OIM3690 - Web Technologies

2022 Fall

Session 26 (12/01)

Today's Agenda

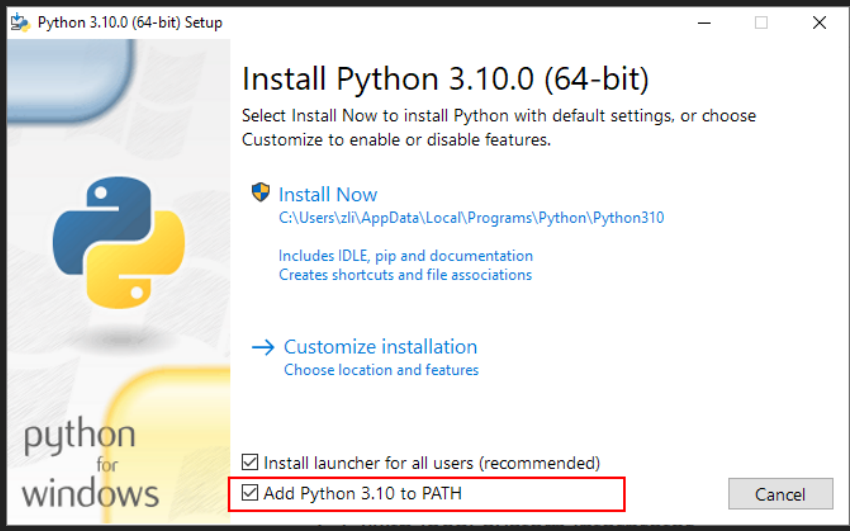
1. Welcome/News/Announcements
2. Responsive Design and Bootstrap
3. **Introducing React** by Gibson Njine
4. Course Review
5. Session 26
    i. Creating a web app using **Python**
    ii. Revisit How web works

Welcome/News/Announcements

1. Project **Final**: due **Tuesday 12/06**
    - I am available to meet to discuss about your project this week and next week.
2. Class Schedule:
    - Today: **Class Overview**/Creating Web App using **Python**
3. Grading Scheme:
    - Participation/Exercises/Quizzes: 40%
    - Graded Homework: 30%
    - Term Project: 30%

Get Python

1. Go to https://www.python.org/downloads/. Click "*Download Python 3.11*".
    - **Be very careful for the next step!!**
2. After downloading, follow the instruction to finish installation.
    - On the first screen of installation, **enable** the "**Add Python 3.11 to PATH**" option.
    - If you forget the step above, you have to **uninstall** Python in Settings and **reinstall**.



Social Time

Answer the following question(s):

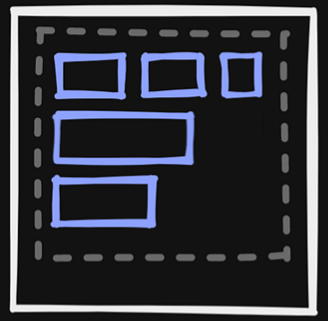
1. Do you plan to learn more on **Web Dev** before graduation (or in near future)?
2. Do you plan to learn other **programming language(s)** before graduation (or in near future)?
3. Do you plan to **keep your project website** after end of semester?
4. What question(s)/mystery(-ies) has the class answered/clarified for you? What are you still wondering about?

Responsive Design and Bootstrap

1. Introduction to Bootstrap
2. Bootstrap demo: App Landing Page

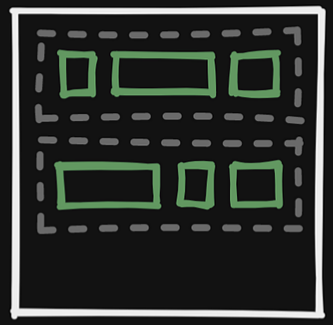
CSS Layout Modes

flow



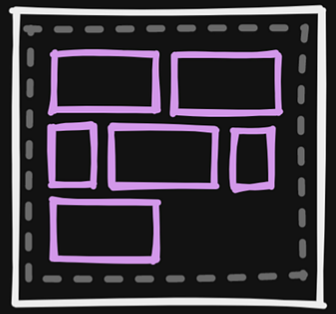
this is the default. elements flow like text

