SWEN90016

Software Processes & Project Management

Harry Drakos

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The University of Melbourne
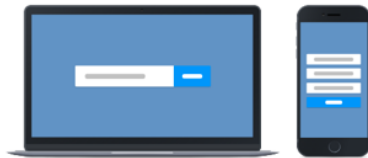
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2019 – Semester 2

Lecture 4

Lecture Quizzes

1. Not marked.

2. Majority of exam multiple choice questions will be selected from these.

Join by Web

1. Go to **PollEv.com**
2. Enter **HARRYDRAKOS482**
3. Respond to activity

Join by Text

1. Text **HARRYDRAKOS482** to **+61 427 541 357**
2. Text in your message
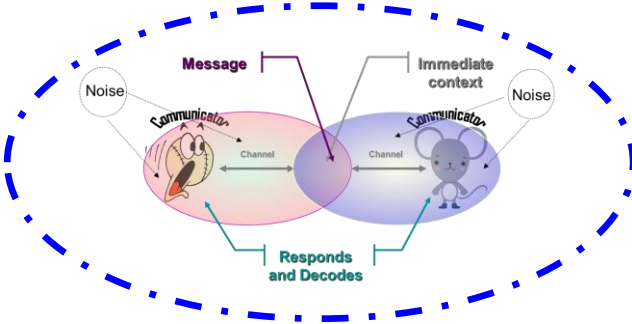
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Student Reps

We need 2 volunteers to be Student Reps.

First two people to *EMAIL* Shanika or myself will be selected.

karus@unimelb.edu.au

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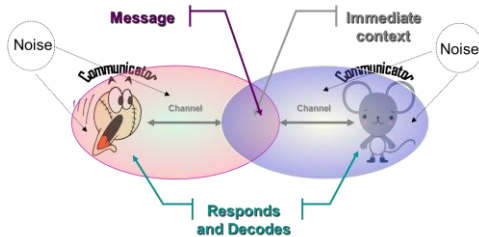
Lecture 3 – Recap

Running Meetings

1. Set an Agenda & Send It

2. Set Context within 2 Minutes

3. Allow Conversations, Within Reason

4. State & Re-State Decisions

5. Remind of Decisions

6. Follow Up with Action Items
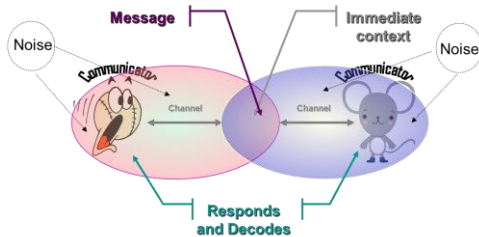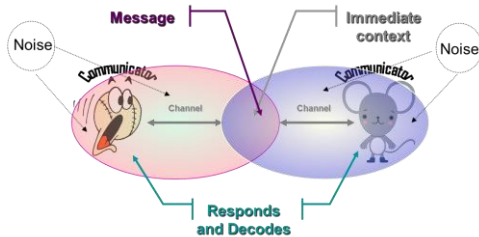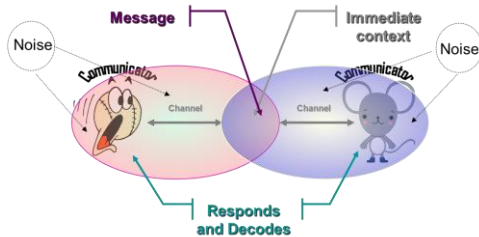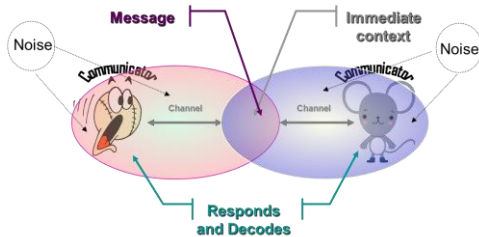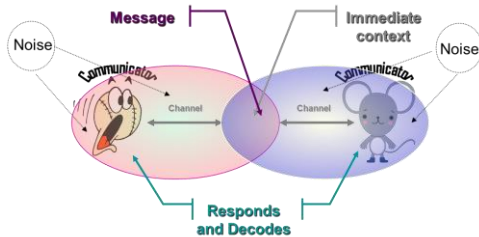
THE UNIVERSITY OF MELBOURNE — Lecture 3
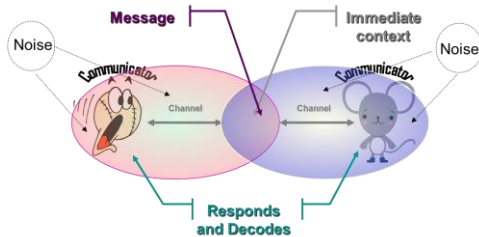
L3.4 – Communication Plan

