THE UNIVERSITY OF MELBOURNE

SWEN90016

Software Processes & Project Management

Introduction

Project Initiation

Medic Case Study

Assignment 1

2021 – Semester 2

Tutorial 2

Quiz

What is the first project management process?

- Planning
- Execution
- Initialization
- Monitor and Control

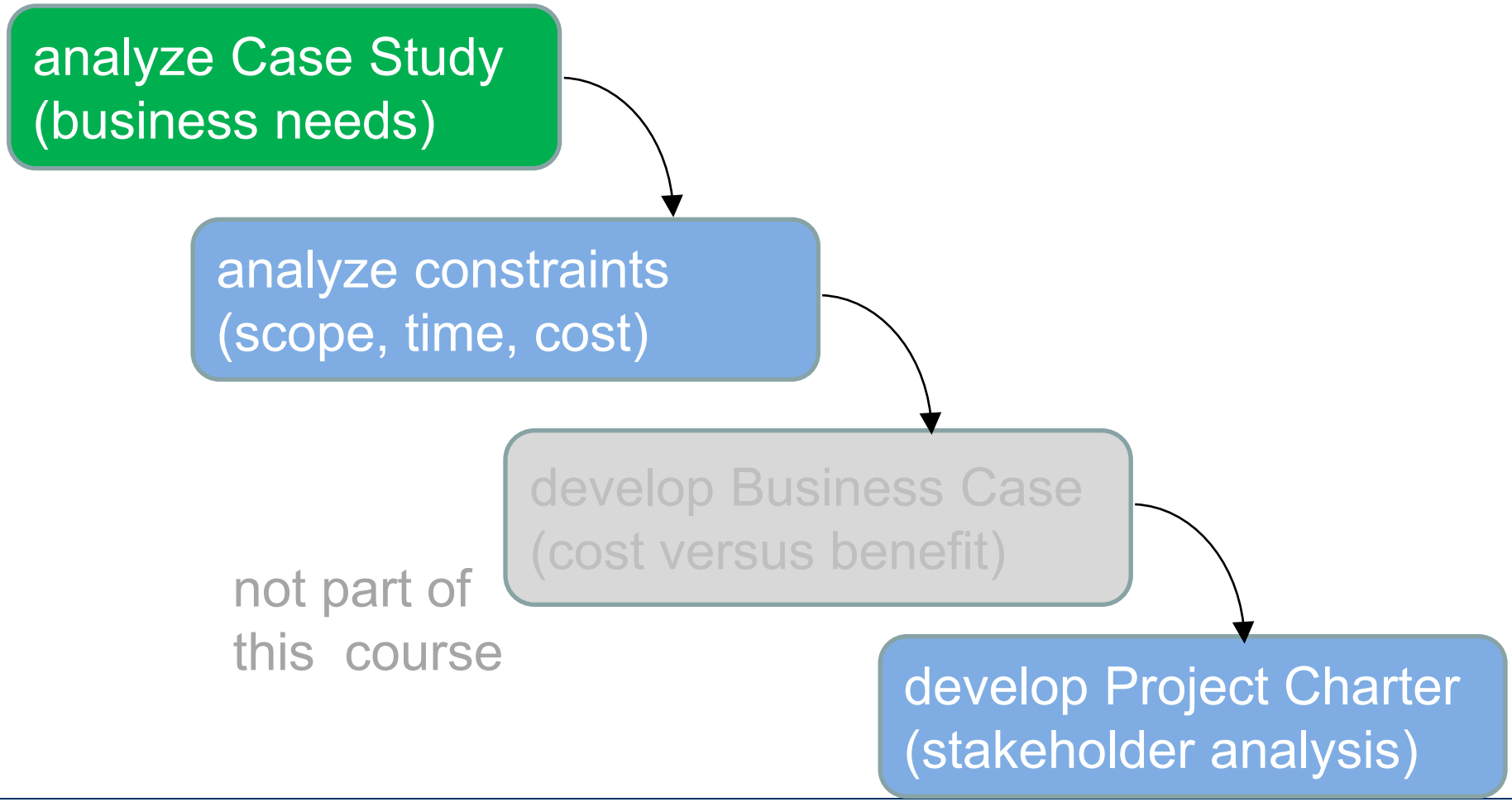
Today's aim

Understand the initialization phase by doing an activity for each phase

1. Business needs analysis
2. Analyse constraints
3. Stakeholder analysis

Initialization Phase

The first Project Management *process*: initialization



Project Management Terminology

Activity: You want to cycle from Melbourne to Sydney.

