Application Development for Mobile and Ubiquitous Computing

TimeTracker - Initial Presentation

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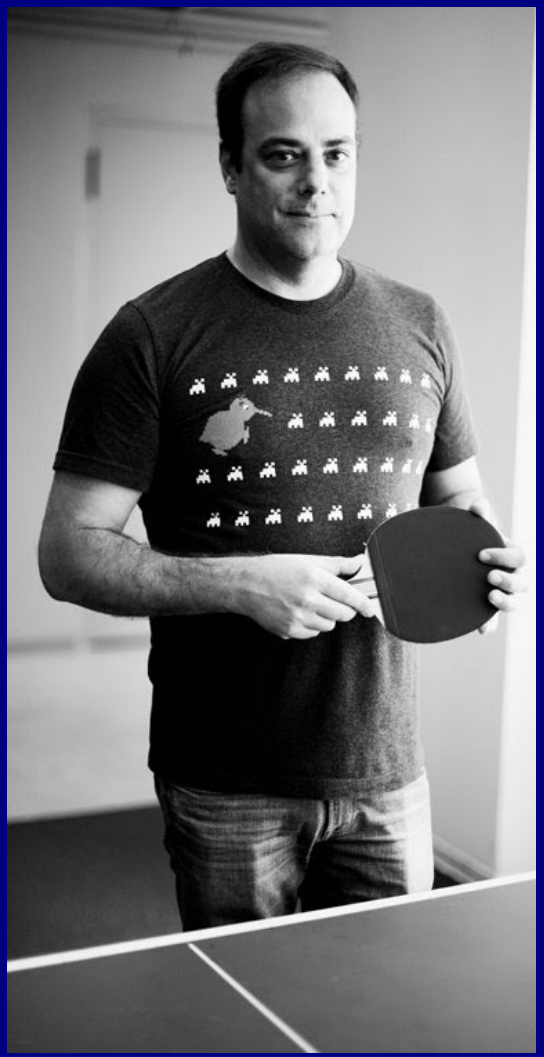
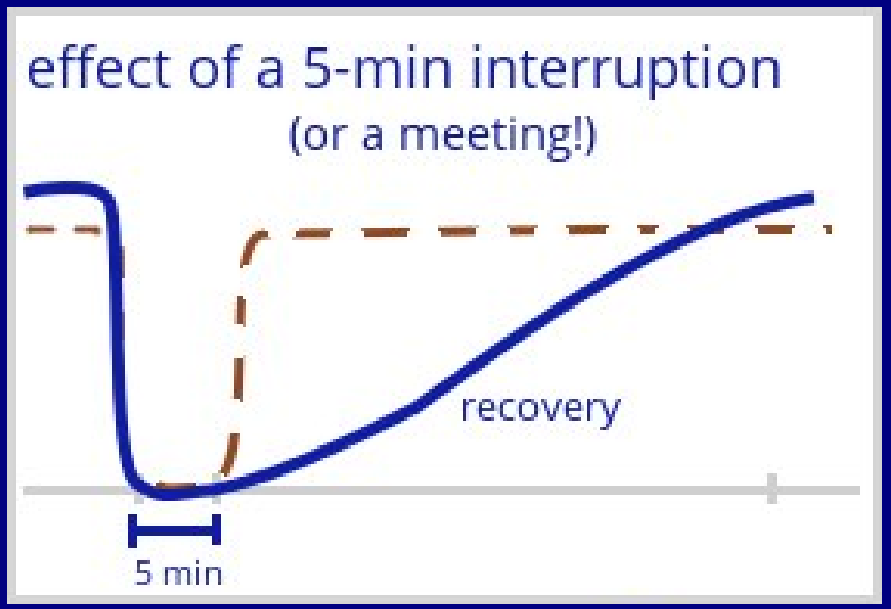
Summary

