Software Lifecycle Phases

Software Systems — Design — L1T2

Dr. Vadim Zaytsev aka @grammarware, November 2020

UNIVERSITY OF TWENTE.
Formal Methods & Tools

Coding is . . .

Catalin Pit
@catalinmpit

Let me break it for you.

Coding is:
- 1% actually coding
- 40% debugging
- 15% coffee breaks
- 30% googling errors
- 9% staring with your colleagues at the screen
- 5% trying copy/pasted solutions from Stack Overflow

11:24 AM · Sep 5, 2020 · Twitter for Android

76 Retweets **10** Quote Tweets **342** Likes

https://twitter.com/catalinmpit/status/1302175815053062149

100x Developer

- Better code ⇒ less debugging
- Learning ⇒ less time googling
- “Staring at the screen” is old school design
- Fewer coffee breaks ⇒ better flow
- Today’s topic:

  elements of software (dev) lifecycle

Catalin Pit
@catalinmpit

Let me break it for you.

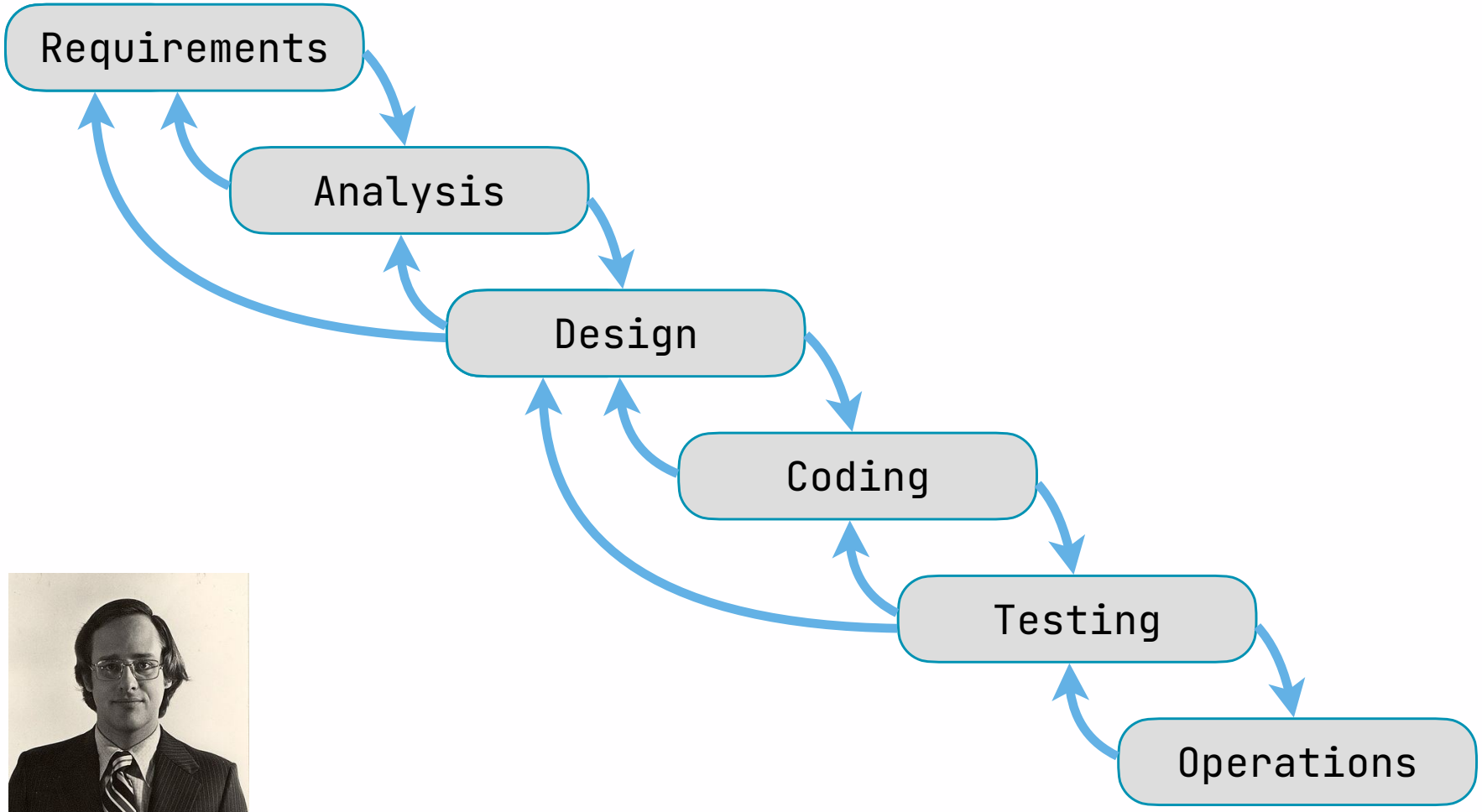
Coding is:
- 1% actually coding
- 40% debugging
- 15% coffee breaks
- 30% googling errors
- 9% staring with your colleagues at the screen
- 5% trying copy/pasted solutions from Stack Overflow

