UNIVERSITY OF WOLVERHAMPTON

HERALD COLLEGE KATHMANDU | ing GROUP

Collaborative Development

5CS024

Objectives

- Project Management
- Agile Software Development
- Scrum
- Version Control System
- Testing

Module Leader

- **Mr. Biraj Dulal**
  - MSc. IT Data Analytics(London Metropolitan university)
  - BSc. (Hons.) IT Computing(London Metropolitan university)
  - Work Related Description
    - Lecturer, **Herald College Kathmandu**
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    - Personal Academic Tutor (PAT), **Herald College Kathmandu**
    - Former Project Manager, **White Danphe Pvt.Ltd.**

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Module Instructor

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Module Instructor

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Module Instructor

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Module Instructor

- **Mr. Yogesh Bikram Shah**
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Module Instructor

- **Ms. Yojana Ghimire**
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Evaluation

20% : Unseen Written Examination - *" Week 1 to Week 5 "* **[Individual]**

40% : Portfolio 1 - "*Week 7*" **[Individual]**

40% : Portfolio 2 - "*Week 12*" **[Individual]**

Note: If you fail the exam you will fail the module.

Email Etiquette

- Email from your college account only .
- Always include your **student number**, and the **module** you are referring to (**code and title**).
- Be polite, formal and use a spellchecker.
- Do not email the same thing twice if we fail to respond within 10 minutes!

Ground Rules

Our expectations

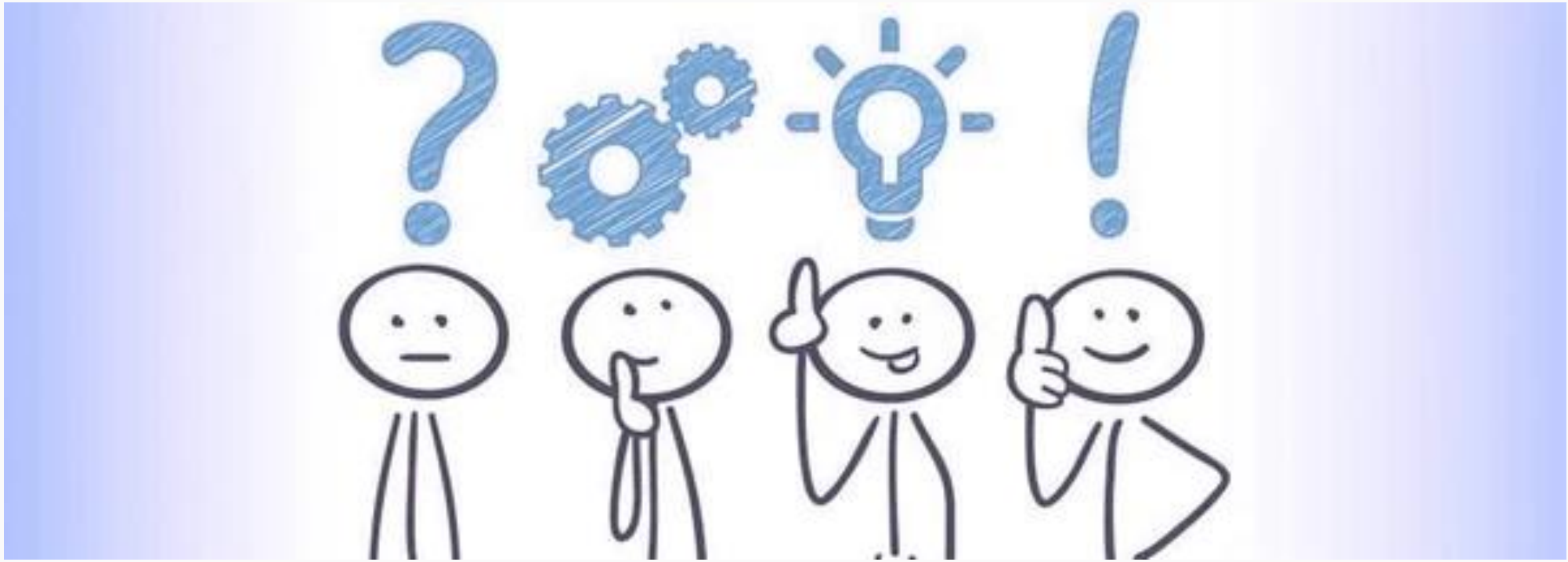
- Please switch your **mobile phones** to off/silent.
- **Attendance** will be monitored please email me if you are unable to attend.
- Be on time or don't bother.
- Pen and paper for **Lectures**!
- Laptops required during **tutorials** and **workshops**.