Motivation





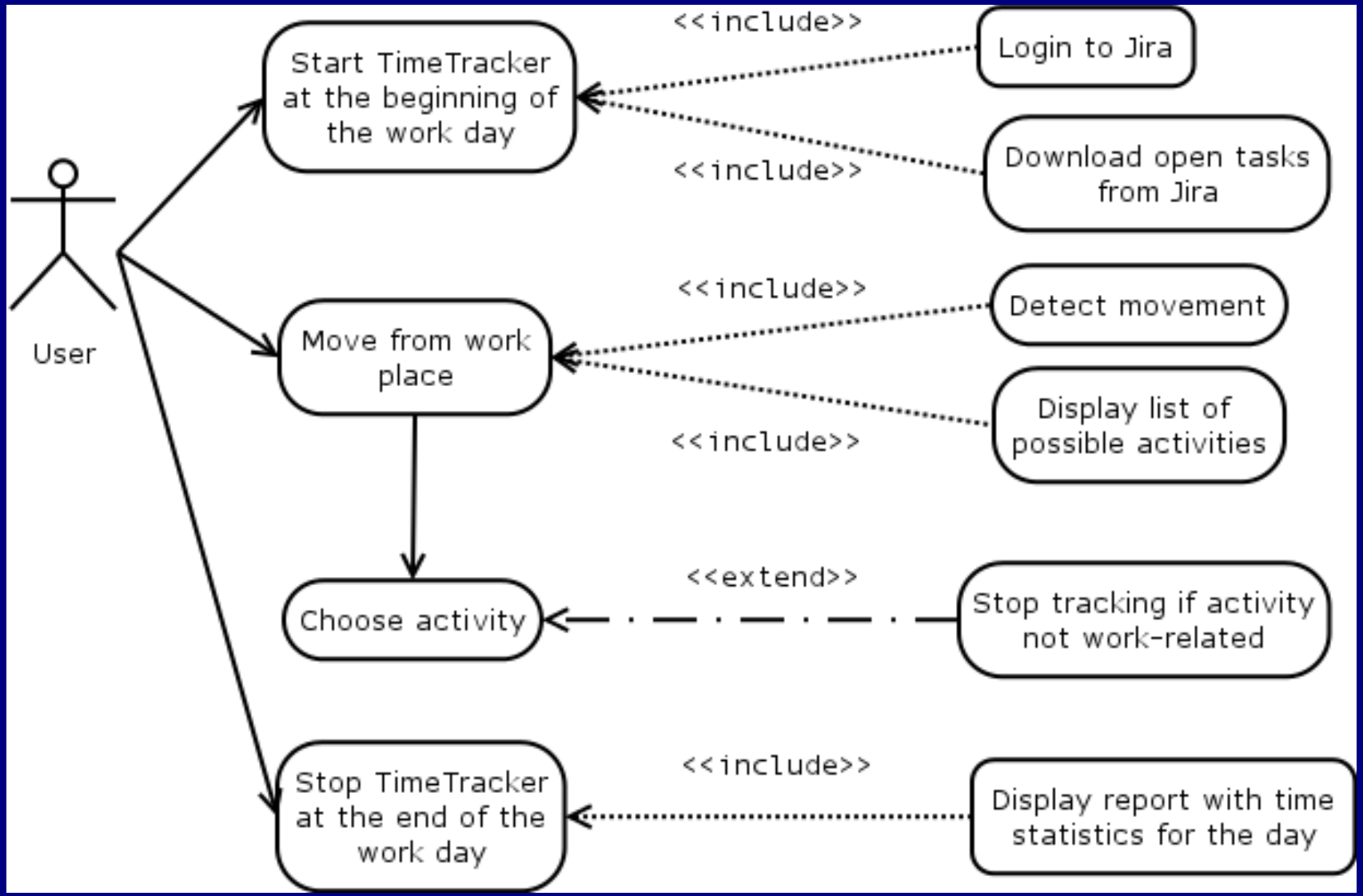
Idea

1. make time tracking easier
2. measure interruptions
3. calculate velocity for estimated tasks

