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S4: Improving Customer Experience A User-Centric Context-Aware Mobile Assistant

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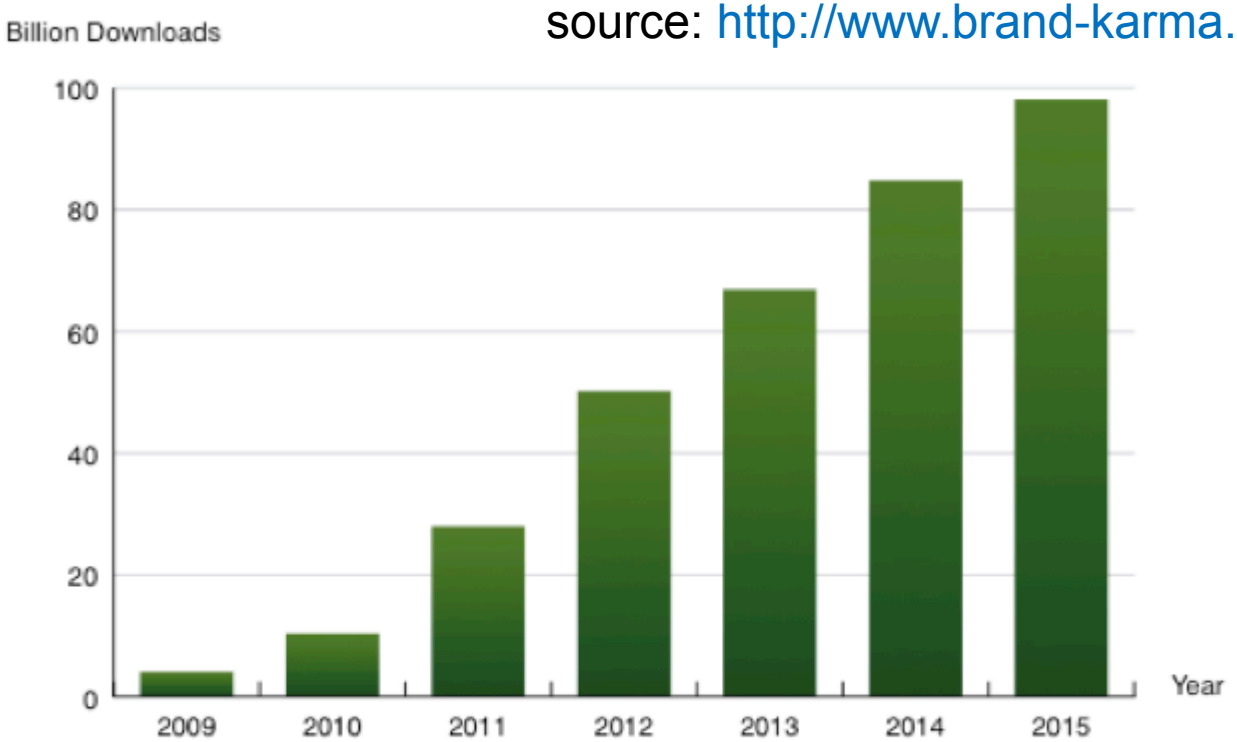
Introduction

source: http://www.brand-karma.com/



Mobile application downloads, billion downloads (World 2009–2015)

Observation

- Most applications provide a singular service
- Apps tend to catch the user for the maximum amount of time (i.e. maximize the amount of time the app is used)
- Thus applications do not interact with each other
- This forces the user to invoke each app separately – sometimes to perform complex tasks

