

Real-Time Systems

- time dependent
- control oriented
- driven by events rather than data

Control Flow Diagram

- extension to data flow diagram to represent control flow rather than data flow
- contains same processes as the data flow diagram but instead of showing data flow, it diagrams control flow
- diagram the events that cause the various process to be activated
- together with the CSPEC (control specification) show
 - how software behaves when the event or control signal is sensed
 - which processes are invoked as a consequence of the occurrence of the event

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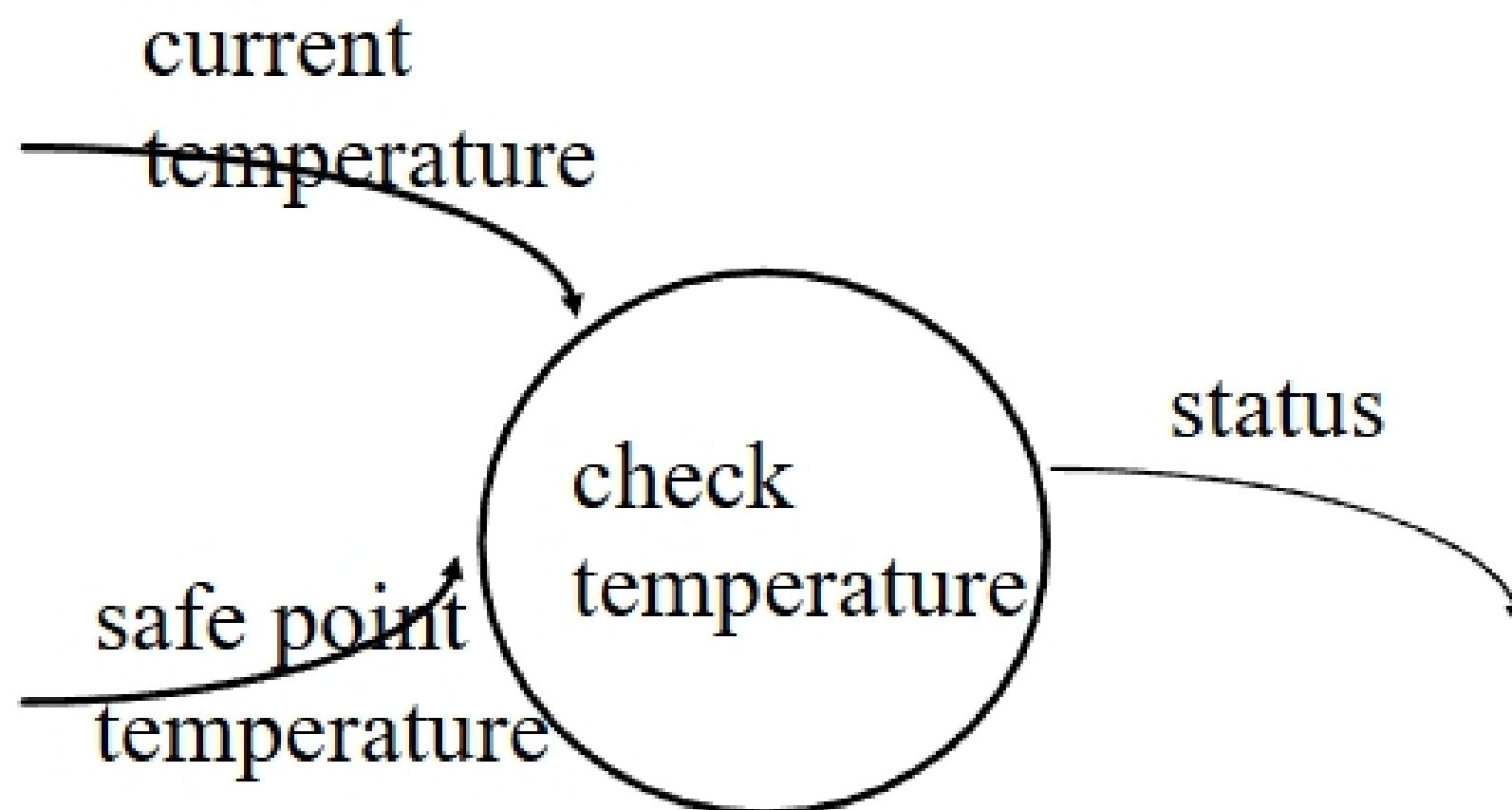
control item

