

Requirements and Specification, ESOF 328, Spring 2022
A picture is Worth 1024 Words, Chapter 12, Jan. 28

What model do you suggest using to show the following?

1. Radiation machine which operates in 5 modes: non-penetrating, low, medium, high and x-ray. Depending on the mode, signals are handled differently – setting/removing shields, and changing properties of x-ray apparatus.

One possibility:
State transition diagram

2. Contract to build software to support a stock market trader. It will keep track of customer, their requests, purchases, returns, etc. You are beginning the process of soliciting requirements.

One possibility:
Use case diagram if you want to show the different types of users and what each can do via the system
Activity diagram if you want to show the process or customers making requests, purchases and returns
Entity-relationship diagram if want to show data and relationships between data items

3. You want to model how bills travel through the legislative process and you can't decide whether to use a state transition diagram or activity diagram. Explain what characteristics would help you make your decision about what chart to use.

Use a state transition diagram if you want to show the various states that a bill can be in and how a bill would go from one state to another.

Use an activity diagram if you want to show a process, from start to finish.

If interactions occur during the process, this could be shown on an activity diagram with swim lanes.

4. Physics oscilloscope where signals can be taken through various processes, manipulating it to create output signals with specific characteristics.

One possibility:
Data flow diagram