Solution: DoTT

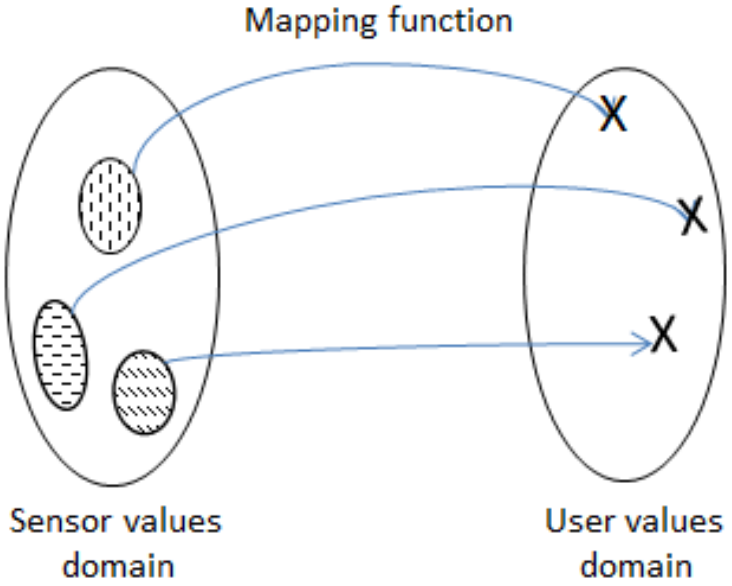
- DoTT helps user to better use the applications already installed on his/her device
- DoTT uses a simplified language to describe the task that should be performed when certain conditions are verified

Solution: DoTT

- Examples:
  - Send message to bob happy birthday on his birthday
  - Send sms I am on my way home to my wife when I leave work
  - Text my wife I am on my way home when I leave work
  - Remind me to buy milk when I arrive home
  - Play music when I am walking

