

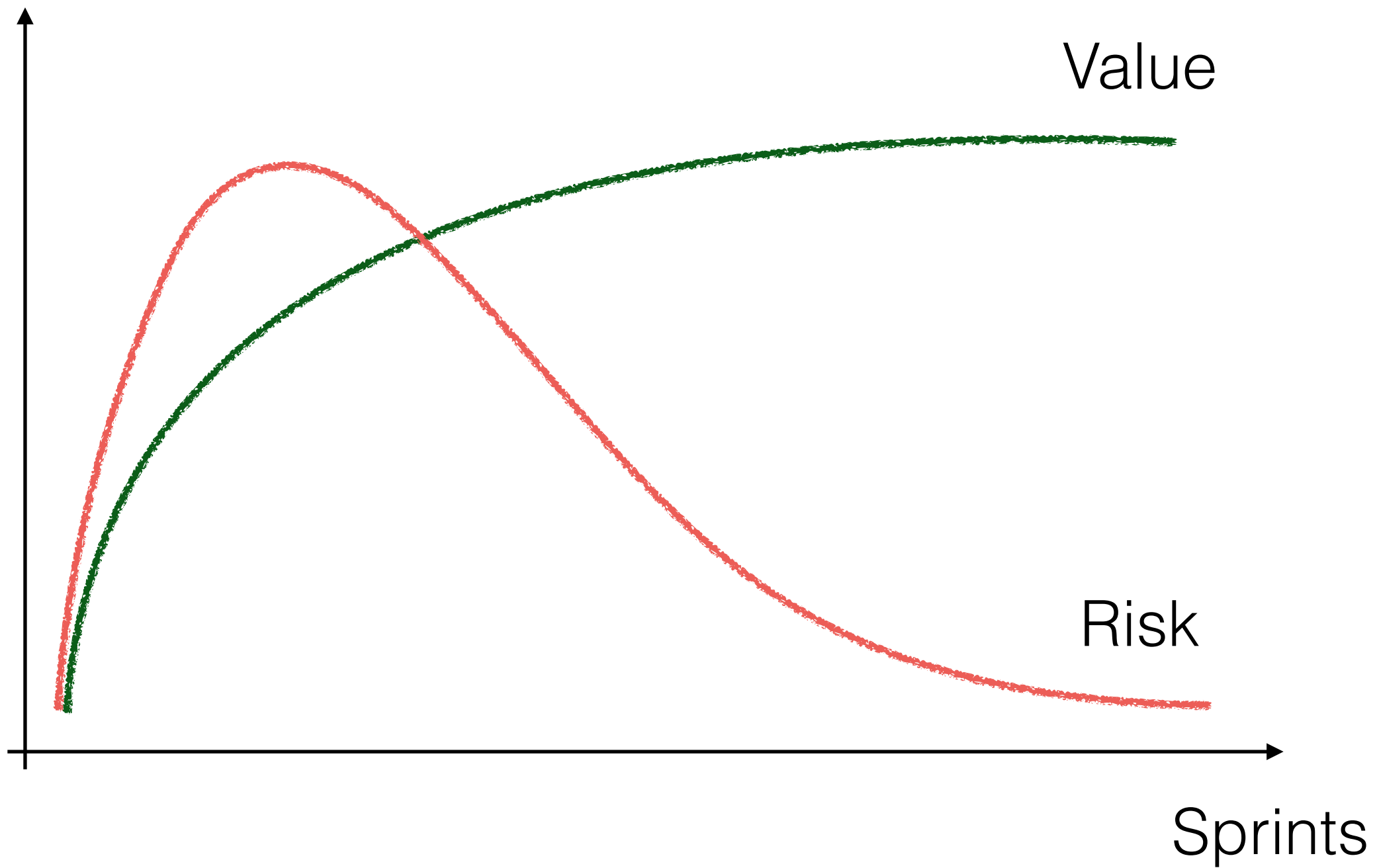
Lecture 3

Design + Planning

27 Jan 2017

Incremental Delivery

- Week 5 - Week 9 (and beyond)
- One sprint per week
- Add / enhance features every week
- Potentially shippable product every sprint



What count as
potentially shippable?

tested
valuable
integrated

Early sprints

- may not be efficient
- may not be user friendly
- may not be secure
- may not be “smart”

A good software
architecture is important

low coupling
high cohesion

Modifiability

if we replace X with Y, how much
code do we need to change?

