# IAB207 – Rapid Web Application Development

## 2019 S2

Workshop 01

Design a Web Application + Environment Setup

# Agenda

- Introduction
- Outcomes
- Travel Web App (MVP)
- Exercise 1
- Exercise 2
- Development Environment Setup (On your system/laptop)

# General Introduction

- Welcome
- Why attending workshops is important
- What we hope to achieve by end of semester

# Workshop Practice

- Work in pairs of two students
  - Will help you discuss and work together
- Complete the exercises individually
  - Both members in the team will have a hands-on experience.
- Choose different team members every week
  - Will help you form a team for your last assignment

# Workshop Introduction

- Working together throughout workshops to build a simple **Travel Web App**
- Goal
  - Successfully plan, design, develop and deploy a web app
  - Transferable skills = build your own web app(s) ☺

# Outcomes

- Hands-on experience designing a web application – Conceptual design
- Explore existing website requirements and design.
- Wireframe some concepts for your own travel site

# Travel Web App (MVP)

- Target: Application will run in a web browser
- Purpose: Search travel locations, purchase bookings and more…
- Users should be able to:
  1. Register/login to application
  2. View the list of destinations and its details
  3. View the list of experience/cities at each destination and its details
  4. Perform booking of a city/experience
  5. Post public comments about destinations
- Admin can create destinations

# Exercise 1 (10 minutes)

- Review sites like Lonely Planet, Rough Guides
- List requirements and user stories for your Travel Web App
- Consider
  - What are users encouraged to focus on?
  - What are users encouraged to do?
- Scope of the user story
  - Limit the user stories that address a small number of requirements presented on slide 7

# List down the user stories

- As a <user/role>, I want to <action> because <reason>

- List down the acceptance criteria
  - Set of rules or conditions that the user story should meet for it to be accepted as ‘done’

# Exercise 1 (10 minutes)

- Each team of two will present one user story with acceptance criteria

# Exercise 2 (60 minutes)

- Use www.lucidchart.com – register/login with you QUT email address
- Design conceptual model (25 m)
- Define class functions (15 m)
- Design Data model (10 m)
- Design Wireframe Pages (10 m)
  - Landing/Home Page
  - Destinations Page
  - View Destination Page

# Design the conceptual model

1. Identify the concepts/objects
2. Remove duplicate/redundant concepts
3. Identify the relationships and their types (association, aggregation, inheritance)
4. Determine the cardinality/multiplicity of the relationships

# Present Conceptual Model

# Design the responsibilities

1. Identify functions or responsibilities from the user stories

2. Determine the class/concept that own the responsibilities

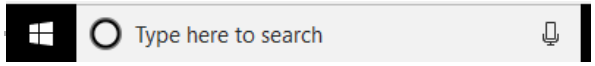
# Present Conceptual Model

# Present Data Model

# ENVIRONMENT SETUP

# Check for Python Installation (Windows)

- Check for Python installation on your machine
  - if you have already taken IFB104, you may have it on your machine
  - In windows explorer search for “python.exe”
- Check the version of Python
  - In your windows search bar at the bottom left corner




search for “cmd.exe”

  - cd to the directory that has python.exe
  - type “python.exe –version”, if it is 3.6 or above, it should be

```
C:\Python>python.exe --version
Python 3.7.2
```

# Check for Python Installation (Mac)

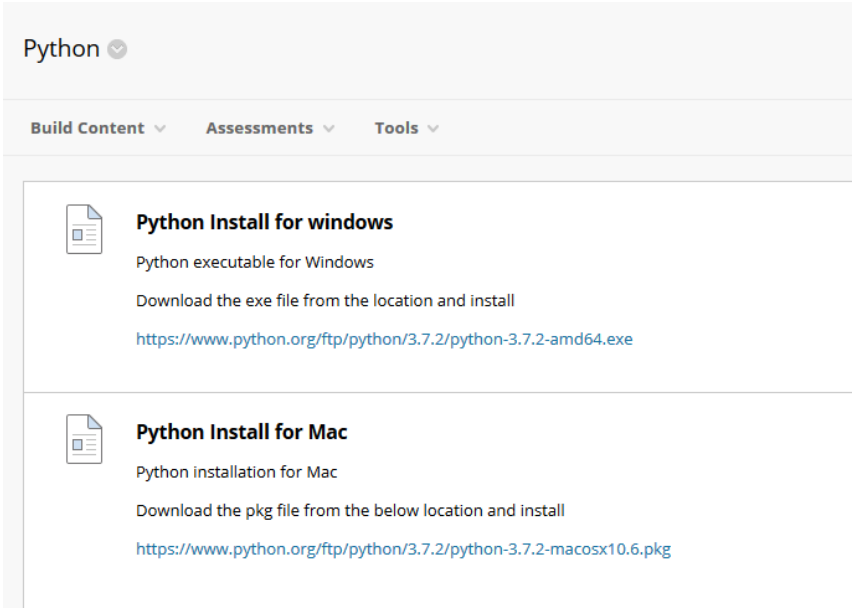
- Check for Python installation on your machine
  - if you have already taken IFB104, you may have it on your machine
  - To ensure you have Python 3 correctly installed, Open Terminal window (the Terminal application is located at User > Applications > Utilities), and inputting the following command

```
python3 --version
```

