

# Code Mobility

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# Outline

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# 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

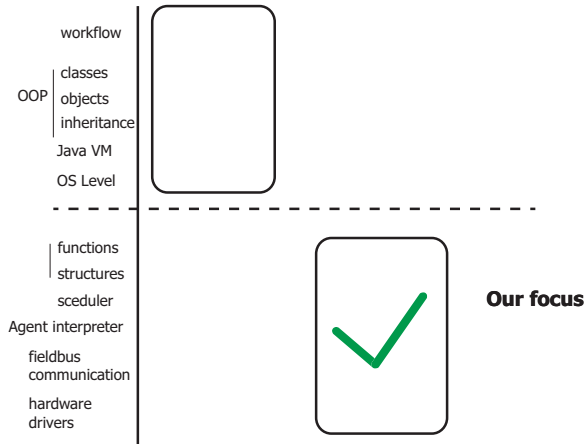
*Strong* and *weak* code mobility

### 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

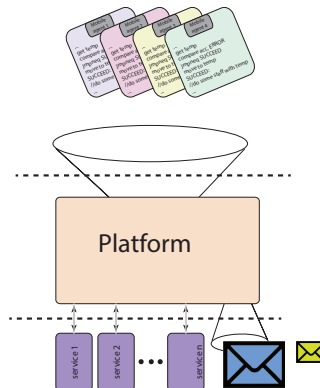




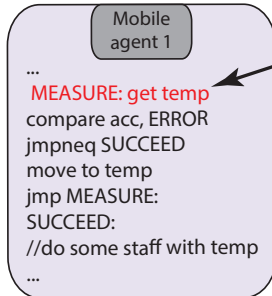
# General overview

3 layered architecture:

- Agent level
- Platform level
- communication & drivers



# Agents



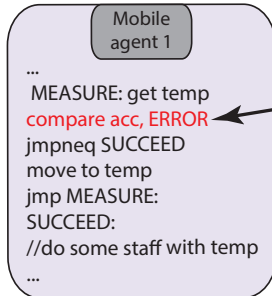
Get temperature value

Platform can provide this service?

yes: do staff

no: move agent to another platform

# Agents



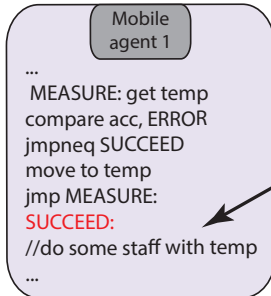
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# Agents



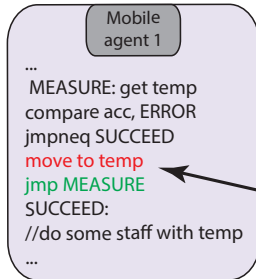
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# Agents



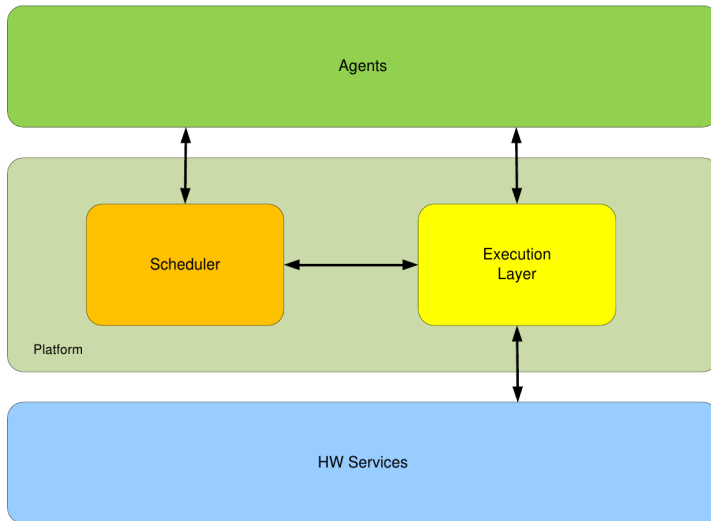
Get temperature value

Platform can provide this service?