Modifiability

if we change X , how much code
(outside of X) do we need to
change?

Modifiability

can we delay deciding on how to
do X until later?

Testability

can we test X without needing
other components?
(e.g., no UI? no DB?)

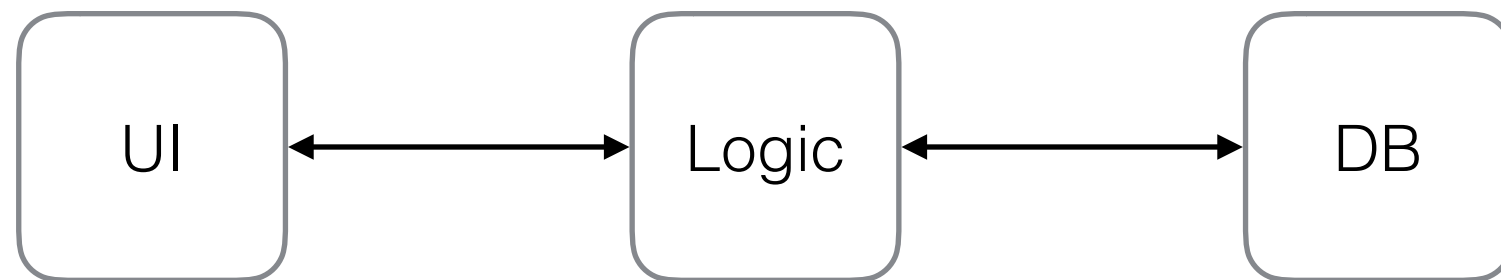
Reusability

can X be reused in other
systems / context ?

