Web Application Development

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About

Offline	Lectures	Practices	Homework
32 hours	8 hours	24 hours	72 hours

Course staff

- Instructor:

  associate professor, PhD, Alexander Menshchikov

- Assistant:

  master student, Chuyen Nguyen

Course objectives

- Obtain knowledge of the basic principles for the web-development
- Practice by developing several web applications

You will be able to

- Use Python language to build web applications
- Deploy web application into secure environment
- Develop a full stack web application

In details

- Frontend fundamentals
- Backend fundamentals
- Data storage and authentication
- Databases
- Production deploy
- Docker
- Group work

In details

	Mon	Tue	Wed	Thu	Fri	Sat	Sun
March 21-27		L1	L2	P1 (N41503c)	P1 (N41513c)		
March 28-3		L3		P2 (N41513c)	P2 (N41503c)		
Apr 4-10		Finals					

https://wad.itmo.xyz/

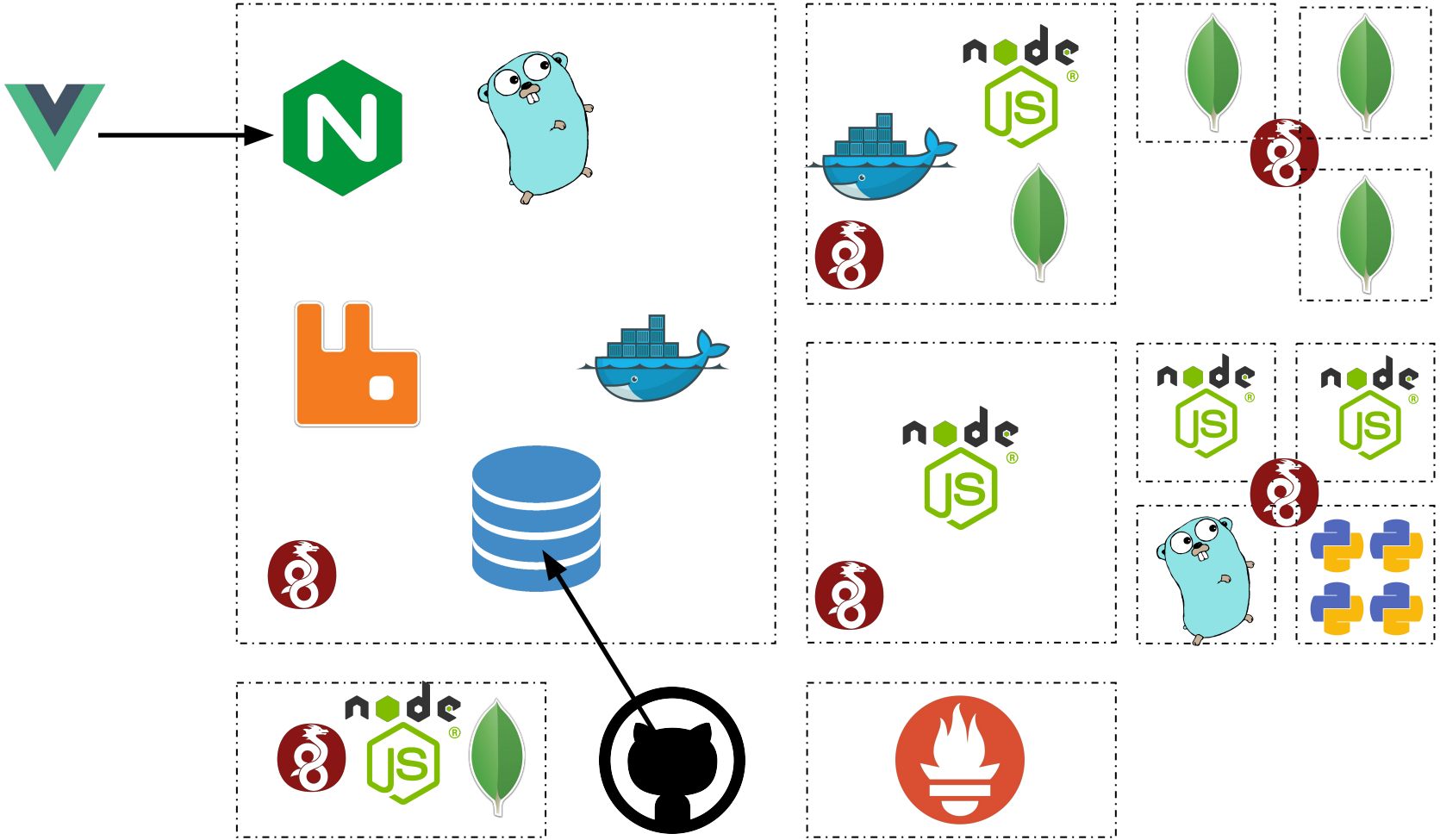
Syllabus

- Frontend fundamentals — **How to visualise website**
- Backend fundamentals — **How to run dynamic website**
- Data storage and authentication — **Where to store data; How to identify users**
- Databases — **How to store/search/update data on scale**
- Production deploy — **Where to buy server; How to run application on server**
- Docker — **How to wrap up your application**
- Team work — **How to organize a software development team**

