What is
Full Stack Web Development?

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THE DEPARTMENT OF
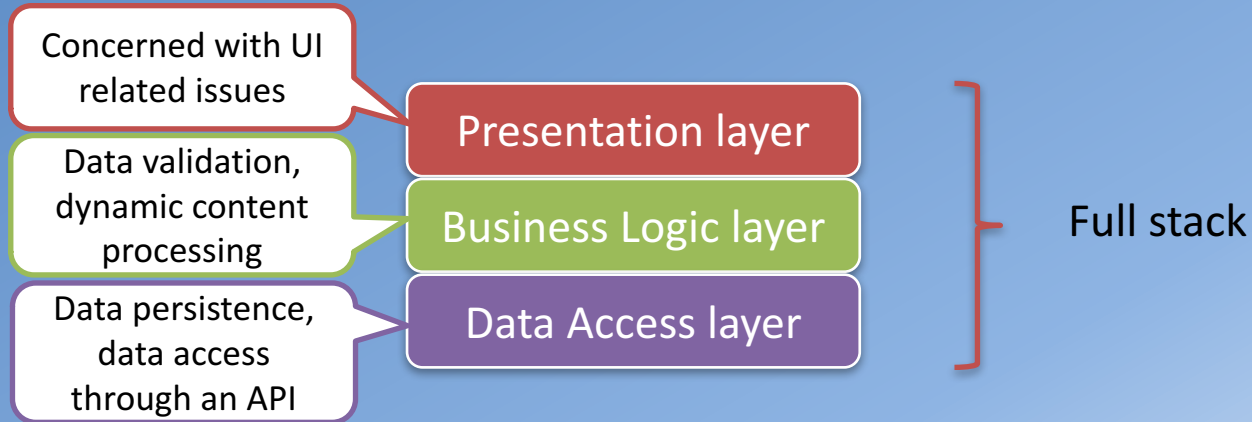**COMPUTER SCIENCE & ENGINEERING**
計算機科學及工程學系

香港科技大學
THE HONG KONG UNIVERSITY OF
SCIENCE AND TECHNOLOGY
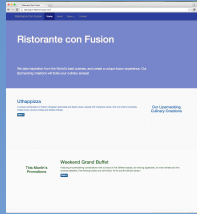
Front end and Back end

- Front end / Client-side
  - HTML, CSS and Javascript
- Back end / Server-side
  - Various technologies and approaches
  - PHP, Java, ASP.NET, Ruby, Python

https://en.wikipedia.org/wiki/Front_and_back_ends

Three Tier Architecture

Concerned with UI related issues

Presentation layer

Data validation, dynamic content processing

Business Logic layer

Data persistence, data access through an API

Data Access layer

Full stack

https://en.wikipedia.org/wiki/Multitier_architecture#Three-tier_architecture
http://www.tonymarston.net/php-mysql/3-tier-architecture.html