flexbox



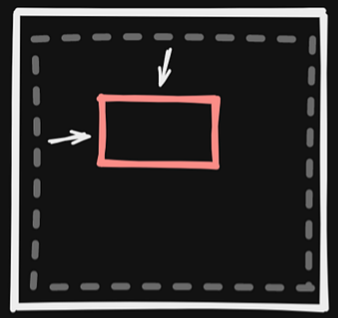
one-dimensional layout system

grid



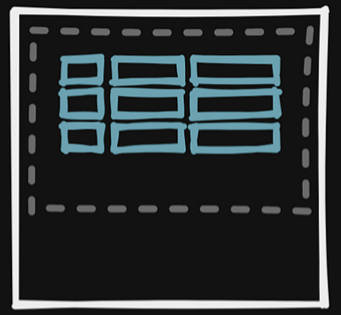
two-dimensional layout system

positioned



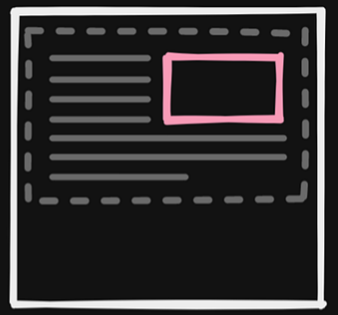
extract from normal flow to a precise position

table



for structured tabular data

float



for floating images inside of text. occasionally used for layouts by masochists

Introducing React by Gibson Njine

Progress in 14 Weeks

- **14 weeks ago**:
  - you never wrote **HTML/CSS/JavaScript**
  - you knew **nothing** or **little** about programming
  - you never used **VS Code/GitHub**
  - you never created/owned a **website**
- **Today**:
  - well, let us take a look...

What we have learned in this semester...

1. HTML
2. CSS
3. JavaScript
4. and many other stuff
    i. Git and GitHub
    ii. VS Code
    iii. Responsive Design, i.e. Bootstrap
    iv. SEO
    v. Domain and Hosting
    vi. ...

Recommendations

- W3Schools
- MDN Web Docs
- GitHub Explore and popular topics
- r/webdev
- Many MOOCs
  - Coursera/udacity/edx/lynda/Khan...
  - YouTube Channels, e.g. freecodecamp, Traversy Media
  - Udemy
  - Full Stack Open Course
  - The Odin Project

What else to learn

- More Web - A visual overview of useful skills to learn as a web developer
  - **CMS**, i.e. WordPress
  - More JavaScript, i.e. node.js
  - Web application library/framework, i.e. React, Vue.js
  - YouTube: Web Development In 2022 - A Practical Guide
- Others - roadmap.sh
  - Other programming languages
    - Python/Java/TypeScript/Go/Rust/Solidity...
    - 2022 Stack Overflow Developer Survey
  - UI/UX Design
  - Becoming a product manager

Being a Product Manager (PM)

- Understand demand
- Collect demand
- Analyze demand
- Convert demand to tasks
- Project management
- ...repeat after launching the product

Being a PM: Front-end PM/Feature PM/UI PM

- Technical skill sets:
  - UI, i.e. Figma/Sketch
  - A/B testing
  - Front-end experience
  - Data Analytics
- Intracting with other roles:
  - UIUX Designer
  - Engineers
  - Data Analyst/Data Scientists
  - User Researchers
  - Users

Being a PM: Back-end PM/PM-Technical

- Technical skill sets:
  - Depending on technologies of the product
    - i.e. cloud infrastructure, database products, APIs, ML algorithm
  - Data
  - Basic Coding/Software Development
- Interacting with other roles
  - UIUX Designer
  - Engineers
  - Data Analyst/Data Scientists
  - User Researchers
  - Users

Session 26 - Creating a web app using *Python*

Introduction to Web Application - Flask

- What is **Flask**?
  - Flask is a micro web framework written in Python.
- Popular sites using Flask:
  - Whole webiste: **Pinterest**, **Twilio**
  - In tech stack:
    - Reddit
    - LinkedIn
    - Netflix
    - Lyft
    - ...

Flask - Routing

- What is routing?

  > Modern web applications use meaningful URLs to help users. Users are more likely to like a page and come back if the page uses a meaningful URL they can remember and use to directly visit a page.

- Examples:
  - https://www.MySuperAwesomeVlog.com/new
  - https://www.MySuperAwesomeVlog.com/1
  - https://www.MySuperAwesomeVlog.com/1/edit

Session 26 - Creating a web app using *Python*

1. Installation

```
> python -m pip install flask
# macOS/Linux users:
> python3 -m pip install flask
```

2. Creating our first Flask application
3. Turn on **Debug Mode**
4. Resources:
    - Flask Quickstart
    - Flask Web App Demo
    - HTML for Flask
    - 10 Best Flask Tutorials For Beginners in 2022

Thanuk you