11:24 AM · Sep 5, 2020 · Twitter for Android

76 Retweets **10** Quote Tweets **342** Likes

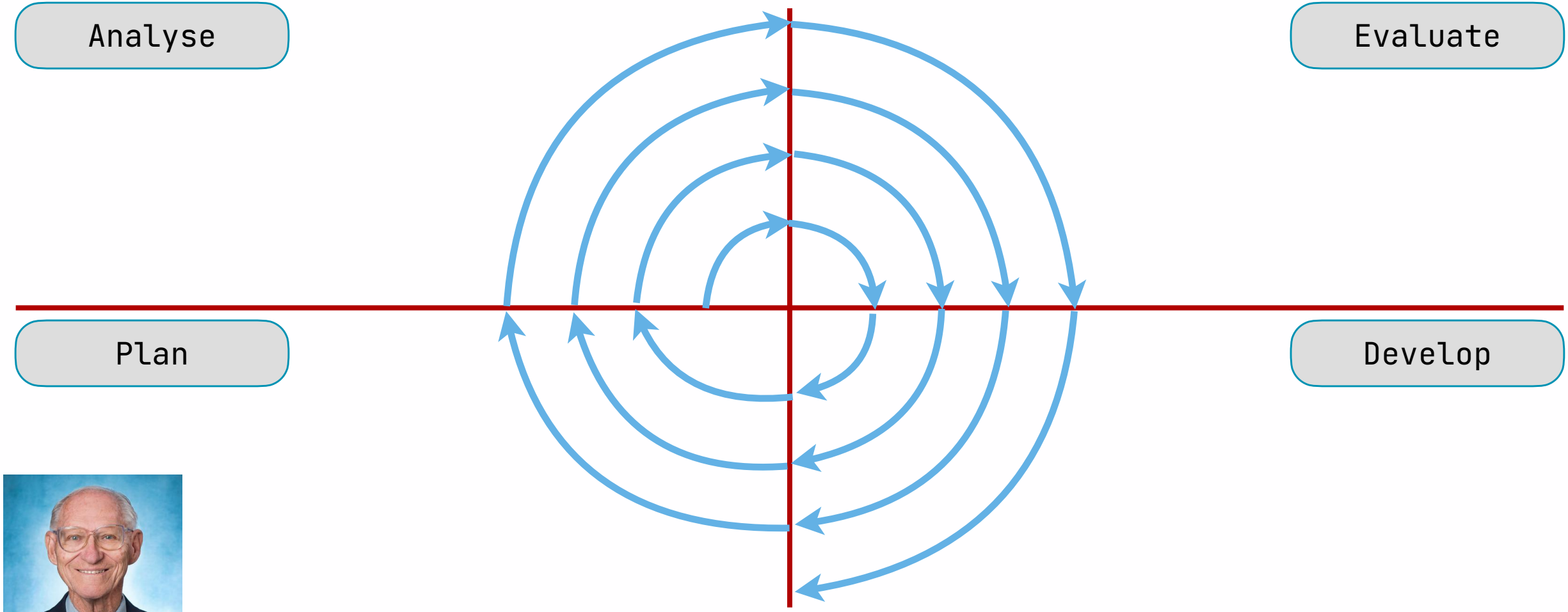

Айвазовский
1900