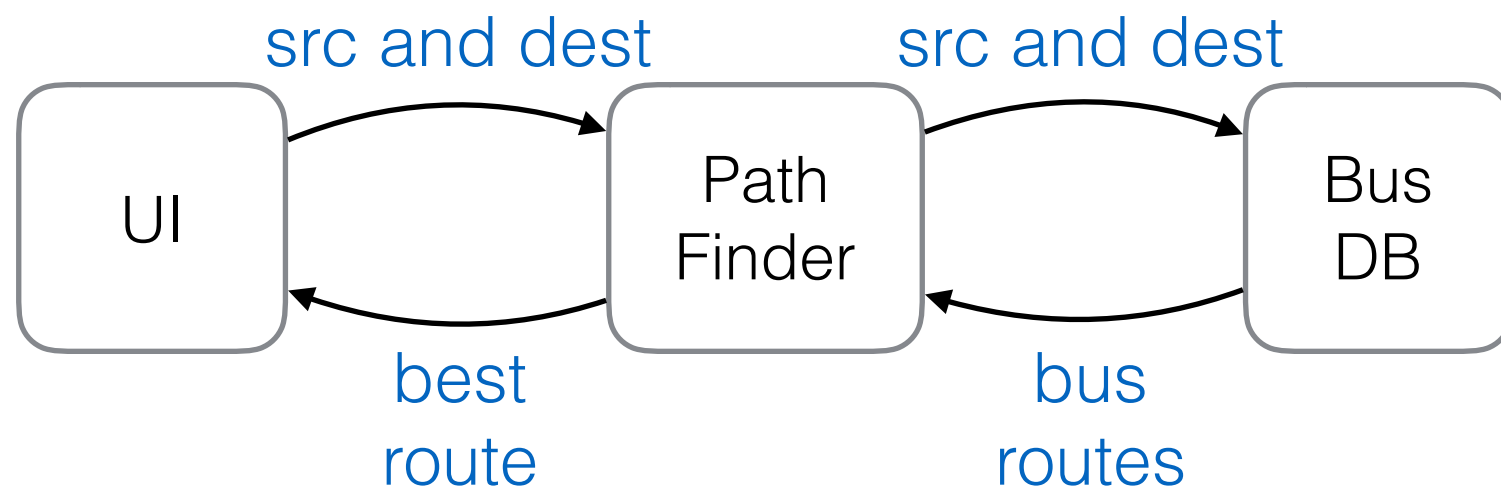
Good architectural
diagrams

A good architecture
diagram should reflect the
functions of the software

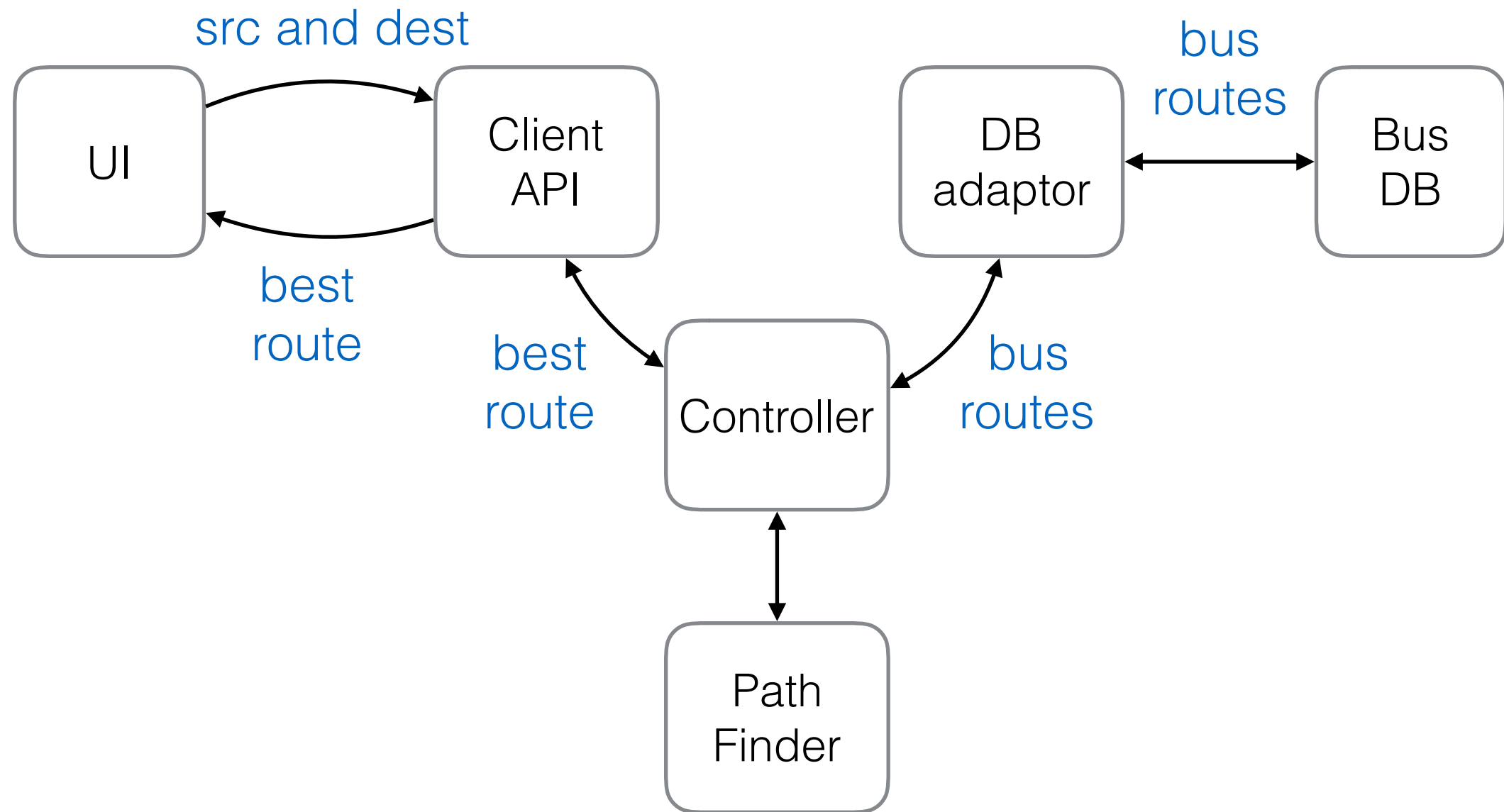
What is this application about?



What about this one?