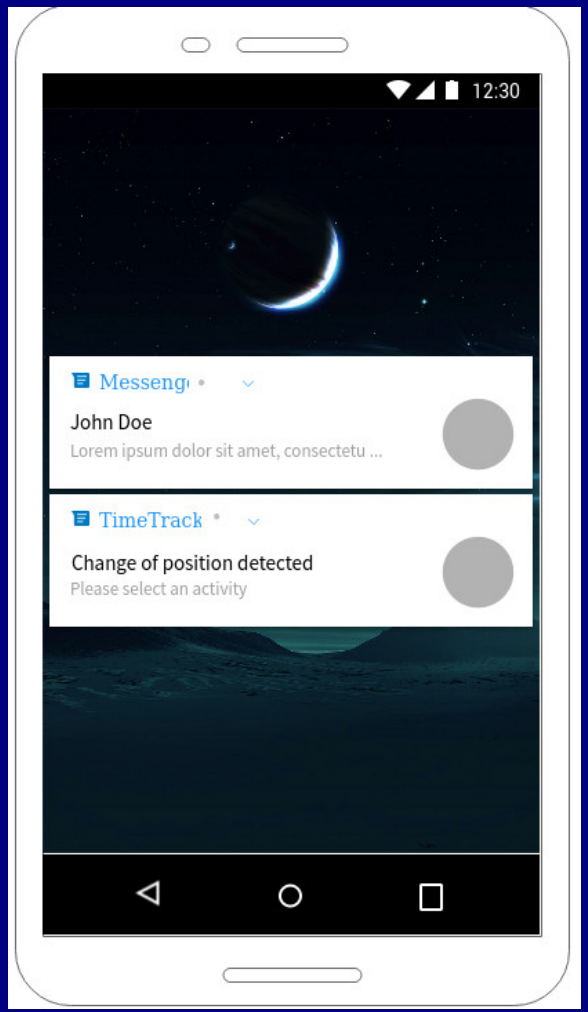
Use Cases

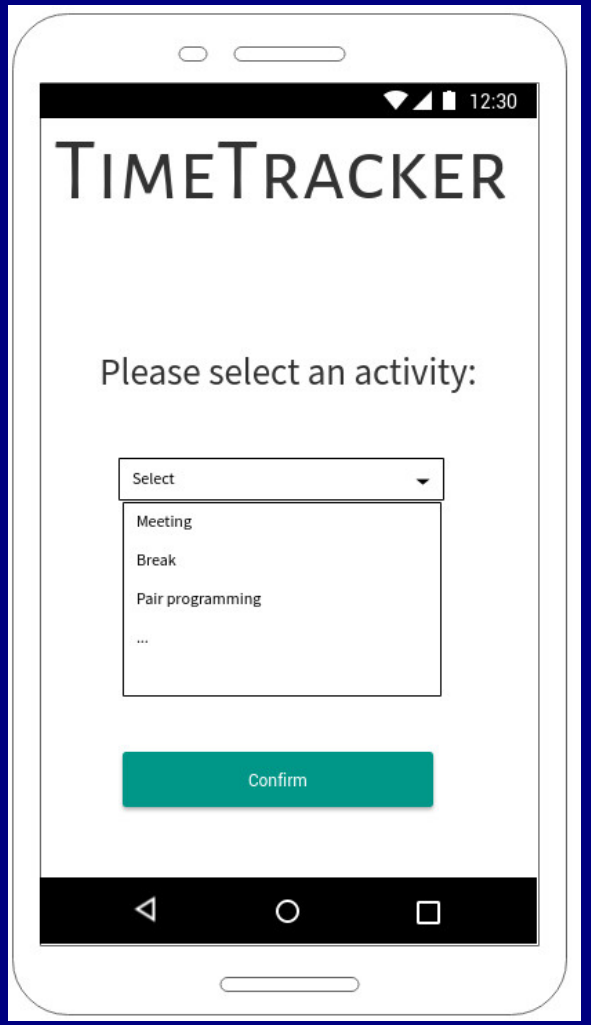
1. User goes to work but does not use its own PC (e.g. pair programming): use TimeTracker to prove that work time has been used meaningfully
2. User has a coffee break but leaves its PC on: TimeTracker detect movement and ask user which activity it is engaged in, stopping if not work related
3. User ignores TimeTracker notification: stop tracking time after a timeout