Is underpinned by a Communications Matrix

Example

Stakeholder	Communication Objective	Format	Frequency	Owner	Importance
Sponsor	Provide updates on project progress, key issues, success and support required	Regular Meeting - face to face / Formal Report	Weekly / Monthly	Project Manager	High
Business Expert	Gather requirements, sign-off all scope, approve prototype and final acceptance	Formal Report / documentation	Fortnightly	Project Manager	High
Finance	Future funding approval	Project Finances	Bi-monthly	Finance rep	High
Human Resources	Identify staff required for project and deal with all staff related items	Resource plans	Monthly	Project Support	Medium
Risk Department	Identify risks and mitigation strategies and ensure they are being followed	Risk Management Plan	Monthly	Project Support	Medium
Internal IT Staff	Identify resources for all phases including Design, Requirements Gathering, Development and Production Implementation	Regular Meeting - face to face / Formal Report	Weekly / Monthly	Project Manager	High
External IT Staff / Supplier	To ensure they can execute on their Testing Services contract	Formal Report	Monthly	Project Manager	Low

SWEN90016 Software Processes and Project Management   - 38 -   IT ALL STARTS HERE

Lecture 3 – Recap

Lecture 3 – Recap

Running Meetings

Lecture 3 – Recap

Running Meetings

Lecture 3 – Recap

Running Meetings

Lecture 3 – Recap

Running Meetings

Lecture 3 – Recap

Running Meetings

Lecture 3 – Recap

Running Meetings

L3 - Recap

2019 - Semester 2 Structure

Week #	Lecture Date	Old Arts Public Lecture Theatre Friday 3.15pm to 5.15pm	Assignment
1	29/07/19	Subject Introduction, Introduction to Projects and Project Management	
2	05/08/19	Project Management Plan & SDLC's	Assignment 1 Spec available on LMS Friday 09/08/19
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12	21/10/19	Subject Revision and Exam Prep	Assignment 2 Project Demonstration during tutorials

L4 - Intended Learning Objectives

L4.1 Understand motivation.

L4.2 Understand organisational theory and how people are motivated.

L4.3 Understand how leaders lead and managers manage.

IT ALL STARTS HERE

L4.1 – Teams, Individuals and Motivation

So why is this important to Project Management?

THE UNIVERSITY OF MELBOURNE — Lecture 1

L1.3 – What is Project Management

Project Management is the planning, delegating, monitoring and controlling of all aspects of the project, and motivating those involved to achieve the project objectives within the expected targets for time, costs, quality, scope, benefits and risks.

Value lies in:

- Organising and structuring scarce resources
- Managing risk
- Identifying and clearing issues
- Managing and implementing change
- Retaining and re-using knowledge
- Organisational wide learning from past success and failures

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THE UNIVERSITY OF MELBOURNE — Lecture 1

L1.5b – Project Manager Key Activities *"a change is occurring"*

Agile is redefining the way we execute projects and the role of the PM. In Agile:

- No defined PM role
- Key activities are spread / shared across team members
  - Key project activities are still undertaken formally with appropriate documentation
- Some alignment to activities of a Scrum Master
- Move from Command and Control to Servant Leadership
  - Coaches and facilitates teams to deliver
  - Emphasises objectives
  - Is invested in the program's overall performance
  - Asks the teams for answers
  - Allows the teams to self-organise and hit their stride
  - Assists others with fixing issues

www.pmi.org/learning/library/pm-role-lean-agile-world-9350
www.greenleaf.org/what-is-servant-leadership/
https://www.mountaingoatsoftware.com/agile/agile-project-management

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L4.1 – Teams, Individuals and Motivation

.......and even more critical in an agile world!