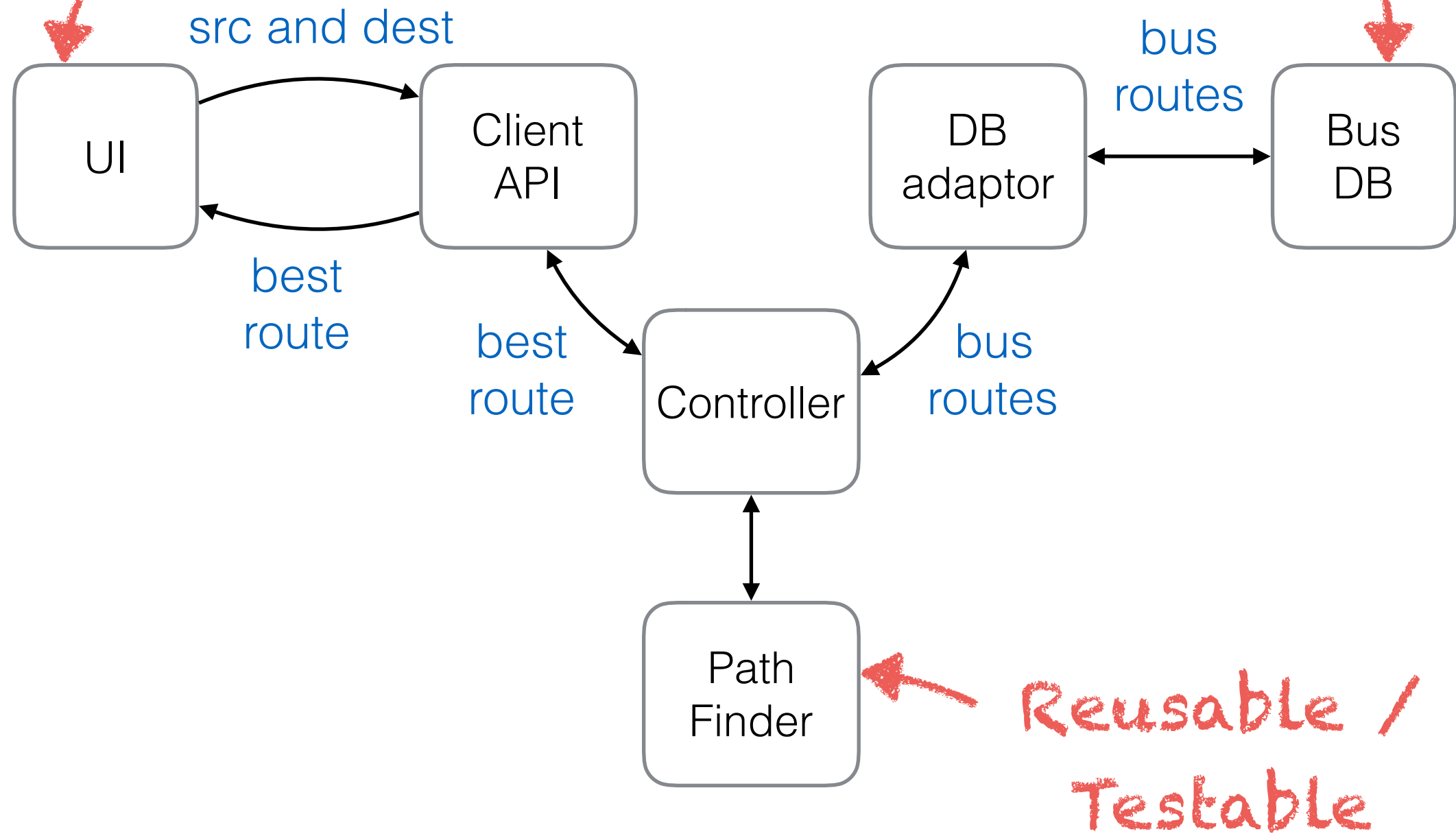


Reduce coupling



Replaceable

Replaceable



Tips

- List down the responsibilities of each box
- If too many, can the box be decomposed further?
- Does the label of the box reflect the responsibility?

Tips

- Can you reduce the number of arrows?
- Introducing new boxes may help

Sprint Planning

Incremental Delivery

- Week 5 - Week 9 (and beyond)
- One sprint per week
- Add / enhance features every week
- Potentially shippable product every sprint

Important Task for Week 4

- Determine what to deliver at end of Week 5
- Which user stories to complete first?
 - Dependencies among user stories
 - Value of each user stories
 - Estimated complexity of each user stories

Important Task for Week 4

- Ideal: one user story, one task
- Break down a user story if:
 - cannot complete in each sprint
 - too complex (“epic”)

Target for Next Week

- Refined requirements
- Refined design
- Plan for Week 5
- Get familiarize with the tools/library/framework
- Setup GitHub, Heroku, Travis with skeleton