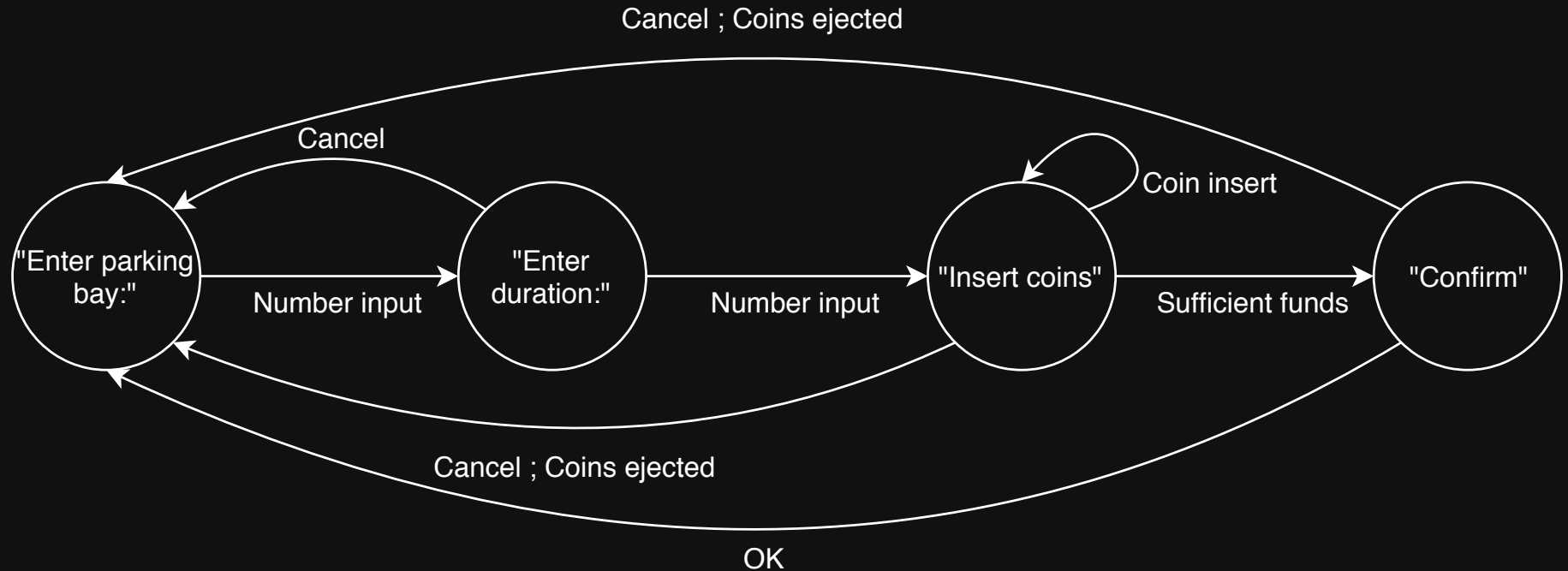
Parking meter

Opal Card

- Can we model the opal card system as a state machine?