A "Scrum Master" represents a pattern known as **Servant** Leadership. They manage teams not by telling them what to do, but by removing impediments that get in their way and by coaching them in best practices.
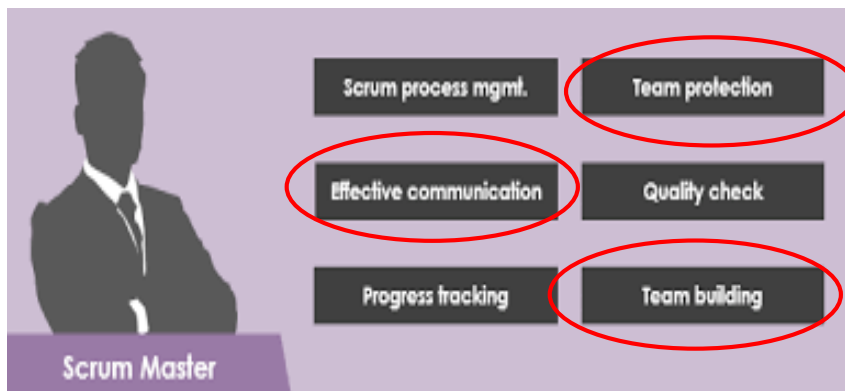
www.scrum.org/resources/blog/scrum-master-servant-leader

L4.1 – Individuals and Motivation

- Motivation *is derived from the word 'motive'*

- It is the driving force within individuals that propels them into action

Motivation can inspire, encourage, and stimulate individuals and project teams to achieve great accomplishments. Motivation can also create an environment that fosters teamwork and collective initiatives to reach common goals or objectives.

www.pmi.org/learning/.../motivation-increase-project-team-performance-7234

What motivates you?

L4.1 – Individuals and Motivation

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What motivates you?

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L4.1 Understand motivation.

L4.2 Understand organisational theory and how people are motivated.

L4.3 Understand how leaders lead and managers manage.

L4.2 – Individuals and Motivation
Organisational Theory

Organisational theory consists of approaches to organisational analysis. Organisations are groups of individuals that are structured and managed to meet a need, or to pursue collective goals.

Some well used approaches:

- Maslow Hierarchy of Needs

- Hertzberg

L4.2 – Individuals and Motivation

Maslow Hierarchy of Needs:

- Proposed by Abraham Maslow in 1943 and still widely used today

- A key tool used by managers in how individuals are motivated

- Focuses on a 5 tier model of human needs

- Describes humans are motivated to achieve certain needs

- Needs take precedence over others and the basic needs must be more or less met before higher needs

