



UML Case Study – 4

Sequence Diagrams & Review

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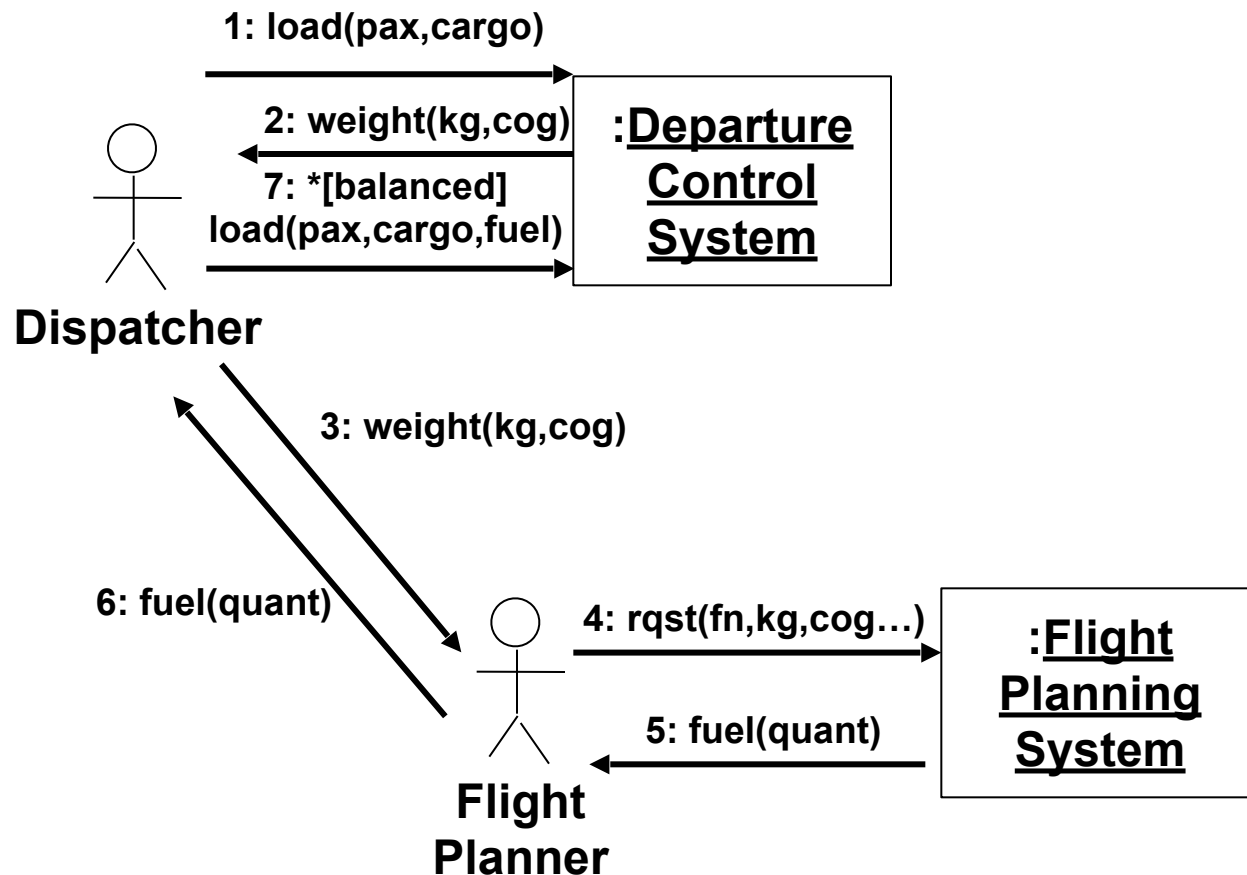


Objectives

- **To discuss Sequence Diagrams**
 - Example interaction between dispatcher and flight planner
- **To review the diagrams we have looked at**
 - With reference to the Flight Planning case study