Use Case Scenario

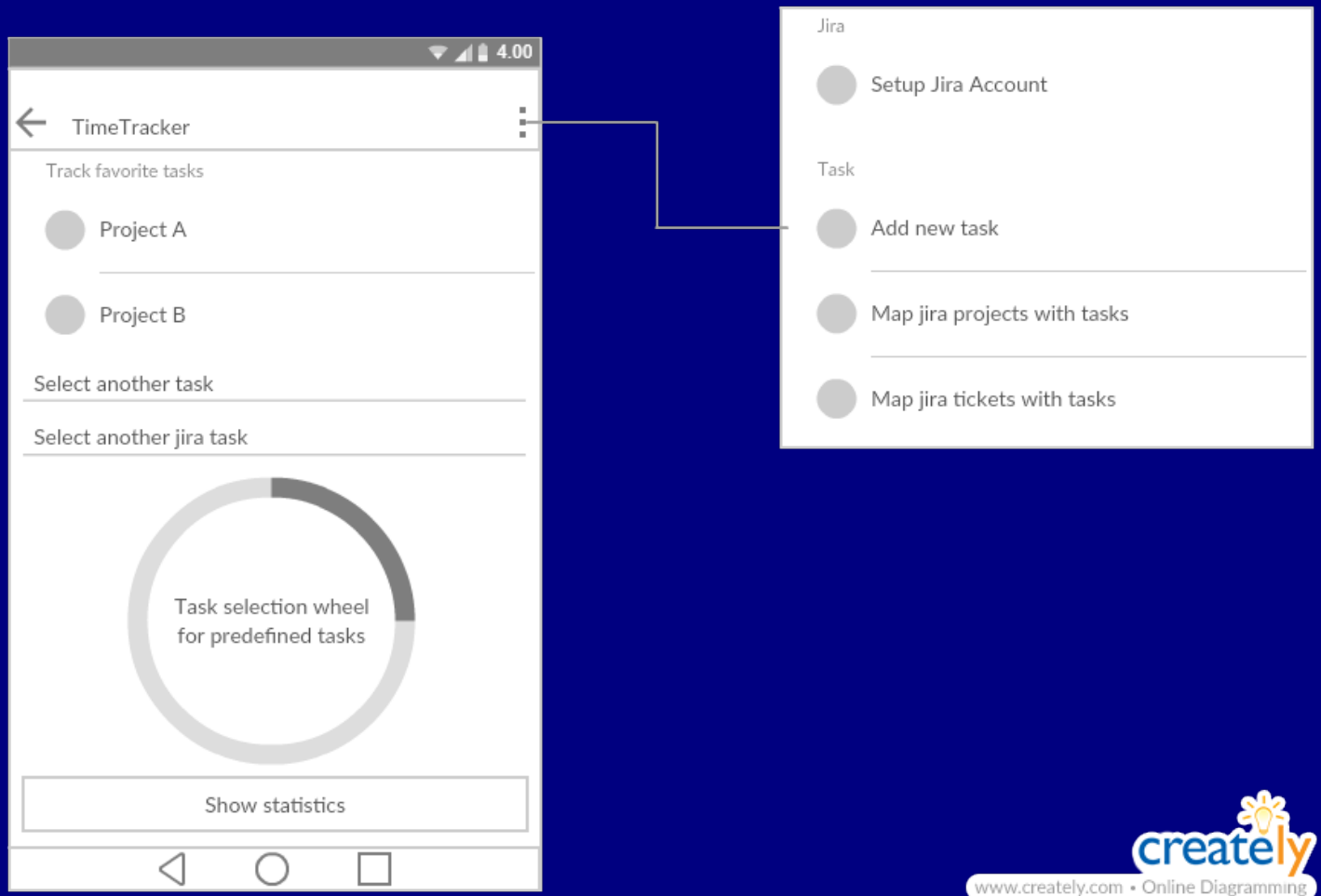


Mockups


12:30
Messeng
John Doe
Lorem ipsum dolor sit amet, consectetu ...
TimeTrack
Change of position detected
Please select an activity


12:30
TIMETRACKER
Please select an activity:
Select
Meeting
Break
Pair programming
...
Confirm