Waterfall



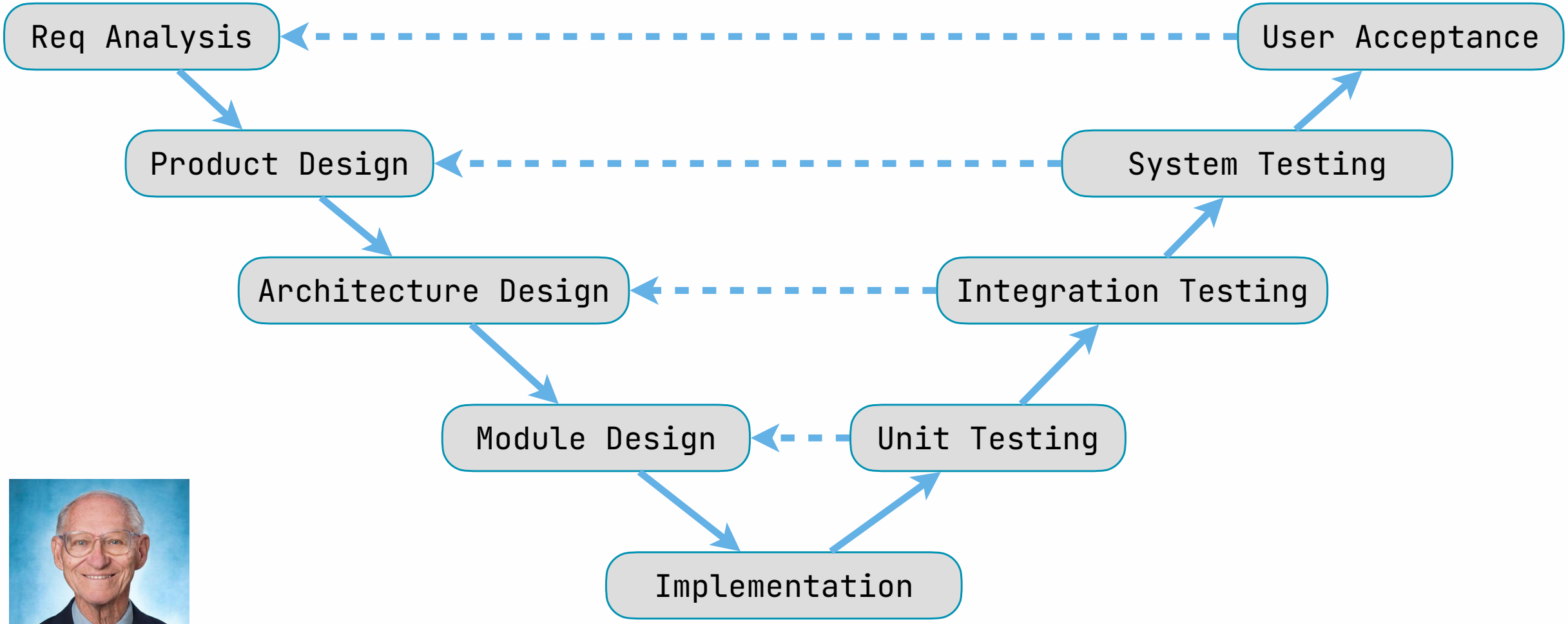
W.W.Royce, Managing the Development of Large Software Systems: Concepts and Techniques, ICSE'87.