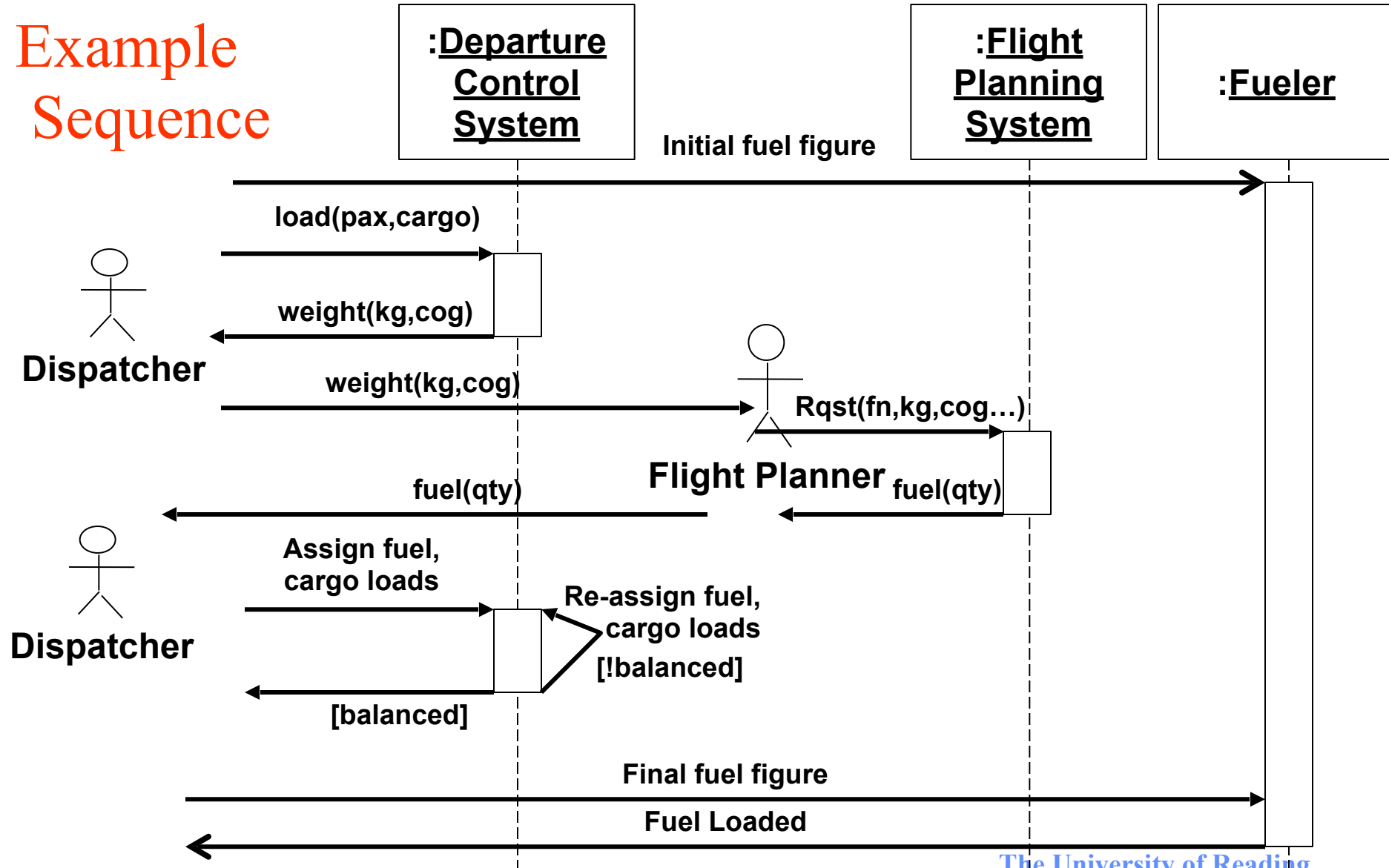


Example Collaboration





Example Sequence





Sequence Diagrams

- **Show how objects interact over time**
- **(Flow of) time is the most important element**
- **Parallel activities clearly shown**
- **Synchronisation points shown**
- **Branching and loops possible**
 - But can quickly get complicated



Uses Of Sequence Diagrams

- **Best for showing the interaction and coordination of asynchronous activities**
 - Many distributed systems are like this
 - Multi-threaded applications can also be described
 - Have a lot in common with “logic diagrams” from digital electronics
- **Also good where several objects are created and destroyed during the activity**
 - Good for showing persistent web based interactions
 - Good for distributed object interactions (e.g. DCOM, CORBA, J2EE)



Sequence Diagrams Problems

- **Can get complicated quickly**
 - There is a small “zone of usefulness” between:
 - Trivial diagrams that are obvious
 - Complicated diagrams that are impenetrable
- **As always, needs skill and intelligence to produce them**
 - Domain experts / end users not usually able to produce them



UML Modelling Review

- **We have looked at**
 - Class Diagrams
 - Use Case Diagrams (and use cases in other forms)
 - Collaboration Diagrams
 - Sequence Diagrams
- **We used them to examine a non-trivial application case study**
 - Calculating routes and fuel loads for commercial aircraft
- **Did the UML diagrams help with understanding?**
 - You must make up your own minds!



My 2c Worth...

- **UML Diagrams can be good for communication between developers, domain experts and end users**
- **They need training and experience to produce well**
- **They benefit greatly from tool support**
- **They can quickly become over-complicated and counter-productive**
- **It can be difficult to relate each diagram to the “big picture”**
- **UML is just a tool, it is not a magic bullet!**



UML Case Study The End

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