CptS 322- Software Engineering Principles I

Continuous Integration (CI) and Continuous Development (CD)

Instructor: Sakire Arslan Ay

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WASHINGTON STATE UNIVERSITY
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Testing

- What are the differences between,
  - continuous integration (CI), and
  - continuous deployment (CD)?

Continuous Integration

- Merge changes back to the main branch as often as possible.
- Developer's changes are validated by creating a build and running automated tests against the build.
- Puts great emphasis on testing automation to check that the application is not broken whenever new commits are integrated into the main branch.

Continuous Delivery

- An extension of continuous integration since it automatically deploys all code changes to a testing and/or production environment after the build stage.
- On top of automated testing, you have an automated release process.

Continuous Deployment

- Goes one step further than continuous delivery.
- Every change that passes all stages of your production pipeline is released to your customers.
- There's no human intervention, and only a failed test will prevent a new change to be deployed to production.

CI examples

- GitHub Actions (demo)
  - https://docs.github.com/en/actions/quickstart
  - https://docs.github.com/en/actions/automating-builds-and-tests/building-and-testing-python
- Travis CI