- Individual behaviour is multi-motivated and stimulated by more than one need

Self-actualization
Creativity,
Problem Solving,
Authenticity, Spontaneity

Esteem
Self-Esteem, Confidence,
Achievement

Social needs
Friendship, Family

Safety and Security

Physiological needs (survival)
Air, Shelter, Water, Food, Sleep, Sex
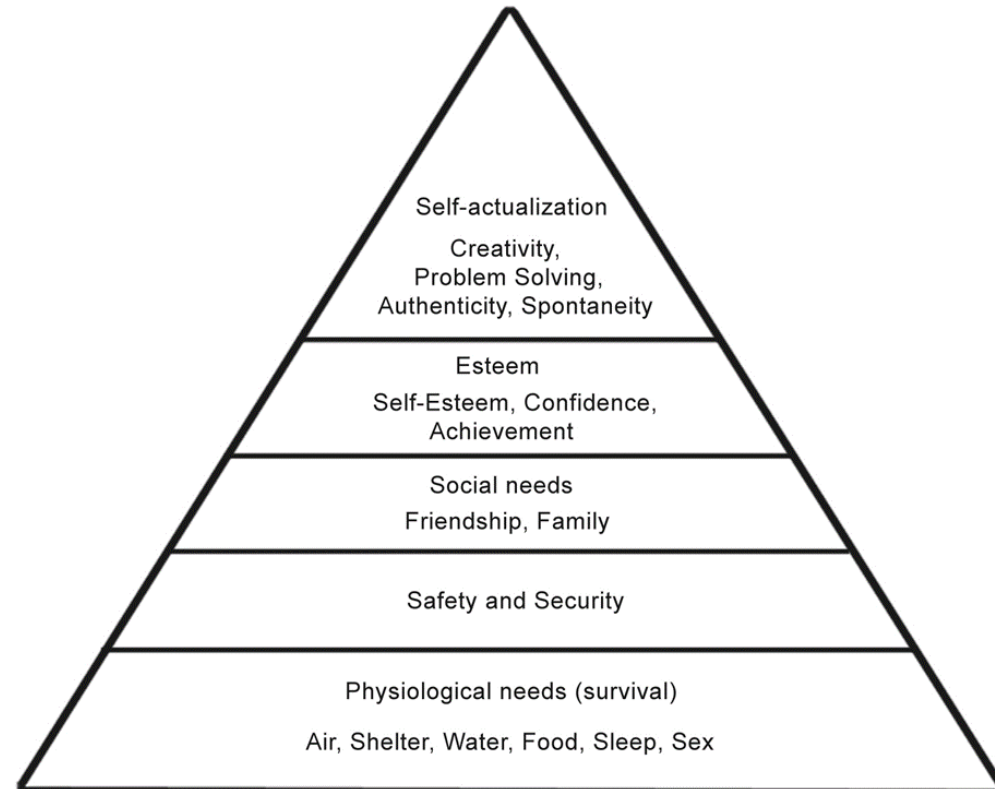
L4.2 – Individuals and Motivation

Hertzberg Two Factor Theory:

- Proposed by Fredrick Hertzberg in 1959 and still widely used today

- Asked people to describe situations when they felt really good and really bad about their jobs

- There are a set of factors in the workplace that cause satisfaction

- And a separate set of factors that cause dissatisfaction

- Remedying the causes of dissatisfaction will not create satisfaction

Job Dissatisfaction

Influenced by *Hygiene* Factors

- Working conditions
- Coworker relations
- Policies and rules
- Supervisor quality
- Base wage, salary

Herzberg's Two-Factor Principles

Improving the motivator factors increases job satisfaction

Improving the hygiene factors decreases job dissatisfaction

Job Satisfaction

Influenced by *Motivator* Factors

- Achievement
- Recognition
- Responsibility
- Work itself
- Advancement
- Personal growth

L4 - Intended Learning Objectives

L4.1 Understand motivation.

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L4.3 Understand how leaders lead and managers manage.

L4.3 – How leaders lead and manage

Will motivate or demotivate the team!

- Leadership is the ability to influence and direct people to achieve a common goal

- Management is the process where resources are used and decisions made in order to achieve the goal

- Leaders will inspire and motivate people to meet the goal

- Managers will set objectives and decide how to achieve them

- Project Managers will need to be both Leaders & Managers

L4.3 – How leaders lead and manage

Through:

Power   Influence

L4.3 – How leaders lead and manage

REFERENT POWER	Based on followers' identification and liking for the leader. A schoolteacher who is adored by her students has referent power.
EXPERT POWER	Based on followers' perceptions of the leader's competence. A tour guide who is knowledgeable about a foreign country has expert power.
LEGITIMATE POWER	Associated with having status or formal job authority. A judge who administers sentences in the courtroom exhibits legitimate power.
REWARD POWER	Derived from having the capacity to provide rewards to others. A supervisor who gives rewards to employees who work hard is using reward power.
COERCIVE POWER	Derived from having the capacity to penalize or punish others. A coach who sits players on the bench for being late to practice is using coercive power.

Sage Publications

L4.3 – How leaders lead and manage

Influence

Nine Influence Factors [Thamhain & Wilemon]

1. **Authority:** Legitimate hierarchical.

2. **Assignment:** Perceived ability to influence future work assignments.

