SOFT8020
APPLICATION
DEVELOPMENT
FRAMEWORKS

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INBOX IN CANVAS

LEARNING OUTCOMES

- Use the Spring framework to create a secure, RESTful web service

- Focusing on

  - Good coding practises (clean code)

  - Reusable components

  - Maximising Spring's benefits

    - Emphasise ORM in JPA

HOURS

2x1-hour lectures

2-hour lab
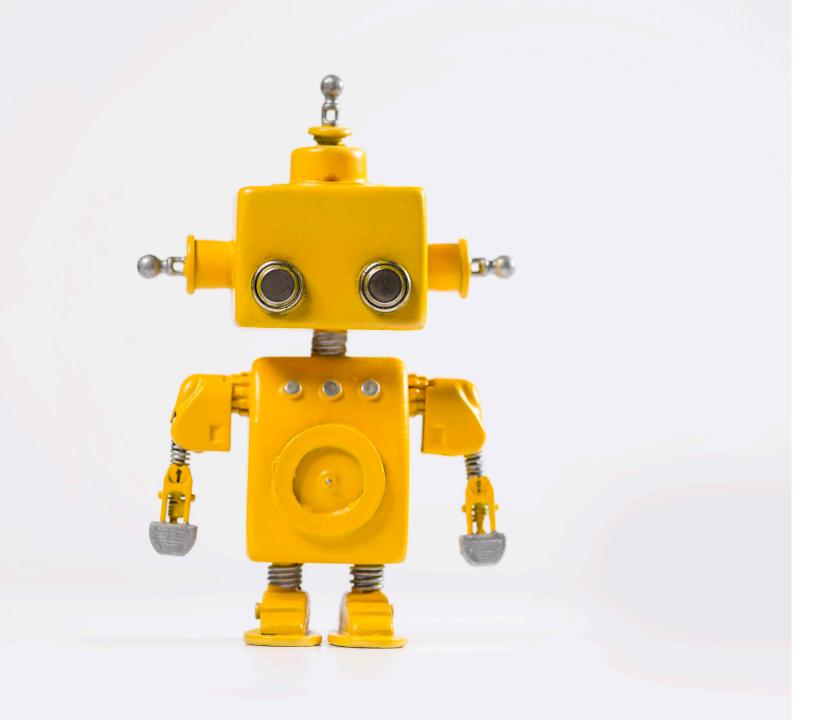
ASSESSMENTS – DATES TBC

MCQ 20% Wk 4/5

Project 1 30% Wk 7

Spring framework with SQL (using H2) through JdbcTemplate

Project 2 50% Wk 12/13

Spring Boot with JPA to create a Restful web service following HATEOAS and applying Spring's security

TECHNOLOGIES

- IntelliJ IDEA Community Edition

- Java 17

- Lombok plugin

- H2 embedded SQL for development

- Maven

- Spring Framework
  - Spring Boot
    - JPA
    - Security
    - REST
    - HATEOAS

PROJECT – RESEARCH AND IMPLEMENTATION PHASES

How might you use what you learn?

- Spring is a Java framework

- Employers are looking for Java and Spring skills.

- Project:

  - Spring is excellent to create a RESTful webservice (microservice)

  - Front-end suggestions are Angular JS, React.js, Flask etc. and Flutter or React Native UI frameworks to develop for mobile and web from a single codebase.

  - Aside: Flutter 3 was released earlier this year by Google and is based on objects. It is lovely to use. It now includes Firebase support and works well for web sites as well as mobile.

WE WILL USE

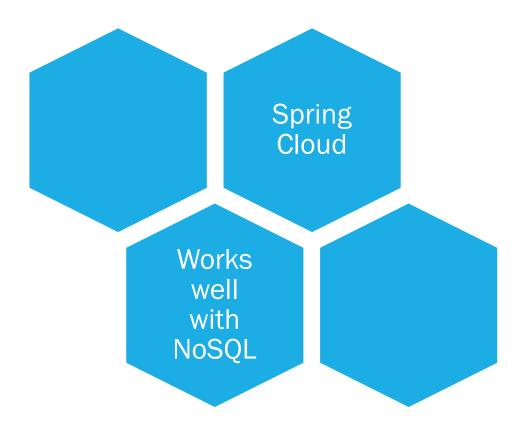| Core container	Aspect Oriented Programming (AOP)	Spring Data	Web
• Core • Bean • Context	• Security	• JDBC (SQL H2) • JPA (ORM)	• REST • HATEOAS • Thymeleaf?

NOTEWORTHY

Spring Cloud

Works well with NoSQL

MODE OF DELIVERY

- We have been instructed that all content must be in-person.

- However I have received permission to use recorded content which has proven popular during the last two years for this module which is practical rather than theoretical.

- Works best with recorded content

    - Easy to pause me and speed me up

    - Code along with me

    - I can teach with wide-screen (OHPs in rooms do not have widescreen so very difficult to navigate)

    - **Lectures become tutorials. Use them to ask questions, view material, code – whatever works for you.**

    - You get more time to ask me questions.

    - I can create lecture content if you wish – just ask.

    - If you are unwell and do the right thing by staying home you can keep up with the material

    - If I am unwell and stay home you still get the material

CANVAS

Material is now available on Canvas

You can view recording then do associated lab work OR view all recordings then do all lab work