Topics

- Frontend fundamentals — **HTML, CSS, JS, git**
- Backend fundamentals — **HTTP, Python, Flask, Web Protocols**
- Data storage and authentication — **Cookie, authentication, JSON**
- Databases — **Key-value, MongoDB, PostgreSQL, Redis**
- Production deploy — **VPS, Linux, DNS, DevOps, Nginx, Proxy, SSL**
- Docker — **Docker, docker-compose**

https://www.tiobe.com/tiobe-index/

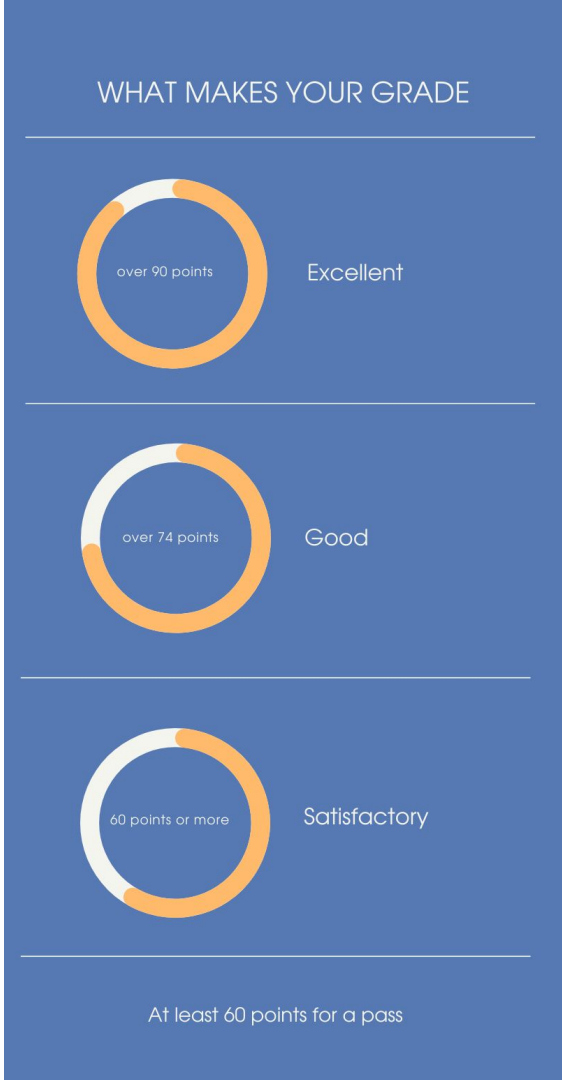


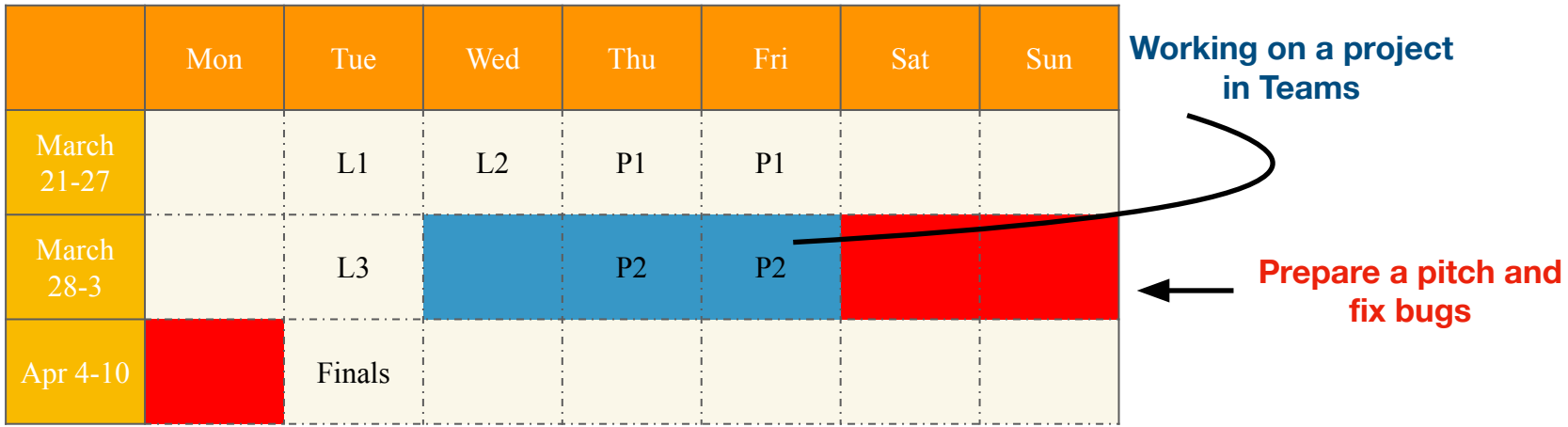
Prerequisites

- Any programming language
- Basic level of HTML+CSS

Assessment

- Final project (30%)
- Homeworks (30%)
- Practices (30%)
- Attendance (10%)
- Non-zero number of commits, pull-requests, code reviews, etc.



Team work

- Randomly and non-randomly shuffled teams
- Different levels (difficulty) of homework
- Communication and team-work experience