Advanced Software Development (ASD)

Introduction lecture to Advanced Software Development

Topics

- Requirements Gathering
- Software Design
- Documentation
- Coding
- Testing
- Bug Fixing

The Process of Software Engineering

Definition

- The establishment and use of effective engineering principles in order to obtain software that is reliable and works efficiently on real machines.
- The application of a systematic, disciplined, quantifiable approach to the development, operation, and maintenance of software.

Topics

1. Review O-O & UML
2. Project Management
3. Software Development Methodologies
4. Agile Software Development
5. Software Development with SCRUM
6. Case Study: SCRUM in Game Development
7. UML, Patterns and Architecture
8. Software Architecture
9. Design Patterns
10. Open Source
11. Validation/Verification

What is version/source control?

- Version control systems are a category of software tools that help a software team manage changes to source code over time.
- Keeps track of every modification to the code in a special kind of database
- If a mistake is made, developers can turn back the clock and compare earlier versions of the code to help fix the mistake while minimizing disruption to all team members

Source Control

Managing a codebase with lots of simultaneous contributors

Distributed	**Centralized**
Mercurial (hg),git	CVS, Subversion
Work in local repository, sync changes later	Repository exists on a client server, work on clients

Web-based hosting service for version control using Git

- Bitbucket
- Github
- Gitlab