Structure

- Lectures *(2 hours)*
  - Interactive – contributions welcome!
- Tutorials*(2 hours)*
  - Discussion on lecture materials
- Workshops*(2.5 hour)*
  - Apply learned theories
  - Work on the project!

ATTENDANCE IS MANDATORY and will be monitored.

Any Question?



1. Project

- “Project can be defined as something which has a beginning and an end” (Barnes, 1989).
- **Temporary** endeavor undertaken to create a **unique** product, service or result.
- **Temporary:** Defined beginning and end in time.
- **Unique:** Not a routine operation.

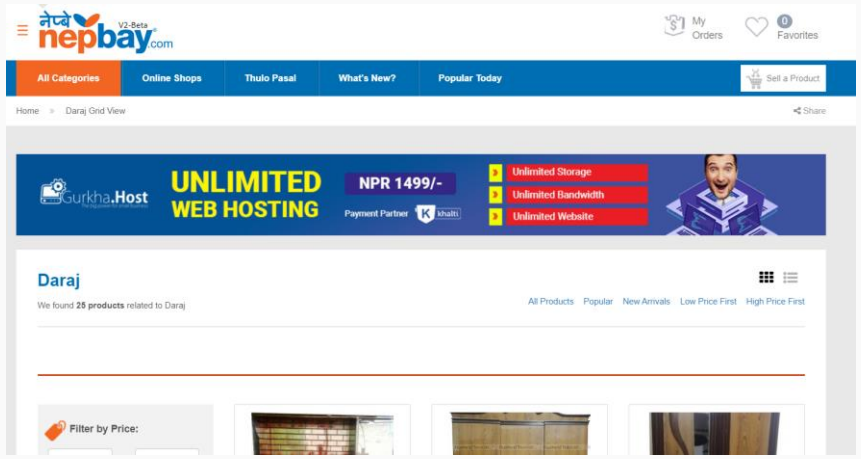
1. Project

2. Examples of Project

3. Short Video of Project

2. Examples of Project

- Development of e-commerce web application for a shop.
- Construction of a building.
- Expansion of sales into a new geographic market.

