

Izbrana poglavja iz programskih jezikov

Erlang programming language

Iztok Sarnik
FAMNIT; UP

Literature

Joe Armstrong

Programming Erlang, 2nd Edition

Software for a Concurrent World

2013, Pragmatic Programmers

Erlang (1)

- Is not a city in Germany
- Functional language
 - Logic programming style
- “Shared nothing” philosophy
 - Lightweight processes
 - Thread safe programming
- Concurrent and distributed programming
 - Programming across different servers
 - Millions of concurrent processes
 - Programming multi-core computers

Erlang (2)

- Highly reliable fault-tolerant systems
 - Isolated processes
 - Fault-tolerant architectures
 - Processes crash and other processes fix them
- Erlang applications
 - Messaging: MochiWeb, Ejabberd, RabbitMQ
 - DBMS: Apache CouchDB, Amazon SimpleDB

Contents (1)

- Sequential programming
 - Terms, Tuples, Lists
 - Pattern matching
 - Modules
 - Functions
 - Records and maps
 - Programming with lists
 - Programming with tuples
 - Hot-swap code
 - Types in Erlang

Contents (2)

- Concurrent programming
 - Process creation
 - Inter-process communication
 - Client-server
 - Errors in concurrent programs
 - Timeouts
 - Registered processes
 - Groups of processes
 - Monitors
 - Fault tolerance

Contents (3)

- Distributed programming
 - Two models of distribution
 - Writing distributed programmes
 - Building name server
 - Socket based distribution
 - Generic processes (OTP)
 - Gen-server callback structure
 - Application servers
 - Supervision tree

Methods

- Lectures
- Exercises
- Programming examples
- Projects (60%)
- Oral exam (40%)