Analýza a modelovanie v rámci softvérového inžnierstva

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Čo je to SI?

Čo na to Wikipédia

- ▶ research, design, develop, and test operating systems-level software, compilers, and network distribution software for medical, industrial, military, communications, aerospace, business, scientific, and general computing applications.

- ▶ the systematic application of scientific and technological knowledge, methods, and experience to the design, implementation, testing, and documentation of software

- ▶ the application of a systematic, disciplined, quantifiable approach to the development, operation, and maintenance of software

- ▶ an engineering discipline that is concerned with all aspects of software production

- ▶ the establishment and use of sound engineering principles in order to economically obtain software that is reliable and works efficiently on real machines.

SI a inžinierstvo

Stavba budovy vs vývoj softweru.

Čo môže spôsobiť chyba v softvéri

- Therac-25
- Patriot Missile Failure
- Mars Climate Orbiter

Historia

- ▶ von Neumann architecture (1940s)
- ▶ Programming languages (1950s)
- ▶ Softvérové inžinierstvo, Oettinger (1967)
- ▶ Prvá konferencia (1968)
- ▶ Softvérová kríza (1968)
- ▶ Dijkstra (1968). "Go To Statement Considered Harmful"
  - ▶ štruktúrované programovanie
- ▶ Pamas (1972) "On the Criteria To Be Used in Decomposing Systems into Modules
  - ▶ procedurálne programovanie
  - ▶ modularita, skrývanie informácií

Životný cyklus softvéru

- ▶ Fázy života softvéru
- ▶ Fázy podľa RUP

Software development methodology

- Waterfall model
- Prototyping
- Spiral development - Obrázky
- Incremental development
- **Iterative and incremental development** - Obrázky
- Agile development
- Extreme Programming
- Feature Driven Development

Poddisciplíny

Hlavné disciplíny podľa RUP:

- **Business modeling**
- **Requirements**
- **Analysis and Design**
- Implementation
- Test
- Deployment

Pomocné disciplíny

- Configuration and Change Management
- Project Management
- Environment

Wikipedia

Unified process

Iterative and incremental software development process framework

- ▶ RUP - Introduction
- ▶ OpenUP - Introduction
- ▶ Agile Unified Process - Introduction

Odkazy

- SI-Wikipedia
- RUP
- Software development process-Wikipedia