Groups of 4

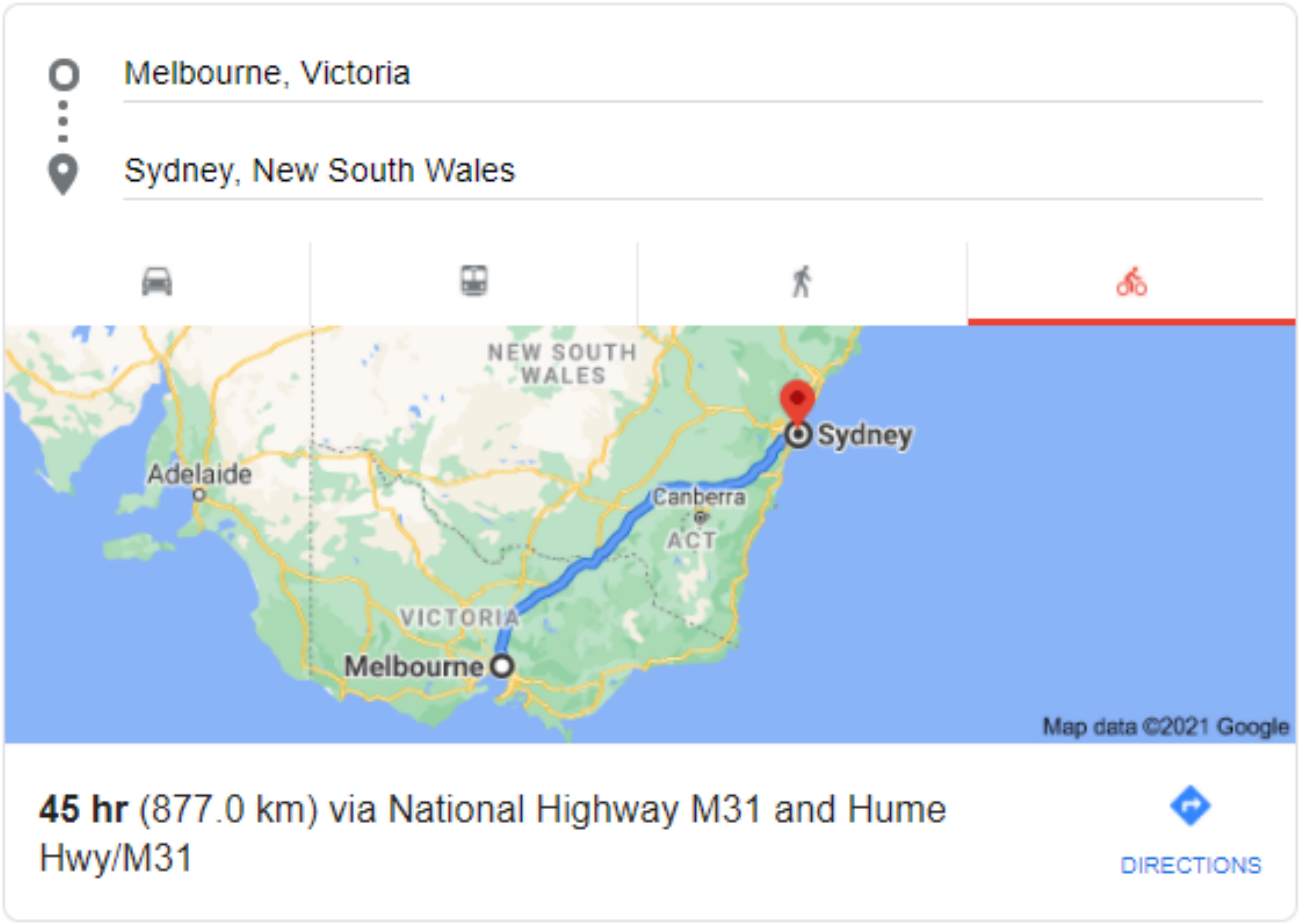
analyze Case Study (business needs)

- What are the challenges for such a project?
- What risks would this project need to consider?

Research - understand the project

Where to start on any project?

Research



Project Characteristics

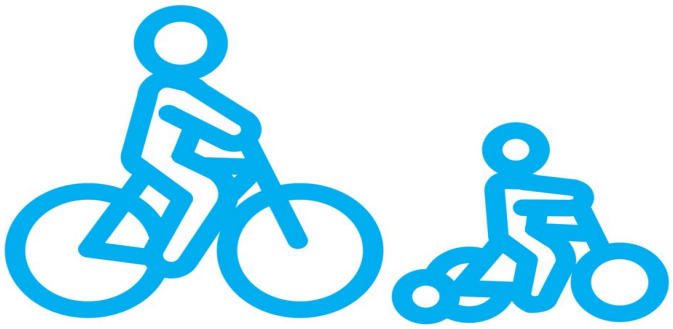
Project Goal: You want to cycle from Melbourne to Sydney.

Create a fun & exciting adventure

It is difficult to travel along distance with a bicycle

Challenge: This characteristic is known to exist.

The solution requires resources, (fitness).