Spiral



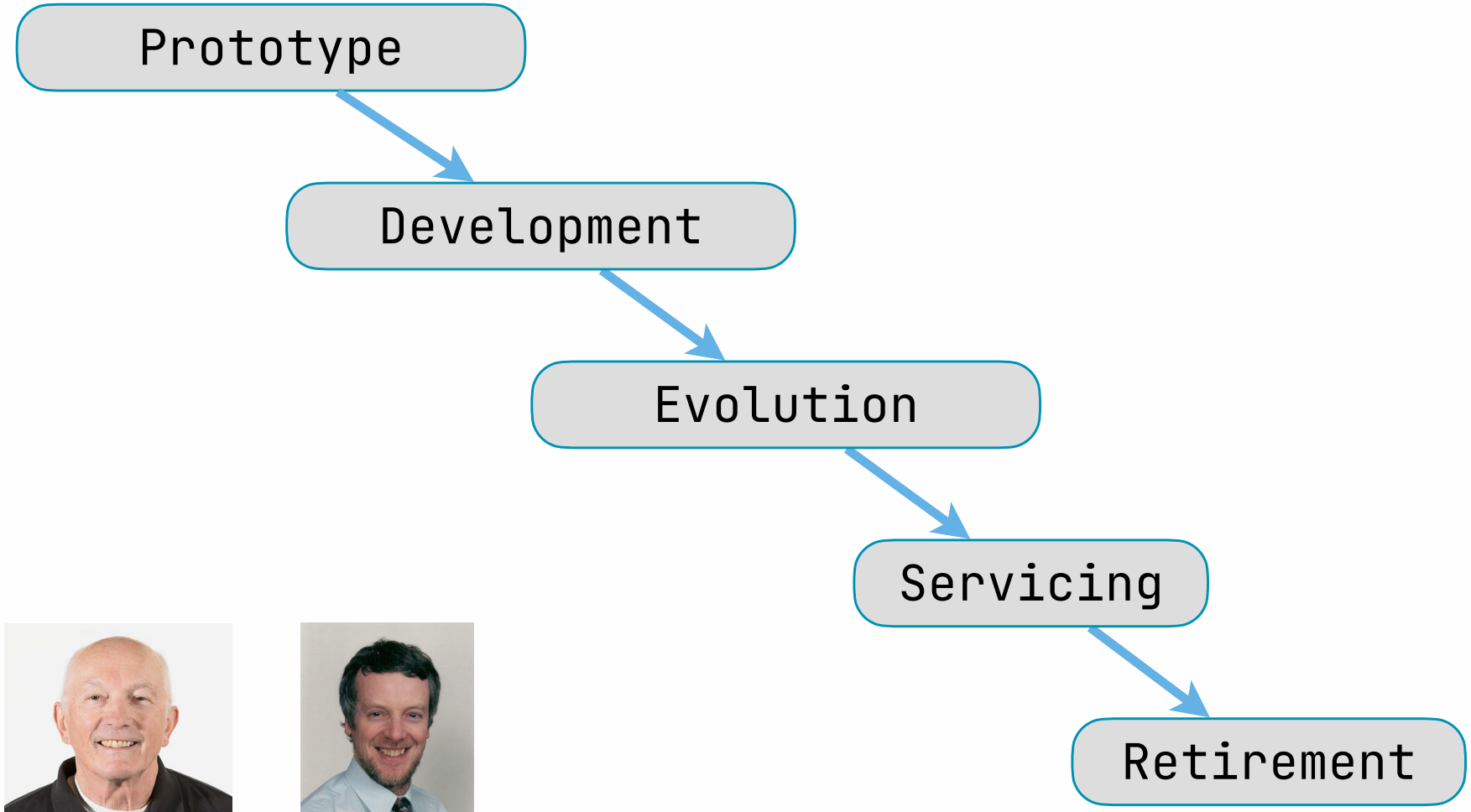
B.Boehm, *A spiral model of software development and enhancement*, ACM SIGSOFT SE Notes, 1986.

V-Model



B.W.Boehm, *Guidelines for verifying and validating software requirements and design specification*, EuroIFIP, 1979.

Staged



V.T.Rajlich,K.H.Bennett, *A Staged Model for the Software Life Cycle*, Computer 33(7), 2000.

Core Lifecycle Elements

- Requirements
- Design
- Construction
- Maintenance
- Testing
- Operation

Conclusion

- Cannot spell lifecycle without a cycle
- Different models of software development process
  - Waterfall, Spiral, Staged, . . .
- Development phases
  - Requirements, Design, Construction
- Post-development phases
  - Maintenance, Deployment
- Testing can be anywhere / should be everywhere

Topics/Slides Disclaimer

- Good ✅
  - watch before Q&A
  - embrace reality
  - try out at labs
  - ask for feedback
  - apply to project
  - dig deeper
  - recall from slides
- Bad ❌
  - slides over videos
  - assumptions
  - blanks
  - timing