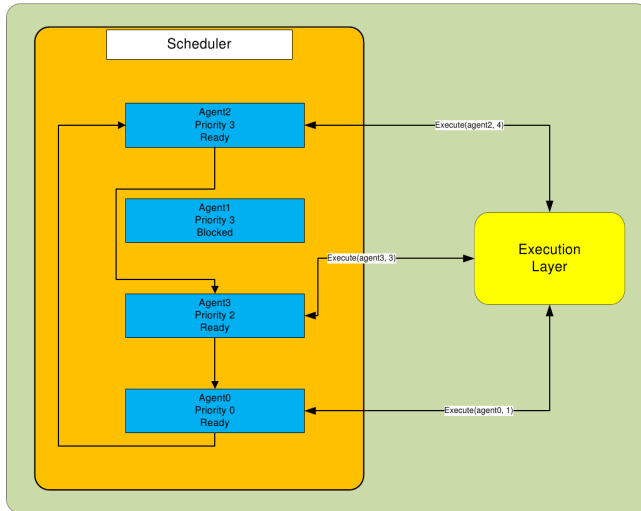
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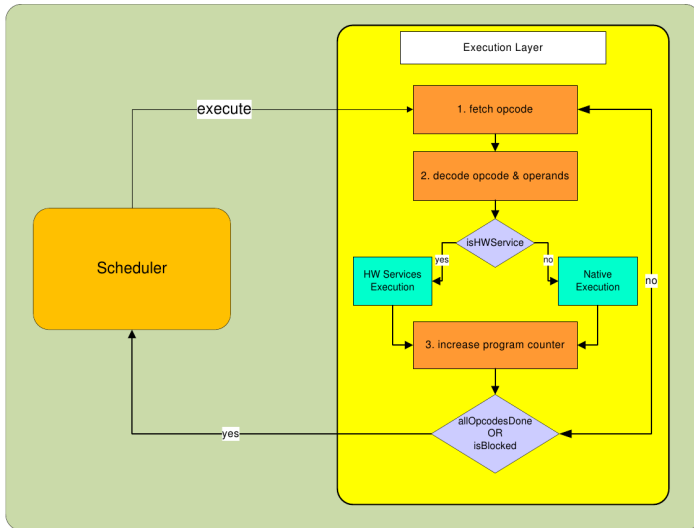
# Platform



# Scheduler



# Execution Layer





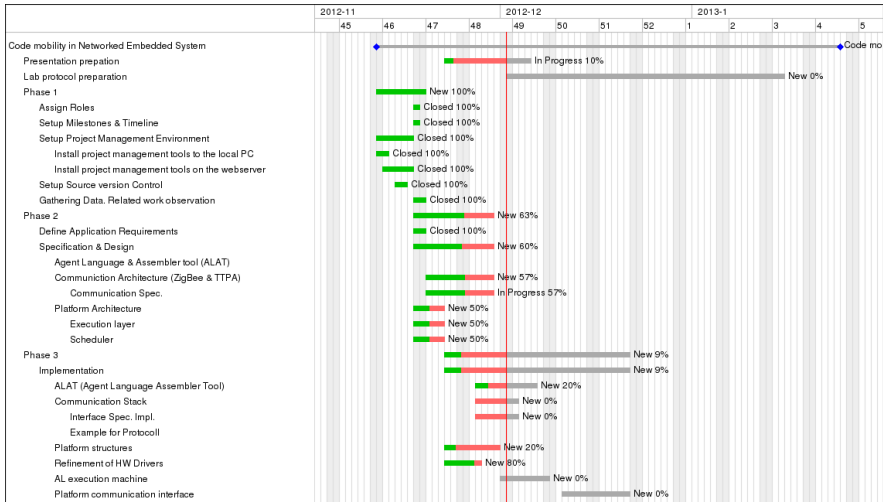
# Communication

# 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