HUST

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SOICT

School of Information and Communication Technology

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BÁCH KHOA HÀ NỘI**
HANOI UNIVERSITY
OF SCIENCE AND TECHNOLOGY

IT3180 – Introduction to Software Engineering

3 – Introduction to Software Projects 20211

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Major Objectives

- This course is about Software Engineering with focusing on **how to develop a software project by applying principles of SE**

- Major component: **software development project** – The objective is to develop a **product for a client** who intends to use it in regular production

- During this course, the project team will **work together** through a **full development cycle**

Project Teams

- You will work by team to develop your software project

- A project team is formed by a group of 6 to 8 students

- Evaluation over the team work as well as on individual contribution

Note: After week 1, as soon as possible, you have to form your group and choose project

Choosing Project

- The project can be an application, system software, or even a toolkit, a plugin or a library

- Software Engineering covers everything from smartphones to supercomputers

- The **only conditions** are that there must be a **real client** who has to **participate** to our course to **evaluate assigments**' reports and **project progress**
  - The idea of your project comes from client, not your own
  - In this semester, your teacher plays the role of your project client

- A list of suggested projects are available for 15 groups of 120 students

Milestones

The project is divided into 4 parts, each of which ends in a milestone

- The **first milestone** is a **feasibility** report

- The **second** and **third milestones**, the team makes a **presentation** and submits a **progress report** to the client

- At the **fourth milestone**, the team **demonstrates** the working software and makes a **presentation** to the client, followed by a **final report** and **handover** of the completed project

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Software development is more than writing code

Every project includes all aspects of software development:

• feasibility study

• requirements

• system and program design

• coding

• reliability and testing

• delivery

• documentation for future maintenance

• etc.

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Sprint

- The project is small, about the size of an agile sprint in most production

Sprint

- In agile terminology, a sprint is a fixed period of time during which a team completes part of a software project
- Every sprint ends with code that is ready to put into production
- A typical sprint might have a team of 4 to 9 people working for 2 to 4 weeks
- It should be fully tested, with documentation for maintenance

Time box

- A time box is a set of period of time during which a development team completets part of a software project

Our course:

- Time: one semester of 16 weeks (including the pausing mid-semester week)

- Resources: The team size is fixed (6-8 students)

- Scope: The scope of the project should be determined during feasibility study period to match with the time and resources

Team Organization

- An effective team organization makes the success of the project
- Every project should have:
- Regular meetings with the client (at least during assigment work weeks)
- Regular team meetings
- A project plan which is kept up to date (e.g., Gantt chart)
- A project management system for code and documentation (e.g., Github)

You NEED a **systematic process** for developing your software project

Most projects use one of the following processes:

- **Iterative** refinement
- **Modified** waterfall model

Some projects may use

- An **agile** process with a sequence of **short sprints**

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- Refers to **projects20211.pdf** for more details
- After forming team, each group should choose the appropriate project

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(end of lecture)

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