# UNIT 6
# PLANNING A COMPUTING PROJECT
# DAY 1

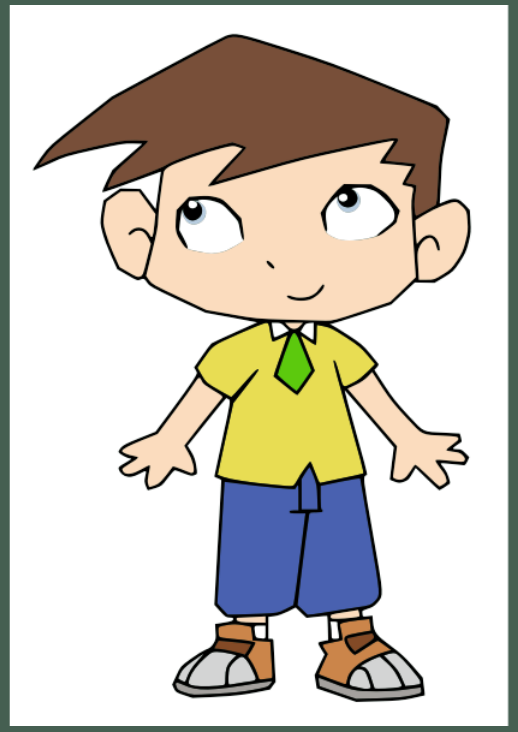
Lecturer
Dr. Myo Myint Oo

# Communication Between us!

- **My Educational Background**
  - Bachelor of Computer Science (B.C.Sc) from University of Computer Studies Mandalay
  - Bachelor of Computer Science (B.C.Sc(Hons)) from University of Computer Studies Mandalay
  - Master of Computer Science (M.C.Sc.) from University of Computer Studies Mandalay
  - Doctor of Philosophy (Ph.D.(Computer Engineering)) from Prince of Songkla University, Thailand
- **Teaching Subjects in GUSTO University:**
  - Data Modeling, Database Design and Development, Business Intelligence (BI), Unit 1 Programming, Unit 4 Programming, Applied Programming with Design Principles, Internet of Things (IoT), Artificial Intelligence (AI) (UoS), Business Process Modelling Tools, Advanced Database System(UoG)
- **My research Area:**
  - Software Defined Networking, Network Security, Data Science, Machine Learning, Artificial Intelligence

# Communication Between us!

- **Name**
- **Hobby**
- **Ambition**



# Unit Specification

- Unit 6 **Planning a Computing Project (Pearson-set)**
- Unit Code H/618/7407
- Unit type Core
- Unit level 4
- Credit value 15
- **Learning Outcomes**
- LO1 Conduct small-scale research, information gathering and data collection to generate knowledge on an identified subject
- LO2 Explore the features and business requirements of organizations in an identified sector.
- LO3 Produce project plans based on research of the chosen theme for an identified organization
- LO4 Present your project recommendations and justifications of decisions made, based on research of the identified theme and sector.

# What is Project in Computing?

- Projects can be defined as "something which has a beginning and an end. (Barnes, 1989 cited by Turner, 1993:4)
- According to Meliorist Model, a project enables you to move from one situation to another.


Figure: The Meliorist Model

# What is Project in Computing? (Cont'd)

- In computing, a project refers to a set of tasks or activities that are organized and managed in order to achieve a specific goal or objective.
- These tasks may include software development, website design, database creation, or other types of technical work.
- Projects often have a defined beginning and end, and may involve multiple team members and stakeholders.
- The project management process typically includes planning, execution, monitoring and controlling, and closing.

# Key components of Computing Projects

- Requirements Gathering
- Design
- Development
- Testing
- Deployment
- Maintenance and Support
- Project Management

# Key components of Computing Projects (Cont'd)

- **Requirements gathering:** This is the process of identifying and documenting the needs and goals of the project stakeholders.
- **Design**: This component involves creating a plan for how to achieve the project's goals and objectives, including the selection of technologies and tools to be used.
- **Development**: This is the actual implementation of the project, including writing code, building databases, and creating user interfaces.
- **Testing**: This component involves verifying that the project meets its requirements and functions as intended.

