

oueees-202106 topic 12: Network services and programming trends

Kenji Rikitake

22-JUN-2021

School of Engineering Science, Osaka University

On the internet

@jj1bdx

Copyright ©2018-2021 Kenji Rikitake.

This work is licensed under a [Creative Commons Attribution 4.0 International License](#).

CAUTION

Osaka University School of Engineering Science prohibits copying/redistribution of the lecture series video/audio files used in this lecture series.

大阪大学基礎工学部からの要請により、本講義で使用するビデオ/音声ファイルの複製や再配布は禁止されています。

Lecture notes and reporting

- <https://github.com/jj1bdx/oueees-202106-public/>
- Check out the README.md file and the issues!
- Keyword at the end of the talk
- URL for submitting the report at the end of the talk

Topic of this video:

Network services and programming trends

Trends of (network) services

- Becoming hybrid and more complex, many different parts
- Web design: user experience (UX), accessibility, usability
- Development: database, web frontend, web backend
- Site Reliability Engineering (SRE), infrastructure and operation
- Security: vulnerability assessment, incident response

Why learning programming?
Programming = making software
Programming is the only way to fabricate a system
Computers can only do their job through programming
It's often *you* need to write the code, not somebody else

Programming is a language

There are various languages which fit and don't fit your requirement

There are no good or bad programming languages

Modern software development: team, library, and ecosystem

- Development as a *team*, not just individual
- Depending on *libraries*, not just newly-written code
- Depending on the *ecosystem*, not just you and your team

So what to learn?

- Popular ones (C++, JavaScript, Python, etc.)
- *Required* ones by your tasks (old languages)
- For experiments and prototyping (esoteric languages)
- Learning a programming language can change your mind

My suggestions: Erlang/Elixir for concurrency

- Concurrency is the key for distributed network programming
- Erlang for learning the basic functional programming
- Elixir for applying functional programming for web
- Disclaimer: these languages are not necessarily popular, but will surely change how you understand computer programming

すごいErlangゆかいに学ぼう!

- オーム社 ISBN 9784274069123
- 達人出版会の電子書籍



プログラミングElixir 第2版

- オーム社 ISBN 9784274226373
- 達人出版会の電子書籍

プログラミング Elixir 第2版

Programming Elixir ≥ 1.6

Functional
|> Concurrent
|> Pragmatic
|> Fun

Dave Thomas 著
笹田耕一・鳥井 雪 共訳

