HUST

TRƯỜNG ĐẠI HỌC BÁCH KHOA HÀ NỘI

HANOI UNIVERSITY OF SCIENCE AND TECHNOLOGY

ONE LOVE. ONE FUTURE.

SOICT

School of Information and Communication Technology

ONE LOVE. ONE FUTURE.

TRƯỜNG ĐẠI HỌC
BÁCH KHOA HÀ NỘI
HANOI UNIVERSITY
OF SCIENCE AND TECHNOLOGY

IT3180 – Introduction to Software Engineering

3 – Introduction to Software Projects

ONE LOVE. ONE FUTURE.

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 5 to 6 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

Overview about Software Development Project

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.

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

Time box

- A time box is a set of period of time during which a development team completes 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 (5-6 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)

Within the time box

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**

3. Introduction to Software Projects

(end of lecture)

ONE LOVE. ONE FUTURE.