Challenges

Cloud words from the user domain



Abstracting raw context to a higher user defined information

Interpreting user input

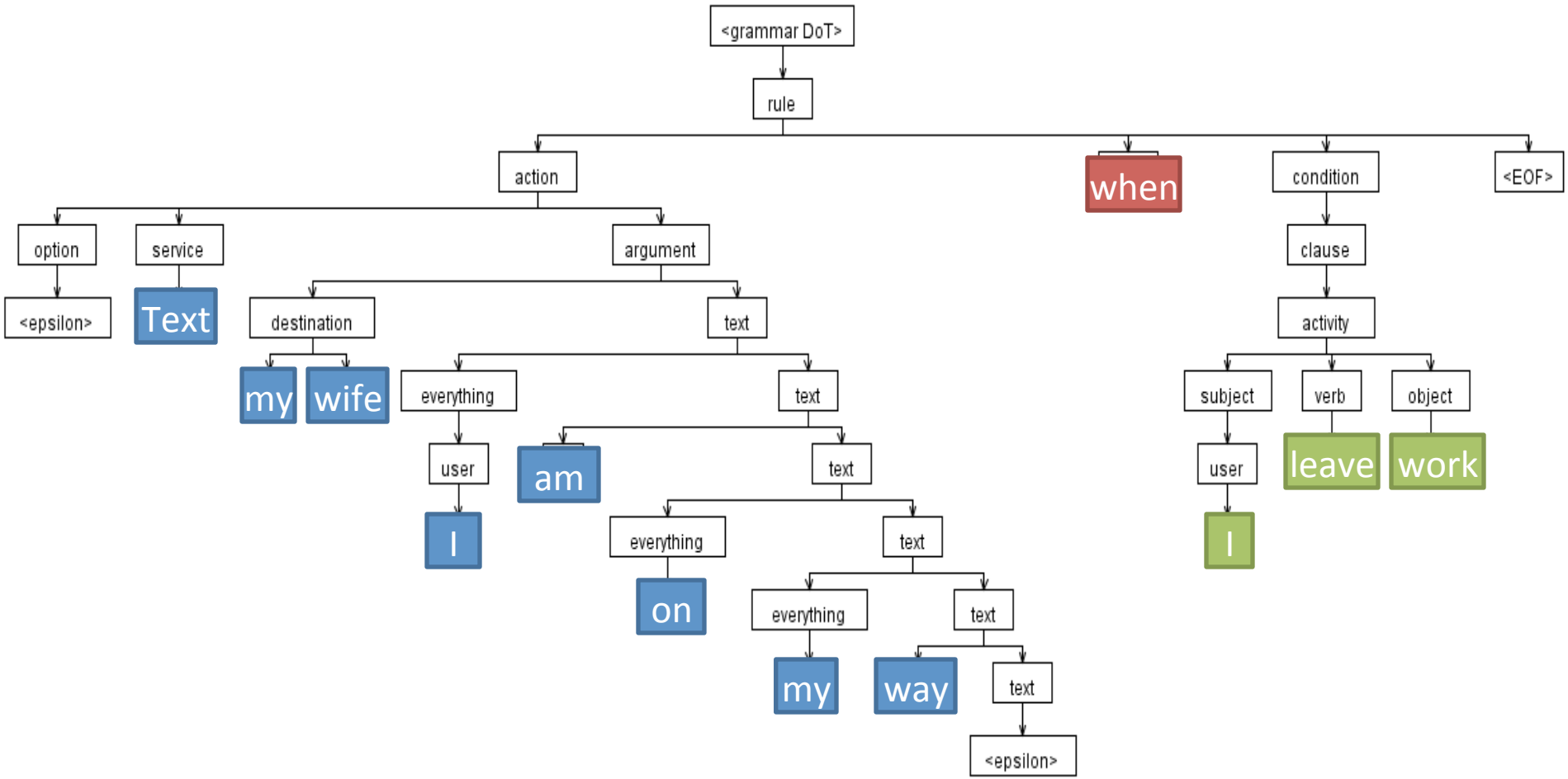


fig.3 Example of an Abstract Syntax Tree (AST)