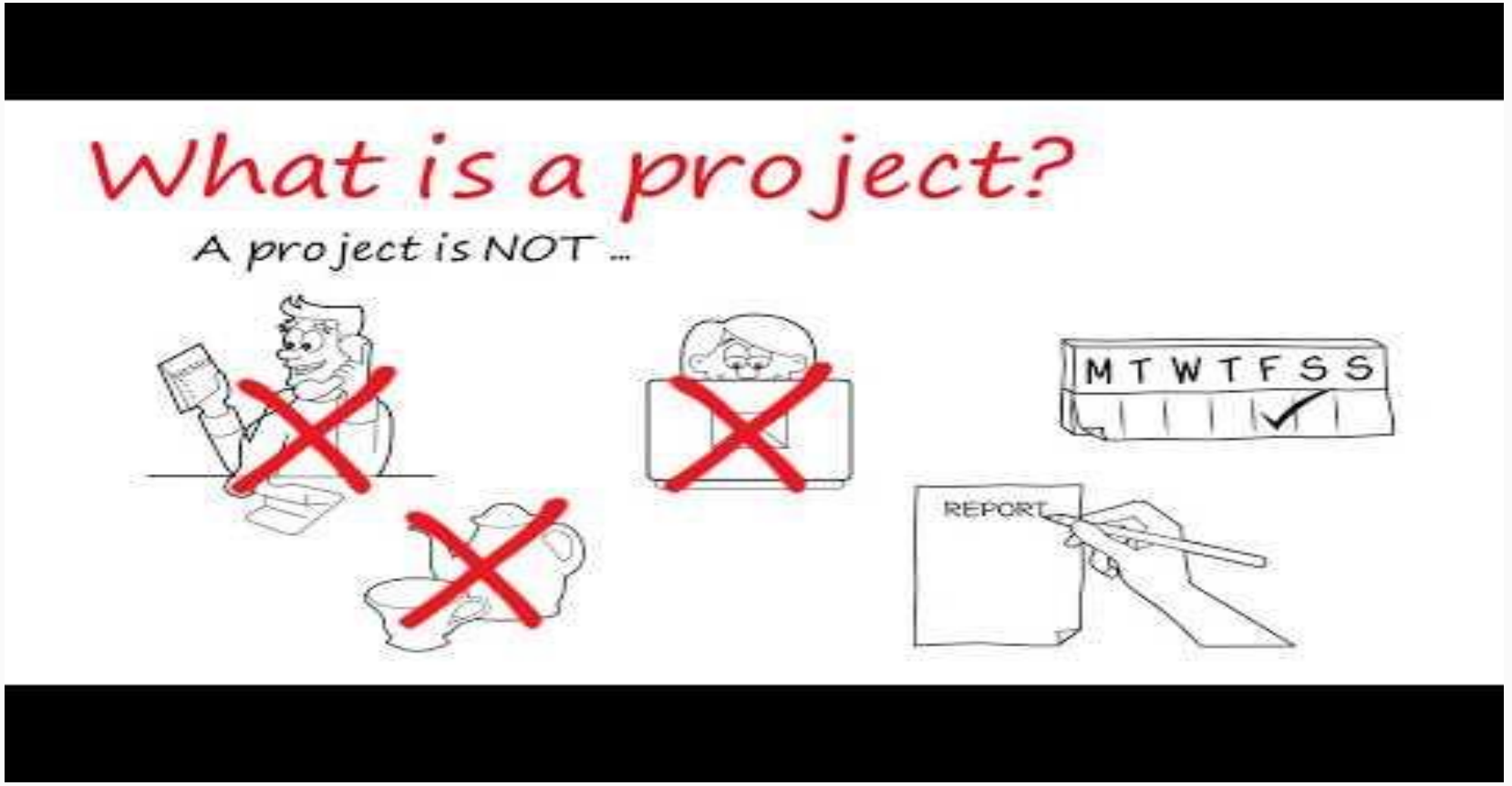


3. Short Video of Project.

2. Examples of Project

3. Short Video of Project

4. Project Management



4. Project Management

- Project management, is the application of knowledge, skills, tools, and techniques to project activities to meet the project requirements.
- Software project management is an art and science of planning and leading software projects.
- It is a sub-discipline of project management in which software projects are planned, implemented, monitored and controlled

5. PMBOK Process & Process Groups

- Process: A set of interrelated actions and activities performed to achieve a specified set of products, results, or services.
- Process Groups: Process Groups bundle together processes that often operate around the same time on a project.
- Every project needs the 5 Process Groups - **Initiating, Planning, Executing, Monitoring & Controlling and Closing.**

6. PMBOK Knowledge Areas

- Knowledge Areas are formed by grouping the 49 processes of project management into specialized and focused areas.

Ten Knowledge Areas:

- **Integration Management:** Processes required to ensure that the various elements of the project are properly coordinated.
- **Scope Management:** Processes required to ensure that the project includes all the work required, and only the work required, to complete the project successfully.
- **Time Management:** Processes required to ensure the timely completion of the project.

