

Code Mobility

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Outline

- 1 Introduction
 - Motivation
 - Code mobility overview
 - Level of abstraction
 - Design challenges for the project
 - Requirements
- 2 System architecture
 - General overview
 - Agents
 - Platform
 - Communication
- 3 Project management
- 4 Tools

Motivation

- Design code mobility system on ESE Board
- Practical experience
- Project management skills

Code mobility overview

Concept of code mobility

Concept of code mobility

Mobile agents

Meta-level knowledge

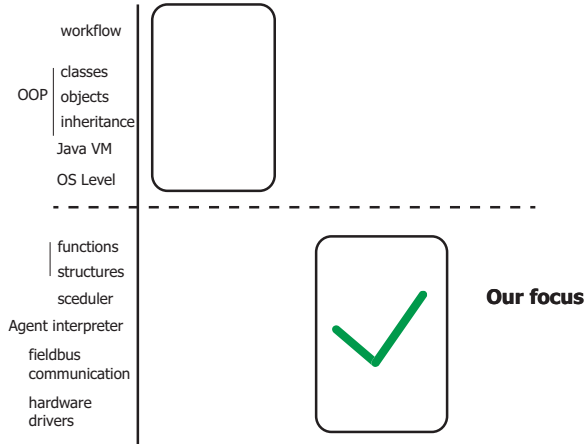
Strong and *weak* code mobility

Advantages of code mobility

Move code close to resources

Enable client customization of remote resources

Level of abstraction



Design challenges for the project

Processing gap

Performance

Memory management

Communication design

Requirements

Design such a system that allows:

- Agents: up to 4 agents on one platform
- Platform: execute agents concurrently
- Communication: transfer agents *strong mobility* transfer messages between platforms

General overview

3 layered architecture:

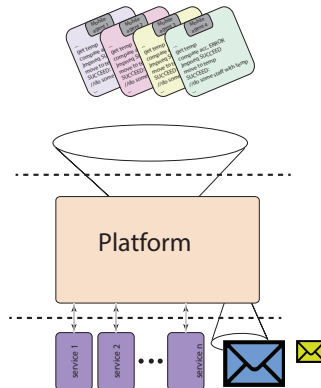
- Agent level
- Platform level
- communication & drivers



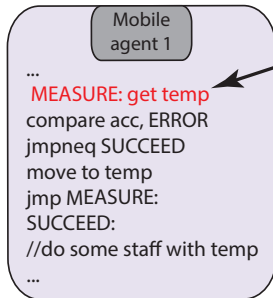
General overview

3 layered architecture:

- Agent level
- Platform level
- communication & drivers



Agents



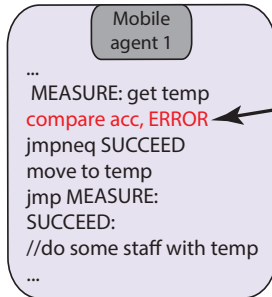
Get temperature value

Platform can provide this service?

yes: do stuff

no: move agent to another platform

Agents



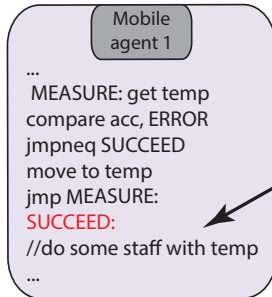
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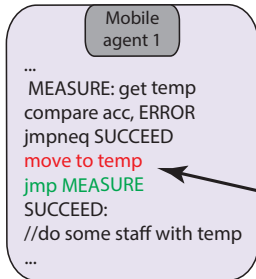
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Platform

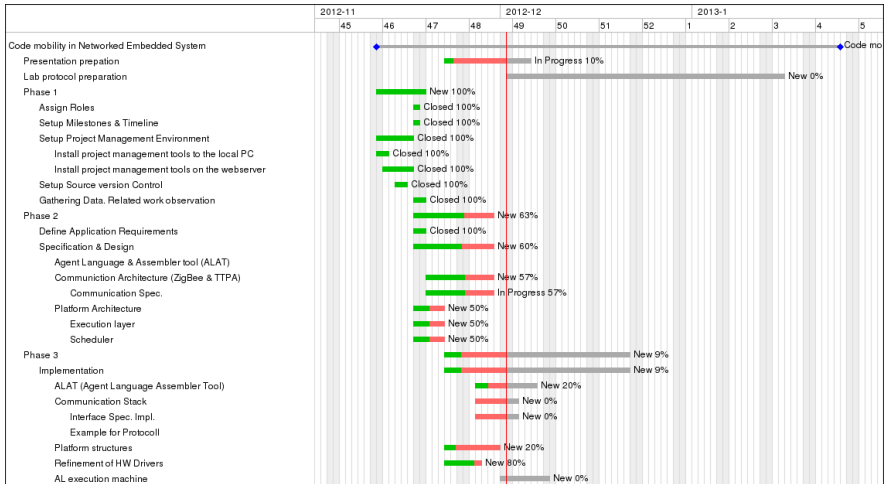
Communication

Milestones

- Phase 1. Product outline and information gathering
- Phase 2. Application requirements and specification
- Phase 3. Implementation
- Phase 4. Validation and analysis

Workpackages

Gantt diagram



Tools

Version control git github Project management redmine Code generation SCAD