|

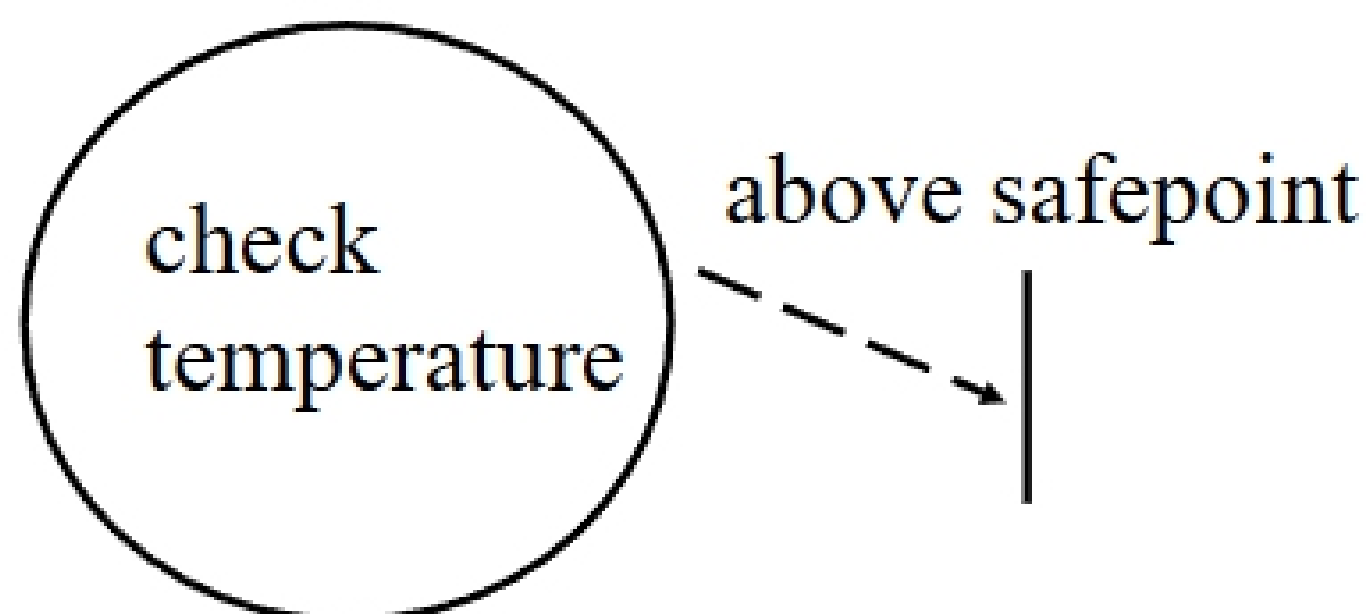
Window into CSPEC

Drawing a Control Flow Diagram

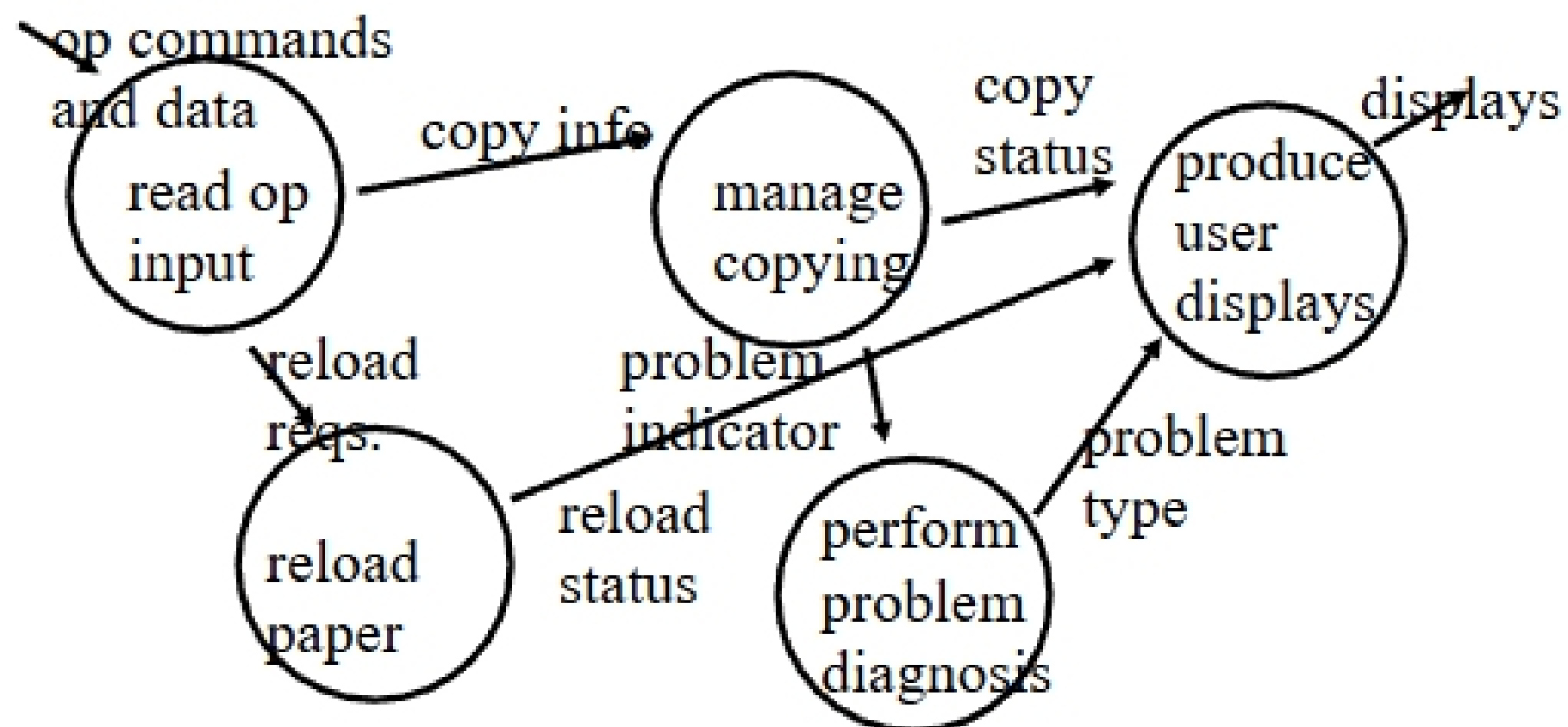
- draw the data flow diagram and remove all of the data flow arrows
- add control items and windows into CSPEC where needed

A Data Flow Process Bubble**PSPEC for check temperature**

```
If current temperature > safe temperature  
  then  
    set status to "true";  
  else  
    set status to "false";  
end if;
```

Control Flow Diagram for check temperature

Data Flow for Copier



Copier Events

- start/stop
- paper feed (jammed, empty, etc.)
- finished