6. PMBOK Knowledge Areas

- **Cost Management:** Processes required to ensure the project is completed within the approved budget.
- **Quality Management:** Processes required to ensure the project will satisfy the needs for which it was undertaken.
- **Human Resource Management:** Processes required to make the most effective use of people involved with the project.
- **Communications Management:** Processes required to ensure the timely and appropriate generation, collection, dissemination, storage, and ultimate disposition of project knowledge.

5. PMBOK Process & Process Groups

6. PMBOK Knowledge Areas

7. Software Life Cycle Process

6. PMBOK Knowledge Areas

- **Risk Management:** Processes concerned with identifying, analyzing, and responding to project risk.
- **Procurement Management:** Processes required to acquire the goods and services from outside the performing organization.
- **Stakeholder Management:** Processes that identifies and develops relationships with those people and organizations which are impacted by the project and which influence or determine how the team works.

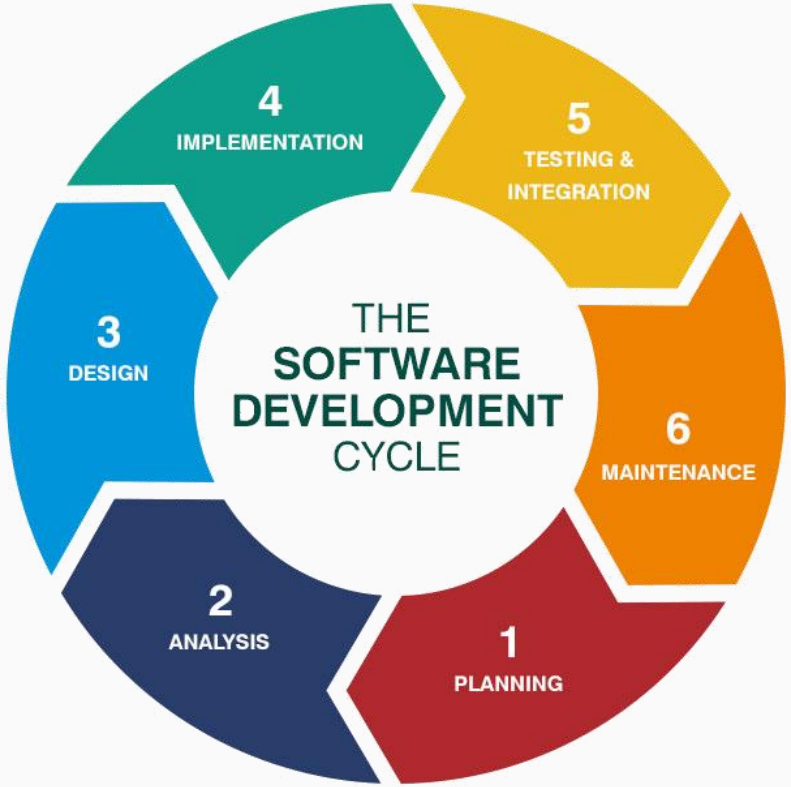
6. PMBOK Knowledge Areas

7. Software Life Cycle Process

8. Waterfall Model

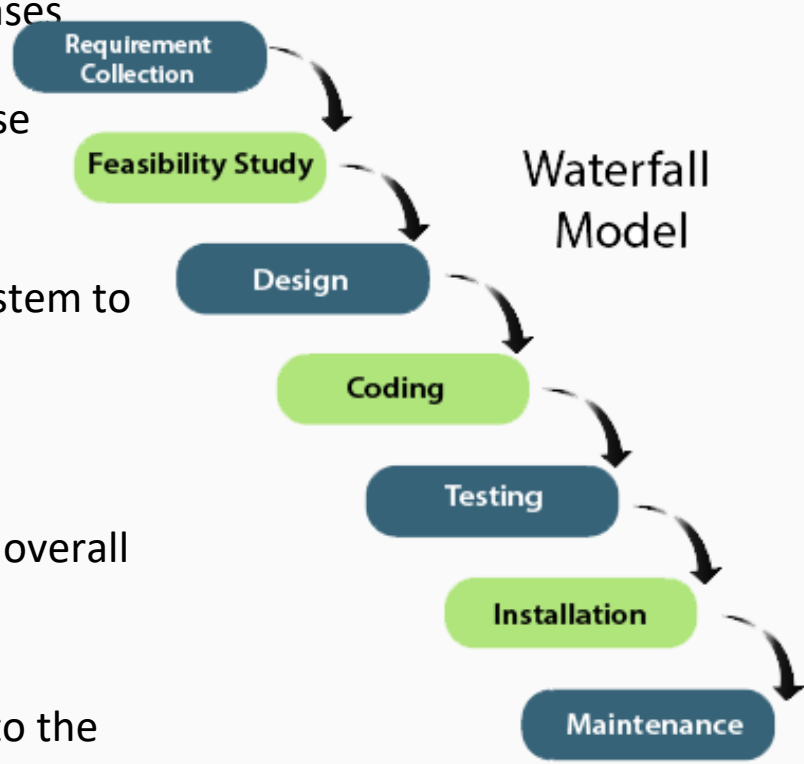
7. Software Life Cycle Process

- Process that covers the entire spectrum of software development, from the product's initial conception to its eventual retirement.
- Adopting and adapting a suitable process will be key in structuring the work for a successful project.
- Linear Process Models: Phases that happen sequentially, one after another.
- Iterative Process Models: Phases that are repeated in Cycles.



8. Waterfall Model

- Process of software development is divided into separate phases
- The outcome of one phase acts as the input for the next phase sequentially
- **Requirement Gathering** : All possible requirements of the system to be developed and are documented in a Software Requirement Specification (SRS) document
- **Design** : The system design is prepared. Helps in defining the overall system architecture
- **Development** : The system (artifact) is developed according to the design



8. Waterfall Model

- **Testing** : The developed artifacts are tested using various testing techniques.
- **Deployment:** The product is deployed in the customer environment.
- **Maintenance :** Fix the issues that arises in the costumer environment.

8.1 Benefits of Waterfall Model

- Easy to understand.
- Clearly defines deliverables and Milestones.
- Emphasizes the importance of analysis before design, and design before implementation.
- Adopted for well-specified parts that can be outsourced.