3. **Budget:** Perceived ability to authorise use of funds.

4. **Promotion:** Ability to improve workers position

5. **Money:** Ability to increase a workers pay & benefits

6. **Penalty:** Ability to cause punishment.

7. **Work Challenges:** Ability to assign work to individuals.

8. **Expertise:** Perceived special knowledge that others deem / think is important.

9. **Friendship:** Ability to establish friendly personal relationships.

Lecture 4 – Leadership Summary

- Individuals are individuals and we are all motivated by different means

- Projects succeed / fail because of people so manage, lead and motivate them to increase success

- Leadership and Management are different. Consciously select the style that is right for the situation

- The biggest impact you can have is by managing yourself take the necessary step to achieve this

Which group of Influencing Factors have the greatest impact on individuals?

Authority, Money and Penalties

Work Challenges and Expertise

L4 – Teams and Teamwork

We have all experienced this!

L4 - Teams

Teamwork in the workplace is an **important** factor
for **project** success. As a result, developing an
effective **project team** is one of the primary responsibilities of a
project manager. Teamwork is **important** because it creates
human synergy.

L4 - Intended Learning Objectives

L4.4 Understand why we use teams and their value.

L4.5 Understand how teams form and perform.

L4.6 Understand team roles and structures.

L4.7 Understand the advantages & disadvantages of teams.

L4.4 – What is a Team

- An individual is a person with a unique set of skills

- A Group is a collection of people working together who do not necessarily work collectively toward the same goal

- A Team is two or more individuals consciously working together to achieve a common objective

- A Group becomes a Team when members demonstrate a commitment to each other and to the end goal toward which they are working

L4.4 – Why Teams

1. **Few individuals possess** all the knowledge, skills, and abilities needed to accomplish all tasks.

2. **Complementary teamwork skills** are one of the most **commonly required** skills in the work environment.

3. **Substantial benefits** to the organisation and to the team members.

4. **Shared accountability** increases likelihood of success**.**

L4.4 – Why Teams - Benefits

1. ***Enhanced Opportunities:*** Individuals & organisation.

2. ***Greater Productivity:*** Leverage the strengths and skills of the collective group.

3. ***Increased Ownership & Accountability:*** Multiple people collectively owning the activity and the outcome.

4. ***More Creativity and Innovation:*** Individuals build upon one another's ideas with solutions going beyond one person's vision of what's possible.

5. ***Greater Joy and Satisfaction Among Team Members:*** A space for people to socialise, connect and be part of something bigger.

6. ***Broader Perspective:*** Ability to leverage the collective perspective of all team members.

7. ***Increased Representation:*** Involvement of multiple stakeholders groups and their input.

8. ***Increased Equality:*** Individuals across all levels can more freely offer their ideas, knowledge and concerns.

9. ***More Dialogue:*** Teams offer a site where people can voice their feelings, disagreements, opinions and ideas.

L4 - Intended Learning Objectives

L4.4 Understand why we use teams and their value.

L4.5 Understand how teams form and perform.

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L4.5 – How teams Form & Perform Tuckman's Team Development Model

- First proposed by Bruce Tuckman in 1965

- Elegant and simple explanation of team development

- Initial model focused on 4 stages Forming–Storming–Norming- Performing

- Tuckman stated that all phases are necessary and inevitable if a team is to grow, face up to challenges, tackle problems, find solutions, plan work and deliver results

- He found that it was critical for team to go through an Adjourning stage which was added in the 70's

