Design Documentation

EECS 2311 - Software Development Project

Click to edit Master text styles
Second level
Third level
Fifth level

Tuesday, March 3, 2020

YORK UNIVERSITÉ UNIVERSITY

Stakeholder project requirements

1. Each element in the Venn diagram may have a longer description that is by default hidden, but the user must be able to display it
2. The app must support a mode where the user is asked to arrange a set of tags on the Venn diagram. Once finished, the user can compare their arrangement to a previously hidden correct answer

- Questions on these requirements can be sent to the instructor who will consult with the stakeholder

Design document

- Documents the high-level structure of the software system
- What are the **important** classes?
- What are the **important** methods?
- How do they interact with each other?
- What are **important** objects that get created at runtime?
- How are they connected to each other?

Design document

- Audience: Developers
  - The customer / user never sees the design document
- Goal: An experienced developer that is unfamiliar with the system should be able to read the document and get a clear idea of the system's design (ideally also the rationale for the design).

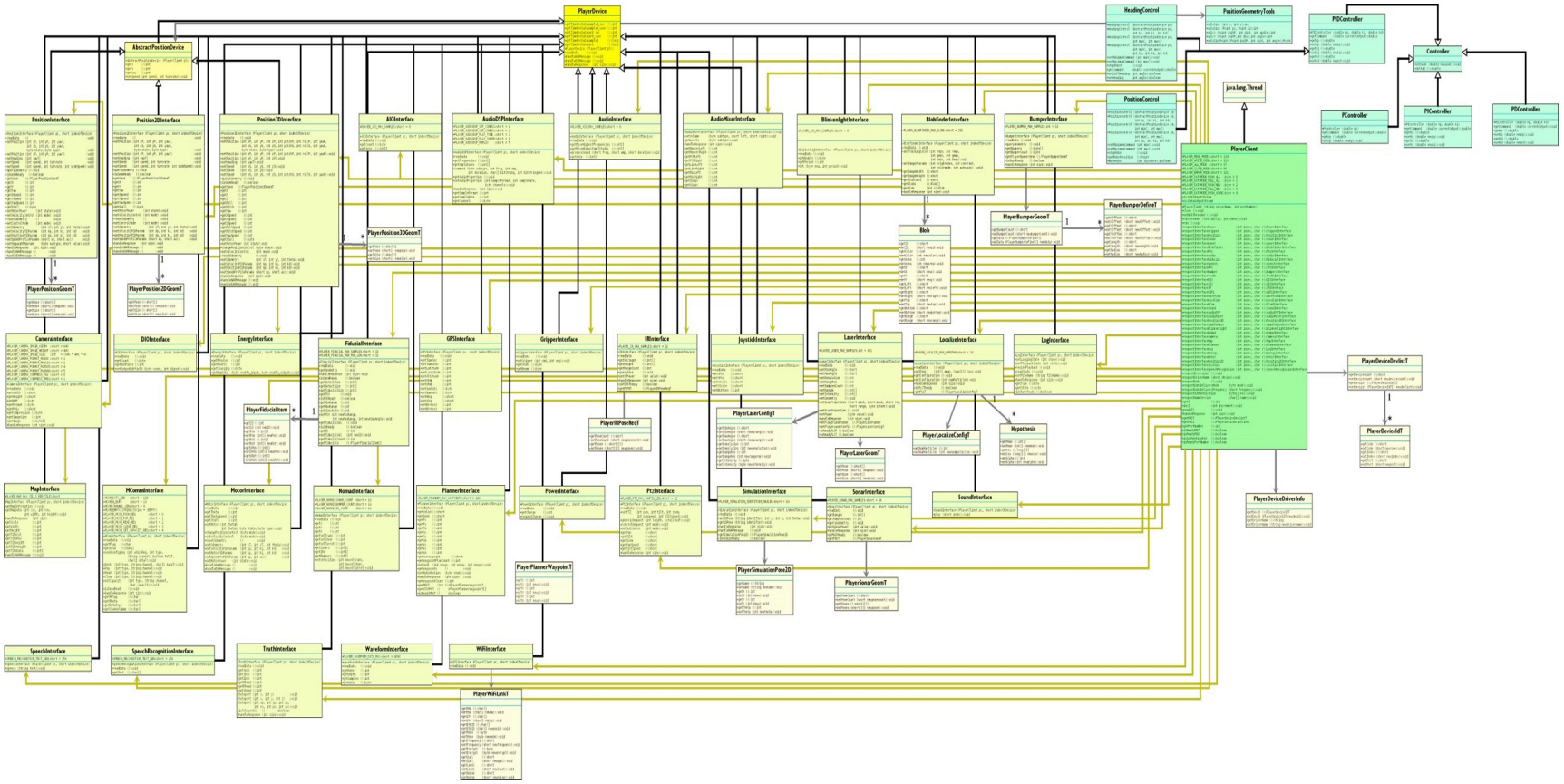
Diagrams are crucial

- A design document without diagrams is a poor design document
- Need at least:
  - A class diagram depicting the important classes and how they are connected (static view)
  - A sequence diagram depicting important objects and how they interact at runtime (dynamic view)

Class diagrams

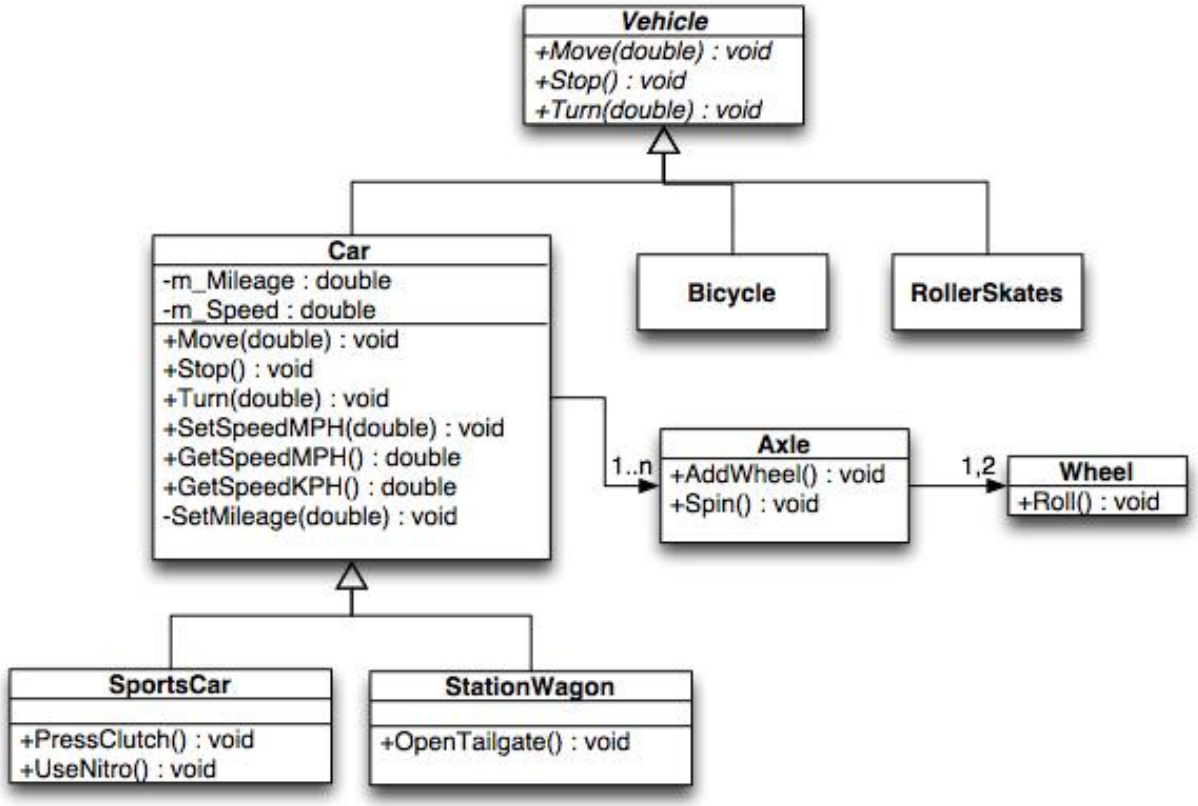
- Select the important classes / methods of your system and present the relationships between them in a UML class diagram
- Draw multiple diagrams rather than a single huge one
- **DO NOT** show every class in the system and / or every method in each class
- Automatic tools do a poor job of creating class diagrams. Draw your own diagrams!