Mockups


4.00
TimeTracker
Track favorite tasks
Project A
Project B
Select another task
Select another jira task
Task selection wheel
for predefined tasks
Show statistics
Jira
Setup Jira Account
Task
Add new task
Map jira projects with tasks
Map jira tickets with tasks
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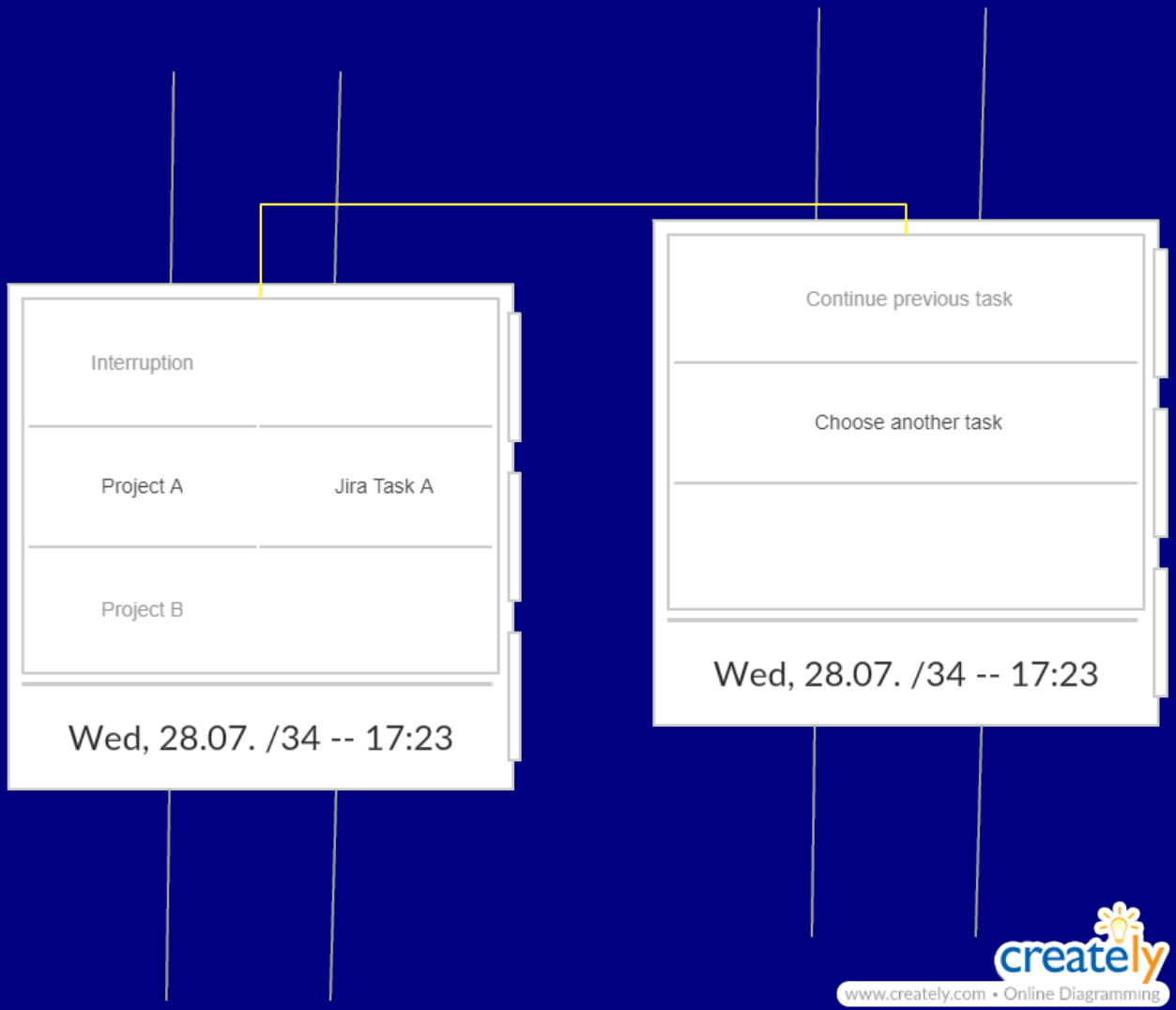
Mockups