Forming   Storming   Norming   Performing   Adjourning
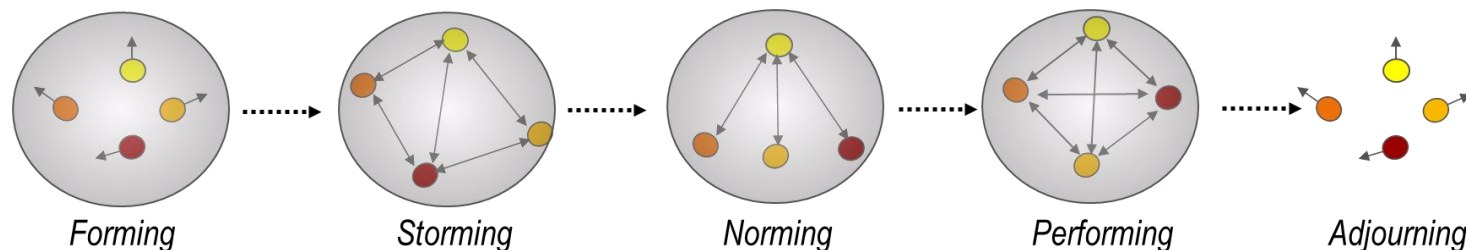
L4.5 – How teams Form & Perform Tuckman's Team Development Model

- As teams develop maturity and ability – leadership styles change and behaviors change

- Tuckman also found that Team Effectiveness changed over time with the team experiencing initial decline in performance after Stage 1 – Forming

https://project-management.com/the-five-stages-of-project-team-development/
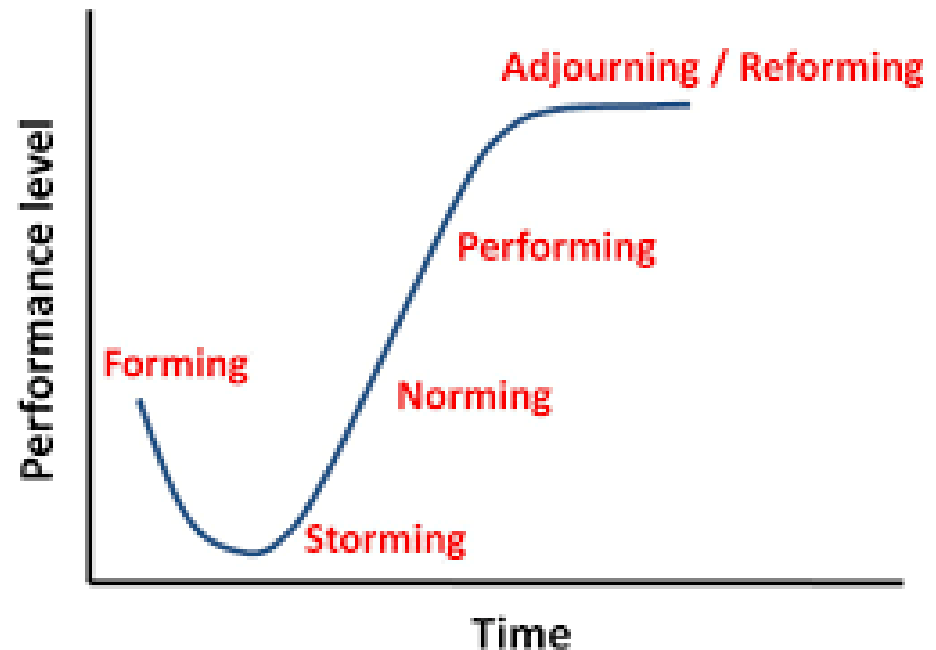
L4.5 – How teams Form & Perform

FORMING	STORMING	NORMING	PERFORMING	ADJOURNING
Establishing ground rules and preserving formalities	Members communicate, but maintain strict individuality	Team bonding and higher acceptance of perspectives	Less emphasis on hierarchy and more on flexibility	Yearly assessment and plan for acknowledging individual contributions
High dependency on the leader	Leader coaches and support	Leader moves to facilitator and enabler	Leader delegates and oversees	Leader acknowledges, recognises and directs

L4.5 – Is the Team Effective or Not

Positive signs

- Clear communication

- Regular brainstorming with all members participating

- Consensus among team members

- Problem solving done by the group

- Commitment to the project outcomes and the other team members

- Regular team meetings are effective and inclusive

- Timely hand off from team members to others or early advise if this won't happen

- Positive, supportive working relationships

Not so Positive signs

- Lack of communication

- No clear roles and responsibilities

- Work is "thrown over the wall", with lack of concern for timelines or work quality

- Team members work alone, rarely sharing information and offering assistance

- Blame for what goes wrong, no one accepts responsibility

- Lack of support for others

- Frequently absent impacting time and creating additional work for others

https://www.pmi.org/learning/library/team-building-development-project-management-5707

L4 - Intended Learning Objectives

L4.4 Understand why we use teams and their value.