8.2 Drawbacks of Waterfall Model

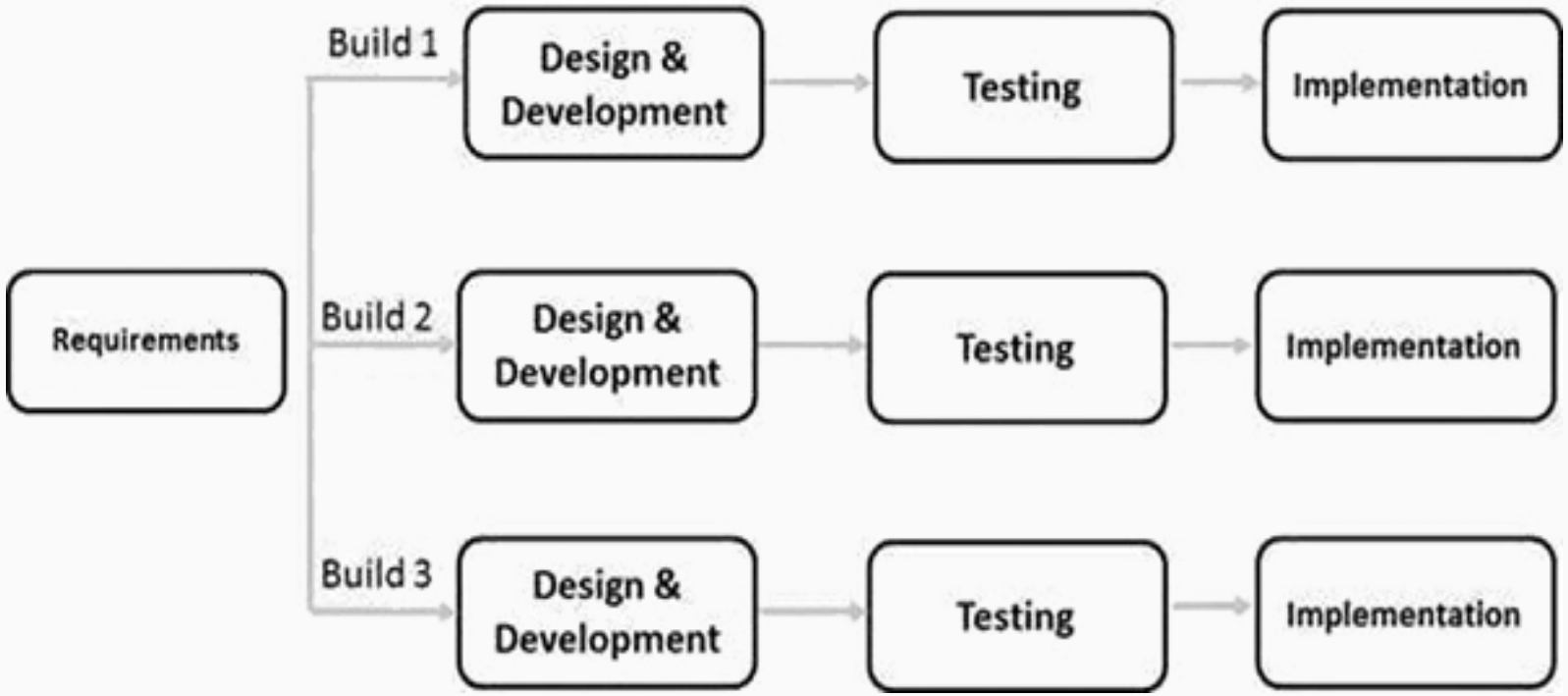
- Not very adaptable to changes.
- Focuses on knowing all the requirements up front.
- Client does not see the product until close to the end of development.
- Testing occurs late in the process.

9. Incremental Model

- Rather than delivering the software towards the end of your project to the client in one ‘big bang’, it might be better to deliver the system to them as a series of intermediate working sub-systems over a period of time.

- But when planning to undertake an incremental development:
  - It is important to have an outline plan in place for the entire system at the start.
  - You cannot just plan the easiest parts of the system, develop and release these to the user, and worry about the more complex aspects of the system later.

9. Incremental Model



9.1 Benefits of Incremental Model

- The user gets something early so that they can get an idea of the system's capabilities and an idea of what you are able to produce in the longer term for them. Thus, the user/client can provide early feedback if something isn't right or improvements can be made.
- It can help you plan and manage your project more effectively. By breaking the project down into a number of deliverables, you will be able to plan how long each deliverable should take to develop.
- The user does not need to learn how to use the entire system in one go.

9.2 Drawbacks of Incremental Model

- It might be difficult to break your program down into a series of sub-systems that are worth delivering to the client/user as separate units.

  For example, you don't want to end up providing a large number of small deliverables to the user that appear to provide little improvement over earlier releases. This wastes your time and can lead the user to think that you are making little progress and wasting their time too.

- Although it is advantageous to meet your user/client regularly, additional contact with them can encourage them to identify too many improvements.

  They may identify more changes than you have time to implement and the changes they request may take your project in a direction that is inconsistent with the requirements of your course.

10. Summary

- Project is **Temporary** endeavor undertaken to create a **unique** product, service or result.
- Project management, is the application of knowledge, skills, tools, and techniques to project activities to meet the project requirements.
- 5 process groups 10 knowledge areas.
- Linear and iterative process of Software development lifecycle.

Any Questions?

What to expect in: Tutorial and Workshops

Discussion on Coursework and team distribution.