Example of poor class diagram



YORK UNIVERSITÉ UNIVERSITY

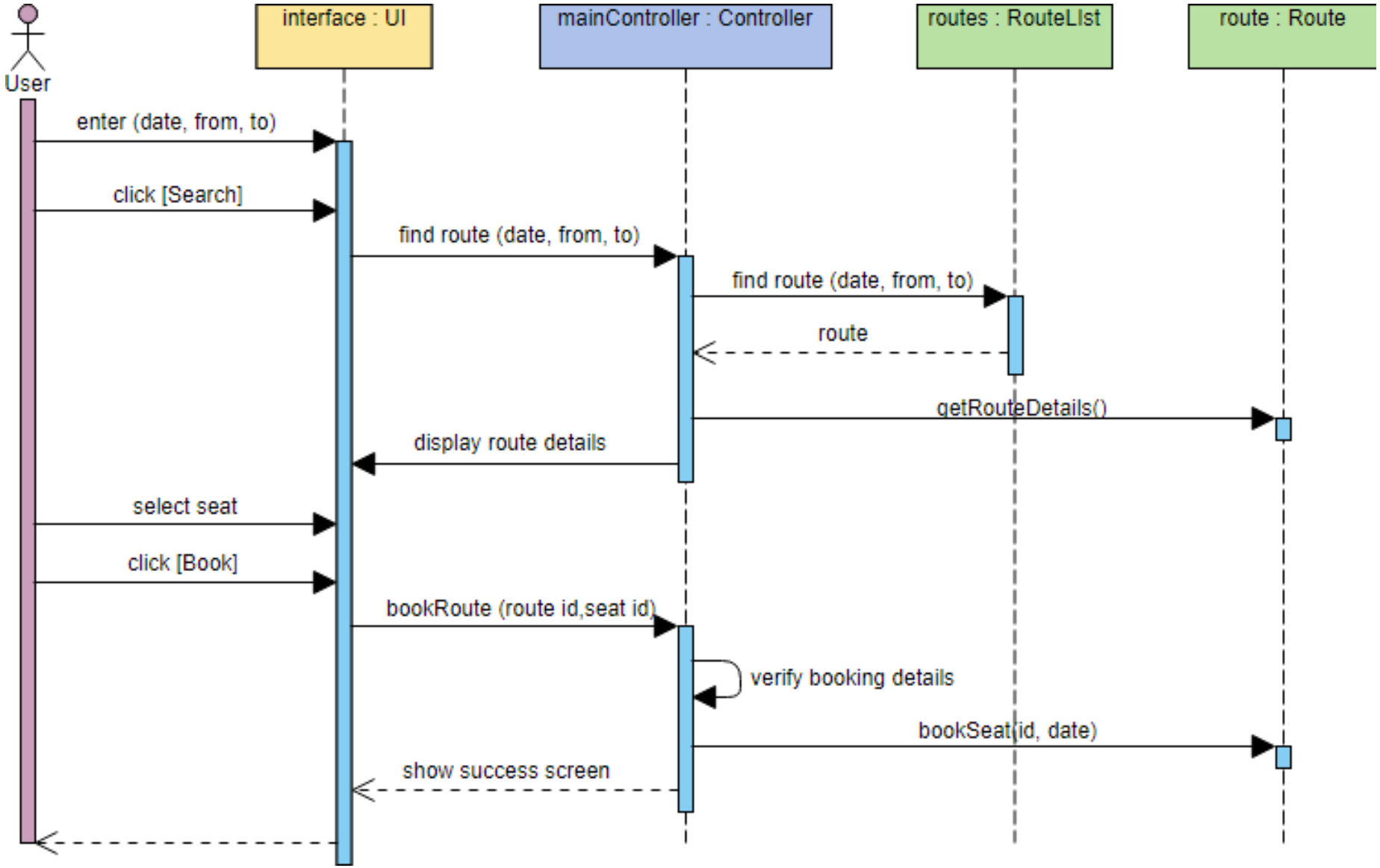
Example of useful class diagram



Sequence diagrams

- Depict how objects interact at runtime
- Time passes from top to bottom
- Need to draw sequence diagrams for all **important** runtime scenarios of your system
- Again, show relevant / useful information, omit unnecessary details
- See tutorial links on course website

Sample sequence diagram



https://online.visual-paradigm.com/tutorials/sequence-diagram-tutorial/

Learn a diagram tool

- As a software engineer, you will often need to create design diagrams
- Find a drawing tool that works for you and learn it well
- See link to list of tools on course website
- **`diagrams.net`** is a free web-based tool that supports UML diagrams

Lab Task

- Draw a class diagram describing some of the classes of your project (each member does their own diagram)
- Draw a sequence diagram describing an important scenario in your project (each member described a different scenario)
- Describe both diagrams to the TA in the lab
- Your design document submission must contain such diagrams