L4.5 Understand how teams form and perform.

L4.6 Understand team structures.

L4.7 Understand the advantages & disadvantages of teams.

L4.6 – Team Structures

Controlled Centralised

- Leader coordinates tasks and directs work

- Communication and Control are vertical

- Sub-teams with leaders to direct and guide sub-groups
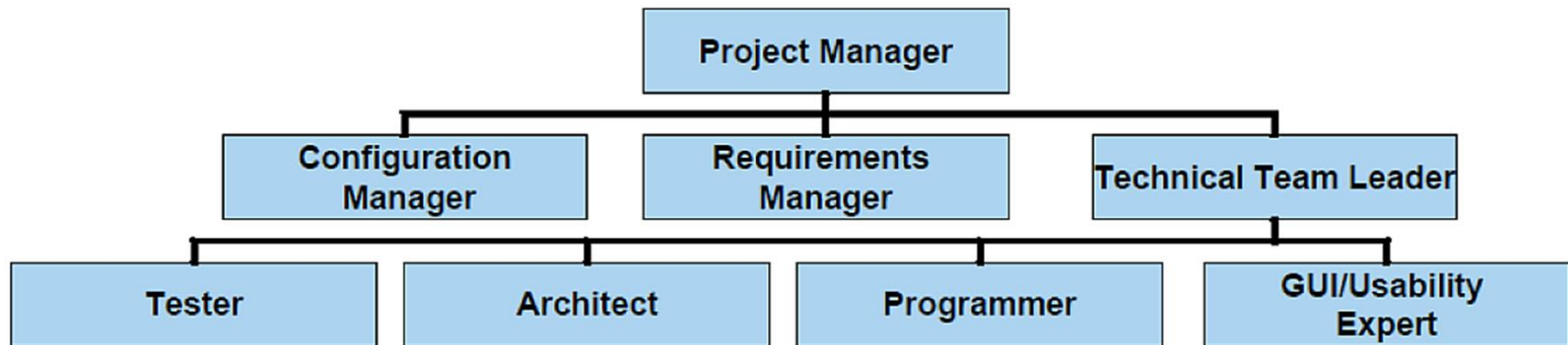
L4.6 – Team Structures

Scrum Team

- Used in Agile
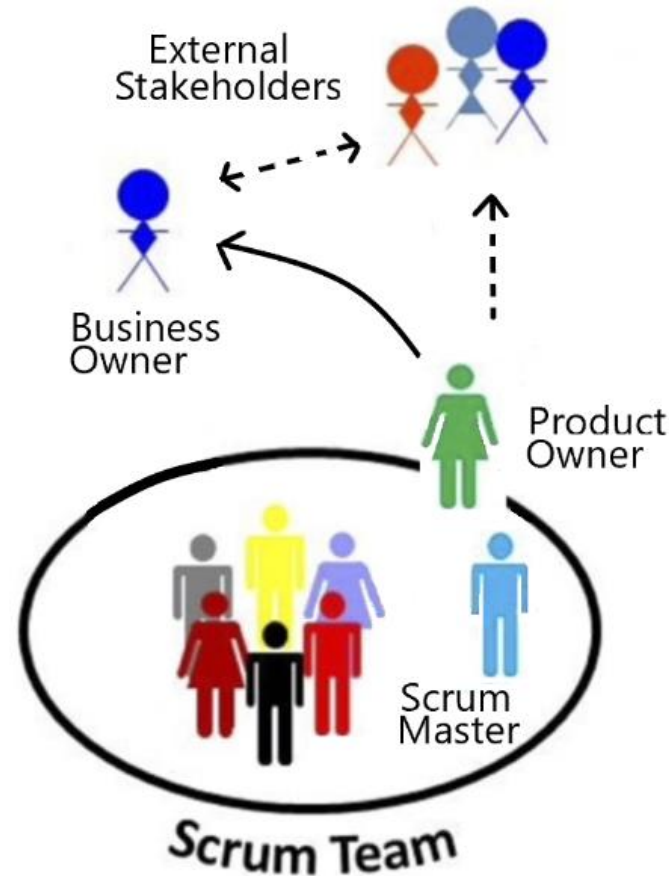
External Stakeholders

Business Owner

Product Owner

Scrum Master

Scrum Team

L4 - Intended Learning Objectives

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L4.7 – Teams Advantages & Disadvantages