Domain Specific language

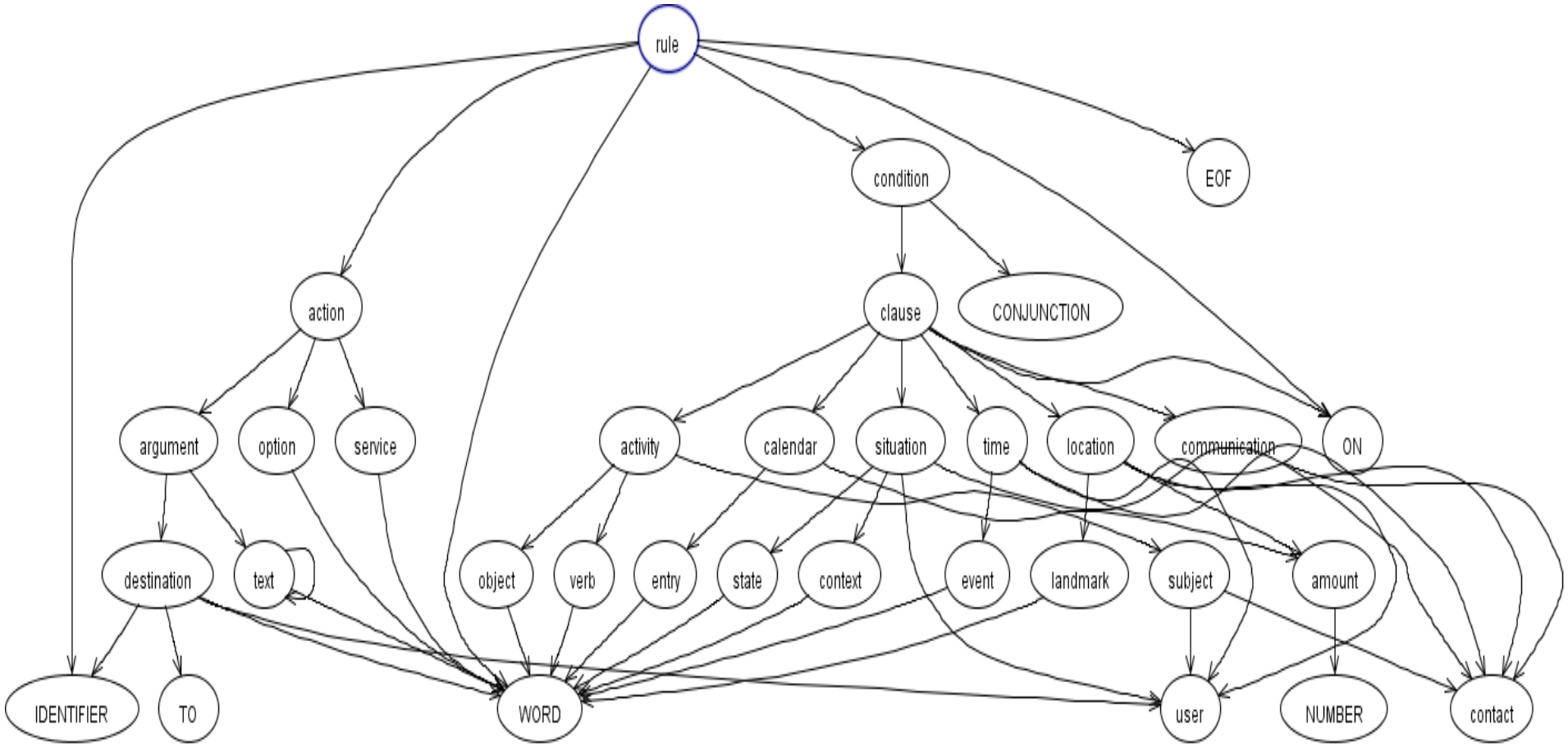


fig.3 non-terminals dependency graph

architecture

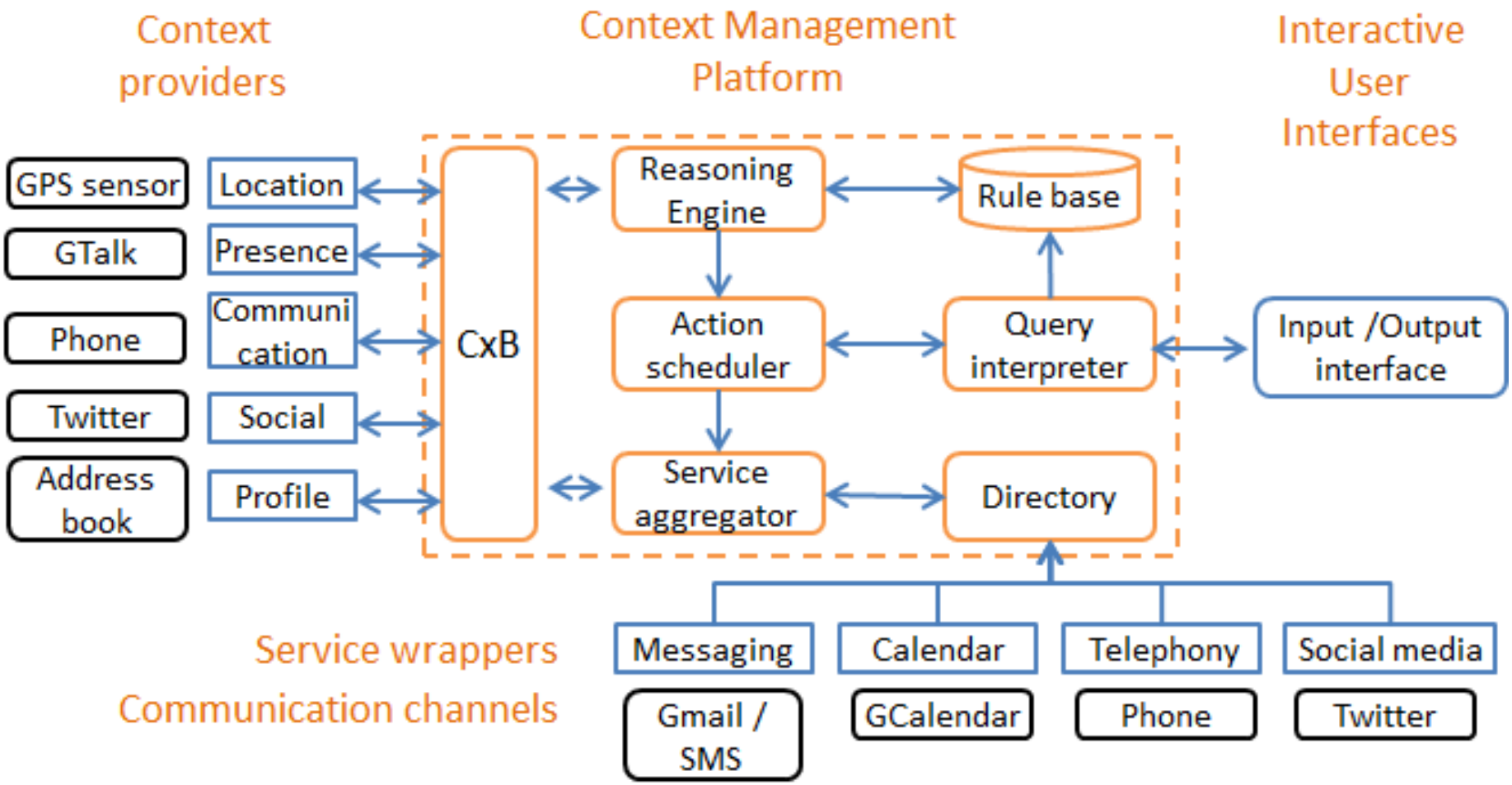
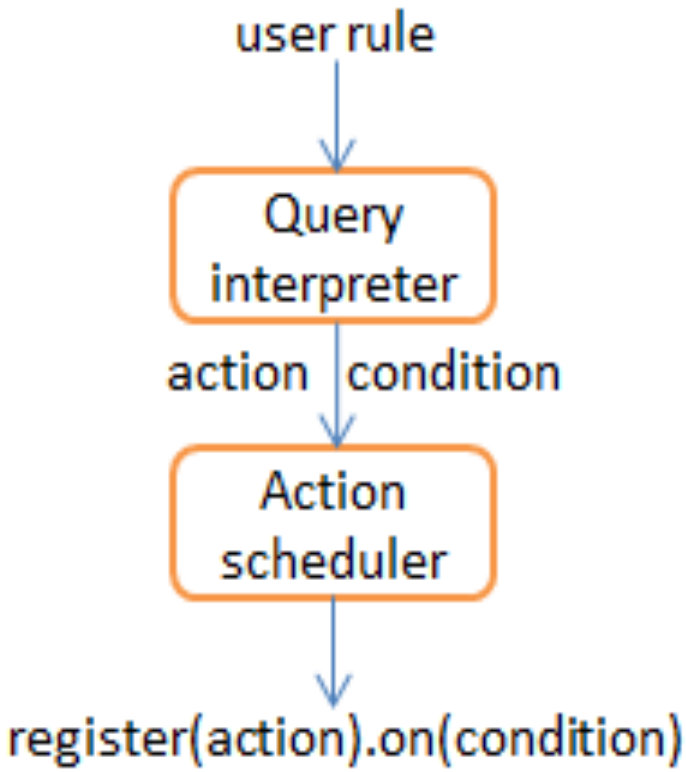
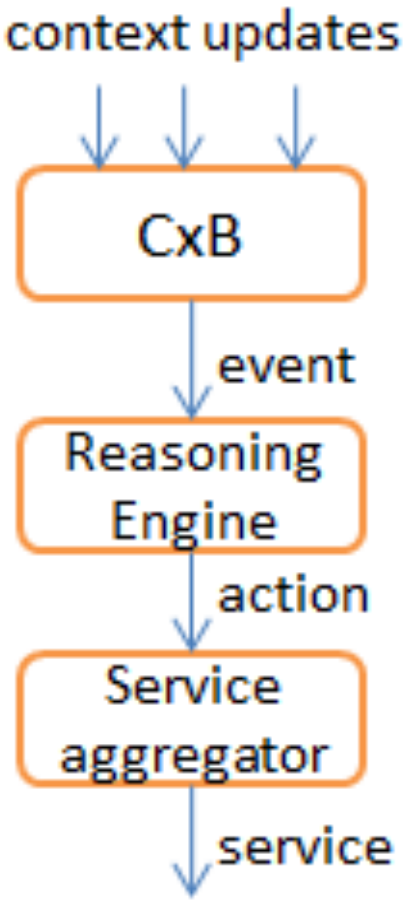


fig.3 DoTT architecture

handling rules and context



(a) interpretation



(a) execution

fig.3 Meta-model for context-awareness

Lessons learned

- Android platform efficiently supports application coordination through the *Intent* mechanism,
- ANTLR provides powerful tool to build and debug DSL (Domain Specific Language) interpreters,
- Using Natural language to express context-aware behavior helps users to easily adopt context-aware applications

Summary

- DoTT (Do This on That) is a platform for enabling users to coordinate a sequence of applications

- DoTT relies on a flexible grammar to express the language behind the rules that define context-aware aplications

The End

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