Traditional Web Development

HTML, CSS, JS

Ruby, Python, Java, C++, PHP

DBMS

Server-side rendering

Presentation layer

Business Logic layer

Data Access layer

Full Stack JavaScript Development

Single page Apps
using JavaScript frameworks
like Angular

NodeJS and
NodeJS modules

MongoDB
JSON documents

REST API
serving JSON

Presentation layer

Business Logic layer

Data Access layer

Full Stack Web Development

UI Framework Bootstrap 4

JS Framework Angular

JS

CSS

HTML

Presentation layer

BaaS

NodeJS Modules

NodeJS

Business Logic layer

MongoDB

Data Access layer
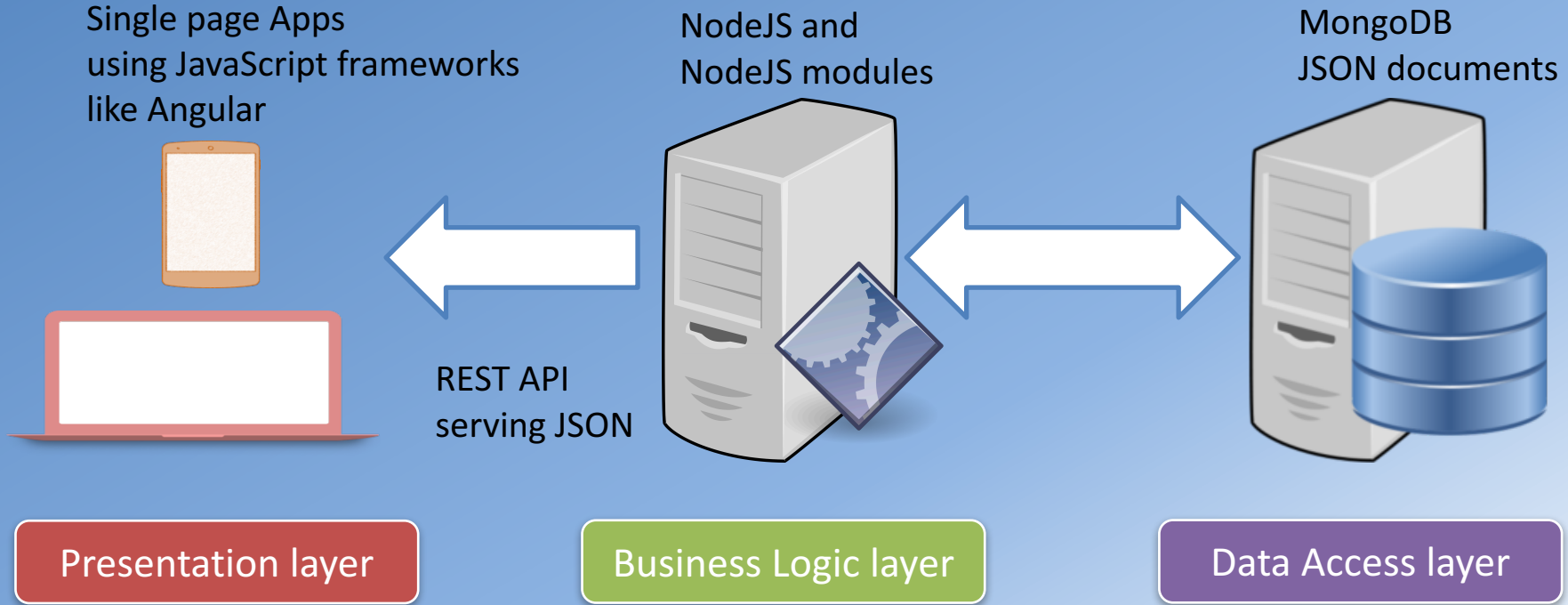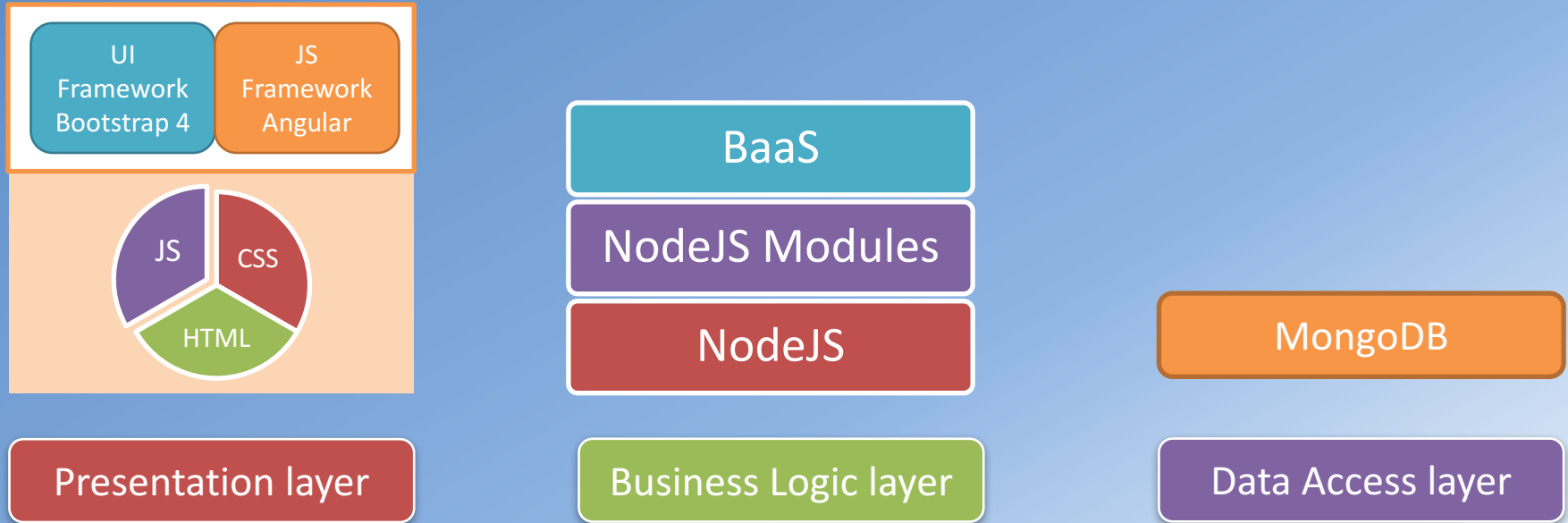
Full Stack Web and Hybrid Mobile Development

- Course 1: Front-End Web UI Frameworks and Tools
  - Bootstrap 4
  - Web Development Tools
- Course 2: Front-end JavaScript Frameworks: Angular

Full Stack Web and Hybrid Mobile Development

- Course 3: Multiplatform Mobile App Development with Web Technologies: Ionic and Cordova
  - Ionic Framework
  - Cordova
- Course 4: Multiplatform Mobile App Development with Web Technologies: Nativescript

Full Stack Web and Hybrid Mobile Development

- Course 5: Server-side Development with NodeJS and Express
  - Node JS
  - NodeJS modules
  - Express
  - MongoDB
  - BaaS