Advantages

• Provides a larger pool of ideas – creative & collective problem solving

• Interaction enhances the knowledge of the whole team

• Individuals working together can stimulate performance, motivation and output

• Provides continuity across the tasks if people leave

• Increased ownership of the overall outcome & not just the individual component

Disadvantages

• It take time, effort and great skill to effectively manage

• Some individuals find it difficult and may become overshadowed / overwhelmed

• Unequal involvement - Some people may not pull their weight

• One person can demoralise the whole team

• Social loafing

• Group think

What is a Team?

One or more people with an individual skill set working next to each other to achieve an outcome

A collection of people working together who do not necessarily work collectively toward the same goal

Two or more individuals working together to achieve a common objective

All of the above

Why do we use teams?

Few individuals possess all the knowledge, skills, and abilities needed to accomplish all tasks

Complementary teamwork skills are one of the most commonly required skills in the work environment

Substantial benefits to the organisation and to the team members

Shared accountability increases likelihood of success

All of the above

What is a Positive sign of an effective team?

No clear roles and responsibilities

Commitment to the project outcomes and the other team members

Blame for what goes wrong, no one accepts responsibility

Team members work alone, rarely sharing information and offering assistance

Lack of support for others

All of the above

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BREAK

Please return promptly as the

Lecture will re-start in *5 mins*

Assignment 1

Open Discussion

- Assignment 1 Learning Outcomes:

  – Analysis of an IT project case study that will demonstrate the ability to:

  – identify the goals of the project;

  – identify the key characteristics for the project;

  – identify the risks in the project as identified at the start of the project; and

  – justify the choice of a suitable software development lifecycle (SDLC) model to manage the project.

- **Due next Friday – due Fri 30/08 @ 11.59 pm (week 5)**

- Provide responses to the questions

   - Format: question followed by the answer

- Questions?

Assignment 2

Open Discussion

Assignment 2 - Learning Outcomes:

A web-based IT system development project that will demonstrate the ability to:

- Choose an appropriate Software Development Lifecycle (SDLC) model for a given project brief
- Plan the activities involved in the chosen model and develop a Project Management Plan (PMP)
- Execute, monitor and control processes to achieve a desired outcome
- Work effectively in a team

- Groups were formed this week
  - will be created on LMS by Monday

- The specification was released yesterday

- What next?

What next?

- Meet your team members **in person** and get to know each other
  - If you have not done this so far please do it now

- <mark>Every</mark> student must read the specification to understand what is required
  - one team member reading the specification is not good enough

- Get started today!
  - the first submission is due only in a few weeks, but if you do not start working on the project now you will be in trouble

What your team needs to do:

- Develop a Project Management Plan, that demonstrates that you have planned the activities required to develop the software system given a case study

- Develop a prototype (working software which includes a web user interface and persistent data storage) of the software system

- Demonstrate the you have executed, monitored and controlled your plan; you must document progress in the relevant sections of the PMP as per specification

Submission 1 – Wednesday week 8

– Sections 1- 6 of the Project Management Plan (PMP)

- Your team must:
  – Understand the requirements for software system to be developed
  – Choose an appropriate lifecycle and plan the activities involved
  – Choose the framework for developing the system
  – Then document your plan in the PMP

- DO NOT Consider the first submission as just a document writing task!

Plan as a team and document your plan in the PMP

Technology Selection

- Must be done as a team before the first submission
  - rational for the choice of the framework must be documented in the PMP

- When making the choice take into consideration:
  - development experience and technical skills in your team
  - learning outcomes you want to get from the project beyond what is expected in the subject – e.g. learning a web development framework

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