# Key components of Computing Projects (Cont'd)

- **Deployment:** This is the process of making the project available to users, which may include installing it on servers or making it accessible online.
- **Maintenance and Support:** After the project is deployed, it's necessary to maintain and troubleshoot any issues that arise, as well as make updates and improvements as necessary.
- **Project management:** This is the overall process of planning, organizing, and managing the project, including managing resources, timelines, and budgets.

# Computing project types

- **Research based**
  - A research based project involves a through investigation of a particular area; improving your understanding of that area, identifying strengths and weakness within the field, discussing how the field has evolved, and acknowledging areas suitable for further development and investigation.
  - This kind of project will involve some form of literature search and review, and would be suitable for taught bachelor's or taught master' courses.
  - A research-based project may well have to do more than establish the field of study.

# Computing project types (Cont'd)

- **Development**
  - This category includes the development of, not only software and hardware systems, but also of process models, methods, algorithms, theories, designs, requirement specifications, and other interim documents.
  - Examples of software development projects include database systems, multimedia systems, information systems, and web-based systems.
  - For some developments (notably software) you will be required to include requirements documentation, designs, analyses, and fully documented test results along with user manuals or guides

# Computing project types (Cont'd)

- **Evaluation**
  - This category encompasses all projects that involve some form of evaluation as their main focus.
  - For example, such a project might involve comparing several approaches to a particular problem; evaluating two or more programming languages (applied in different contexts or to different problems); analyzing an implementation process within a particular industry; assessing different user interfaces; analyzing a particular concept; considering alternative and new technological approaches to a problem; appraising development methodologies to a problem; and so on.
  - Projects in this category may well include case studies as a vehicle for evaluating the issue under consideration.

# Computing project types (Cont'd)

- **Industry-based**
  - An industry-based project involves solving a problem within either an organization or another university department.
  - Industry-based projects might be any of the other kinds of projects identified in this section.
  - The difference in this cases that you undertake the project for an actual client, which carries with it a number of benefits as well as drawbacks.
- **Problem solving**
  - A problem-solving project can involve developing a new technique to solve a problem, improving the efficiency of existing approaches or an evaluation of different approaches or theories in different situations.
  - It might also involve applying an existing problem-solving technique or theory to a new area.

# What is Project Management?

- Project management is the process of planning, organizing, and managing resources to achieve specific goals and objectives.
- It involves coordinating the efforts of team members and stakeholders to complete a project on time, within budget, and to the satisfaction of the customer or client.

# What is Project Management? (Cont'd)

- The key elements of project management are:
  - **Project planning**: This involves defining the project's goals, objectives, and deliverables, as well as creating a detailed plan for how to achieve them.
  - **Resource allocation**: This includes identifying and acquiring the resources (e.g. personnel, equipment, materials) needed to complete the project.
  - **Project execution**: This is the actual implementation of the project plan, including the coordination of activities and tasks.
  - **Monitoring and controlling**: This involves tracking progress, identifying and resolving issues, and making adjustments as necessary to keep the project on track.
  - **Project closure**: This is the final stage of the project and includes completing all remaining tasks, documenting lessons learned, and formally closing the project.

# Advantages of Project Management

- **Improved efficiency**: Project management methodologies and tools can help to organize and streamline the project development process, resulting in faster completion times and lower costs.
- **Better communication**: Project management can help to establish clear lines of communication between team members and stakeholders, which can improve collaboration and reduce misunderstandings.
- **Increased predictability**: Project management can help to identify and mitigate risks early on, and can provide a clear understanding of the project's progress, timelines and budget, making it easier to predict the outcome.
- **Better quality**: Project management can help ensure that the project's deliverables meet the specified requirements and quality standards, which can improve customer satisfaction.

# Advantages of Project Management (Cont'd)

- **Better use of resources**: Project management can help to ensure that resources are used effectively and efficiently, which can help to reduce costs and improve productivity.
- **Better decision making**: Project management can provide the necessary data and insights to make informed decisions throughout the project lifecycle, which can help to improve the quality of the final outcome.
- **Better project visibility**: Project management provides a clear view of the project's progress, timelines, and budget, which can help stakeholders to understand the status of the project and make informed decisions.
- **Continual improvement**: Project management methodologies like Agile and Lean provide a framework for continuous improvement, which can help to improve the project outcome and adapt to changing requirements.