  - if it is above 3.6, it should be good.

# Install Python

- Download the install file from Blackboard
  - Learning Resources -> Software ->Python




- Follow the installation instructions

# Install Visual Studio Code

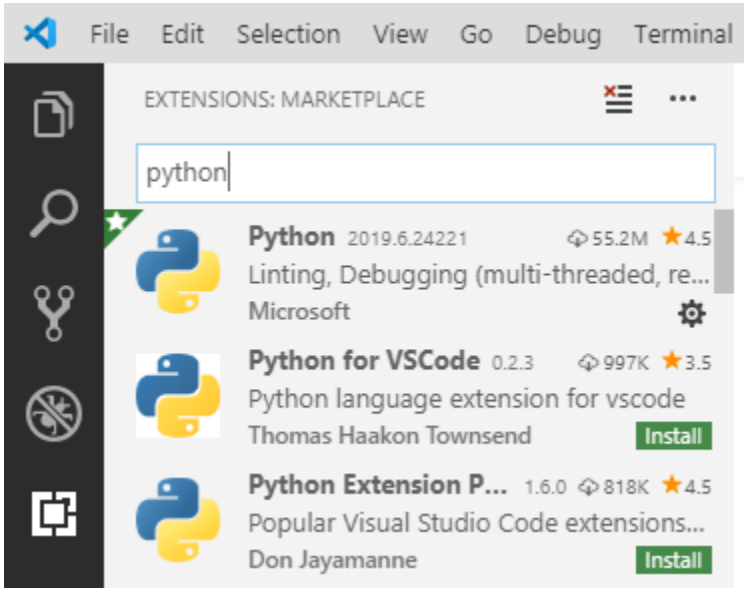
- Go to the web site and download Visual studio code and install

  https://code.visualstudio.com/download

- Open the VS Code and open the IDE

- Select the ‘Extensions’ icon

  - Type “python” and install the first extension from Microsoft



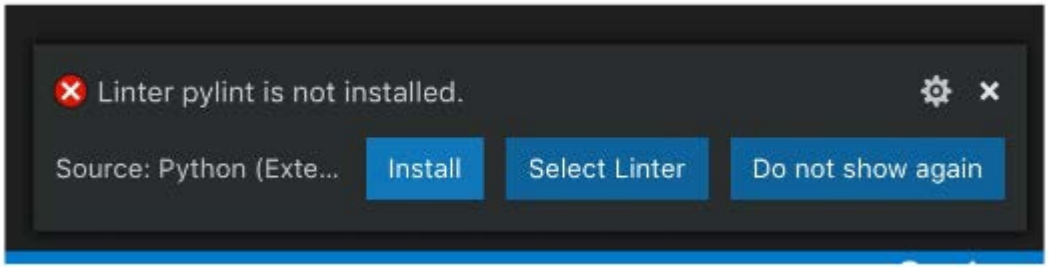

Good Video by Microsoft on VS Code :
https://www.youtube.com/watch?v=6YLMWU-5H9o

# Install pylint

- Linting highlights syntactical problems in your Python source code, which helps identify and correct syntax errors quickly.

- VS Code uses Python package Pylint that needs to be installed. VS code automatically recognizes if pylint is not installed and could give you a message like this

- Select install



# Install DB Browser for SQLite

- This can be installed before week 6. Download the executable from the link

  https://sqlitebrowser.org/dl/

- Install the executable for your operating system.