Interruption
Project A
Jira Task A
Project B
Wed, 28.07. /34 -- 17:23
Continue previous task
Choose another task
Wed, 28.07. /34 -- 17:23
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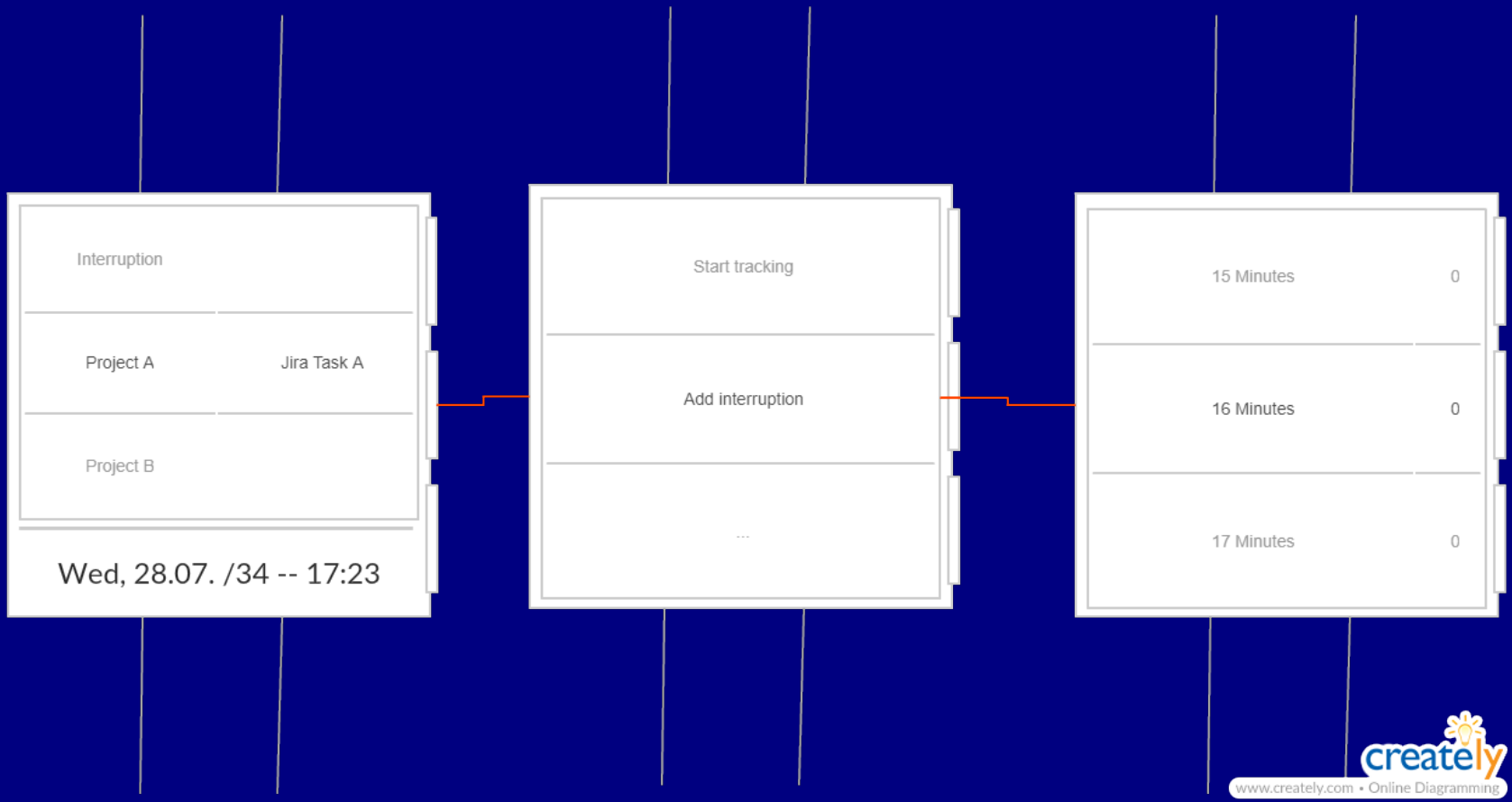
Mockups