Project Characteristics

Risk - This possible future event **may** or **may not** happen and impact the project

May get a flat tyre

- Sometimes it happens that you ride over a nail or something sharp….need to prepare
- Impact= delay the project
- Better plan a mitigation strategy to fix, replace the tyre

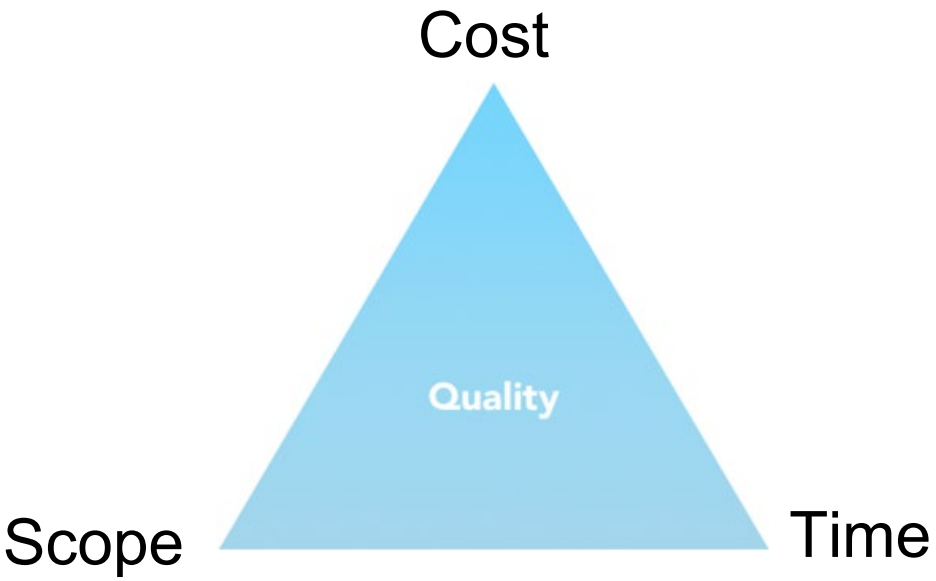
Project Characteristics

Know your project's

Triple Constraint

But there can be more!

analyze constraints (scope, time, cost)



Project Characteristics

Is rain (weather) a constraint? risk? challenge?

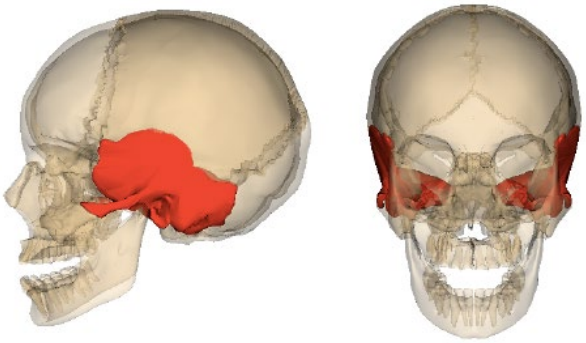
Melbourne weather- research

Month	High / Low (°C)	Rain
January	26° / 16°	5 days
February	27° / 16°	4 days
March	24° / 15°	5 days
April	21° / 12°	7 days
May	17° / 10°	8 days
June	15° / 8°	7 days
July	14° / 7°	8 days
August	16° / 8°	9 days
September	18° / 9°	9 days
October	20° / 11°	8 days
November	22° / 12°	7 days
December	24° / 14°	6 days

Medic Case Study

Case Study 1 -Virtual Temporal Bone Surgery

- Who has read the Case Study?
- Do you know what Person Days are?
- Divide the Case Study into components



What kind of system is this?

- What are the project's characteristics?

Medic Case Study

Discuss and plan and question

Get into groups of 4-5 people.

Fill in the exercise sheet.

Person Days clues:

- Project duration is 2 university semesters = 30 weeks
- 4th year SWEN students take 4 subjects a semester = ¼ time allocation
- IT support developers at $50,000 pa = fractional time allocation

Cost clues:

- Experienced developers at $100,000 pa
- Experienced surgeons at $200,000 pa
- Junior developers (4th year SWEN students) at zero cost
- Junior surgeon users at zero cost
- IT support developers at $50,000 pa

Medic Case Study Exercise

Project Information and Estimation

Item	Value	Reason
Team Size		
Person Days		
Cost		
Project Goal		
Key Characteristics	VR simulation enacting real-world tasks, integrate multiple hardware devices, good graphics & embedded software, QA focus	
Possible Risks		

Medic Case Study Exercise

Working through the exercise-
Team Size:
2 client surgeons, 12 junior developers, 2 experienced developers, multiple users (10 junior surgeons?), IT support (2 people part time?)

Person Days: 2 semesters = 30 weeks university project
If students take 4 subjects, then they are available a quarter of the time.

Calculator:
(12 + 2 developers) * 30 weeks * ¼ allocation = 105 person weeks = 525 person days
Cost: 2 experienced developers * 0.25 allocation * $100,000 pa * (30 weeks /52) = ~$29,000
2 experienced surgeons * 0.125 allocation * $200,000 pa * (30 weeks /52) = ~$29,000
4th year software engineering students?
users?
2 IT support developers * 0.125 allocation * $50,000 pa = ~$12,000 (estimate)

In Australia- a working week is 5 days per week (and this is used in all calculations)

Project Risks

Know your project's *risks*

- If this project was to fail, what do you think would be the reason?

- What harm minimization strategies would you plan to use?

Risks

1. Unexpected behavior of new hardware
2. Compare availability of Graphical libraries in C++ / Java
3. Algorithmic complexity

Thank You!