CISC/CMPE 327 Software Quality Assurance

Queen's University, 2020-fall

Lecture #1

- Course Summary
- Software Quality

Course Information

- Instructor: Dr. Steven Ding
  - https://L1NNA.com/
  - ding@cs.queensu.ca
- Lectures
  - Online
- Q&A + Invited Talks (Zoom)
  - Th 2:30PM - 3:30PM

TA team

- TAs / Advisors / Markers:
  - TBA
- Assignment Advising (Tentative)
  - GitHub Issues

Course Summary

- Textbook
  - Lectures and web references
    - CISC 327 Course Readings **2019**
      (**or 2014 / 2015 / 2016 / 2017 / 2018**)
    - Readings form part of the course material
- Webpage
  - https://github.com/CISC-CMPE-327/Information
  - Frequent updates as course progresses
- onQ will be used **minimally**

Course Summary

- Goal of the course
  - Concepts, theory, and practice of software quality assurance through testing, inspection, and measurement of software systems
- Course project
  - An opportunity to put what you learn into practice. You will form small software "companies" and design and build a small high quality software product
- Quality stories
  - Includes reviews of real applications of QA

Course Summary

- Topics

Introduction (1 week)	Software quality definitions
Process (2 weeks)	Software process models
Testing (3 weeks)	Testing methods and roles
Inspection (3 weeks)	Inspections and reviews
Measurement (2 weeks)	Software metrics
Safety and Security (1 week)	Software security

Course Summary

- eXtreme Programming (XP)
  - A controversial but influential member of the agile software development family based on iterative and incremental development
  - Traditional software quality methods can be boring and dated, so we will use XP as a theme of the course, coupled with real-world examples
  - As much as possible, the course project will be carried out using the principles and methods of XP

Course Summary

- Marking

4	In-Class Mini-Exams @ ~12.5% each	50%
~6	Project Assignments @ ~8% each	50%

  - The Mini-Exams are equivalent to a final exam
  - Your mark in the course is bounded by your personal combined Mini-Exams mark
  - **You must pass the combined Mini-Exams to pass the course**
  - Some project marks will be based on peer assessment

Who is this person?

Steven Ding

- AI, Machine Learning, Data Mining, and **Security**
  - PhD, McGill University (2019)
  - Assistant professor, Queen's (2019–)
  - A father (2017–)
  - Main architect and lead developer of **Kam1n0 & JARV1S**

Who designed most of this course?

- James Cordy
  - 8 years as professional software developer, QA officer
    - Chief programmer on 5-year, $5M Euclid project
    - Co-designer and chief programmer of the Turing programming language & compiler
  - 6 years as VP and CTO of Legasys Corporation
    - Y2K analysis & solution, licensed to IBM Global Services
    - VP Research & Development, solution designer, QA officer
  - 2 years at U. Toronto (Eng. Sci.) and 30+ years at Queen's as Prof. of Software Engineering
    - Distinguished scientist, ACM; Senior member IEEE; IBM faculty fellow; Grand professor, T.U. Dresden, P.Eng. (SWE)
  - Professor Emeritus since 2018

E-mail Policy

- Put "CISC 327" in the subject area, so that it can be classified and pass the spam filter.
- Schedule a time to meet me online if questions required extensive explanation.
- Course email list is a must-read.