Interruption
Project A
Jira Task A
Project B
Wed, 28.07. /34 -- 17:23
Start tracking
Add interruption
...
15 Minutes
0
16 Minutes
0
17 Minutes
0
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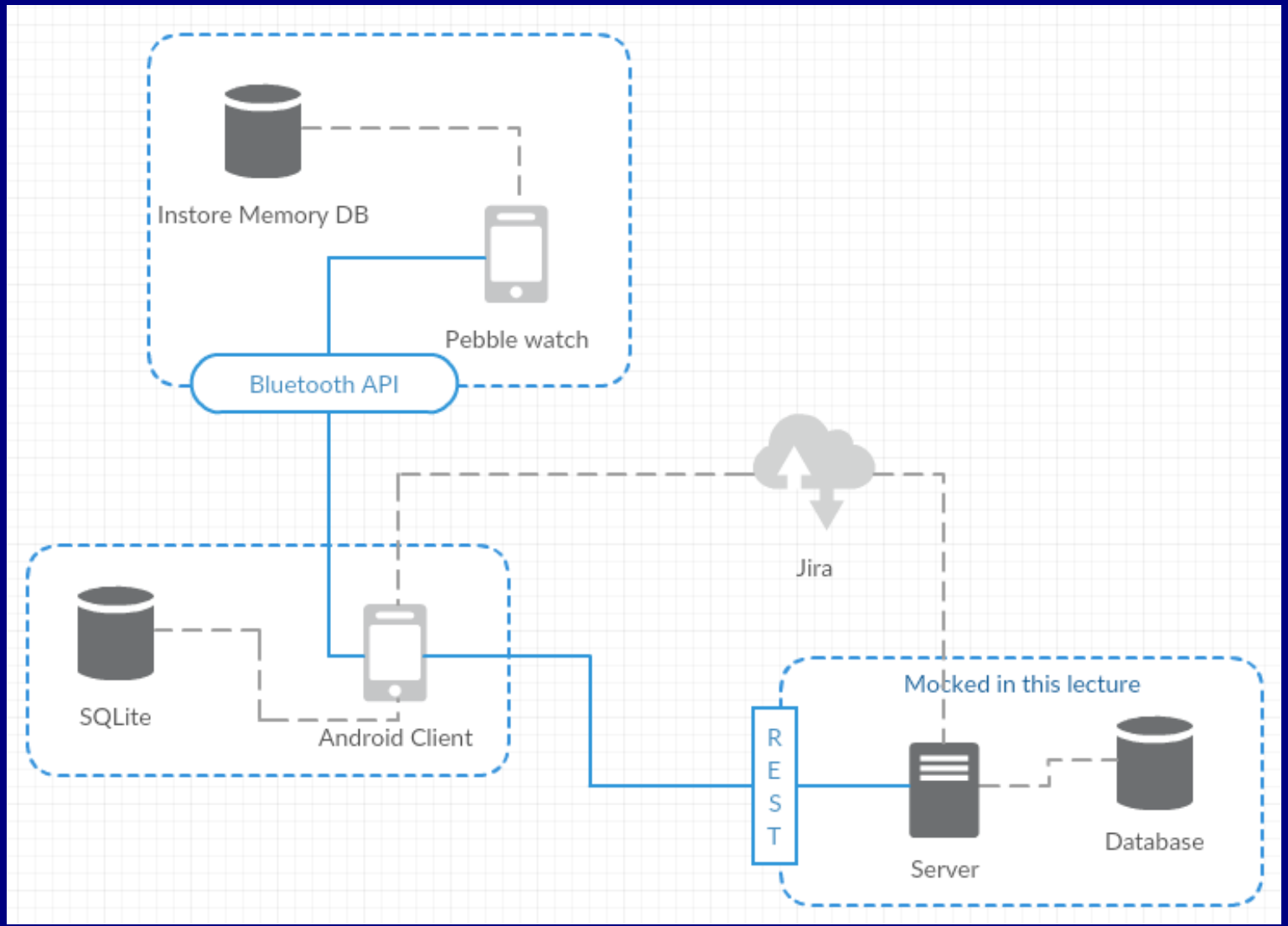
Architecture



Challenges

Offline	Store time measurements locally when Jira server is not reachable
Offline	Temporarily store time measurements on Pebble when smartphone app is not reachable
Usability	Fully exploit the limited interaction capabilities of Pebble (only 3 physical buttons)
Usability	Correctly display Jira tasks on the smarthphone when user is involved in many projects
Usability	Automatically detect when user is moving from workplace and react accordingly (i.e. stop tracking if activity is not work related)

Technologies

1. Android API 19, 4.4 KitKat (Java 7)
2. Pebble (C SDK)
3. PebbleKit for communication (send / receiver messages)
4. Lombok for boilerplate code

Work Plan

November

03.11. First presentation
- Knowledge gathering about pebble development
- Knowledge gathering about the Jira API
- UI design
- First prototype

December

- Usage in working environment
- Adaptations on the application feeling

15.12. Adaptation concept presentation

January

- Bug fixing

26.01. Final presentation

Sources

- https://timeular.com/
- https://www.joelonsoftware.com/2007/10/26/evidence-based-scheduling/
- bit.ly/brunooliveira