

Introduction to Software Dev Notes

Marie Burer

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1 Overview

Tools:

- Warp
- Eclipse
- Git

What is Warp?

- Existing code base
 - Not huge, but bigger than other class projects
 - Useful because it reflects real world, you won't join a team and write code from scratch
- Written by Professor Goddard for a research project called WARP
 - Initially written in Swift, then rewritten in Java for the course
 - Primary purpose is to develop programs for network communication in wireless sensor networks

Why Warp?

- Get used to reading and modifying others' codes
- Learn to refactor code

- Rich opportunity to add:
 - documentation
 - pre- and post-conditions
 - testing
 - new features
- Learn from Professor Goddard's experiences and mistakes.

2 Git and Version Control

3 Software Development Process Models

Beginner's Model: Code and Fix

- Conceptual Development
- Code and Fix
- Release Product

Software Development Life Cycle

- Conception
- Requirements gathering
- Design

- Coding and debugging
- Testing
- Release
- Maintenance
- Retirement

Software Development Model Categories

- Plan driven models:
 - Strict methodology
 - Clearly defined phases
 - Heavy weight
 - Works best for large contracts
- Agile development models:
 - incremental and cyclic
 - small, frequent releases
 - less documentation
 - Works well for start ups

Waterfall Process Model (on exam)

- Conceptual Development

- Requirements Analysis
- Architectural Design
- Detailed Design
- Code and Debug
- System Testing
- Release and Maintenance