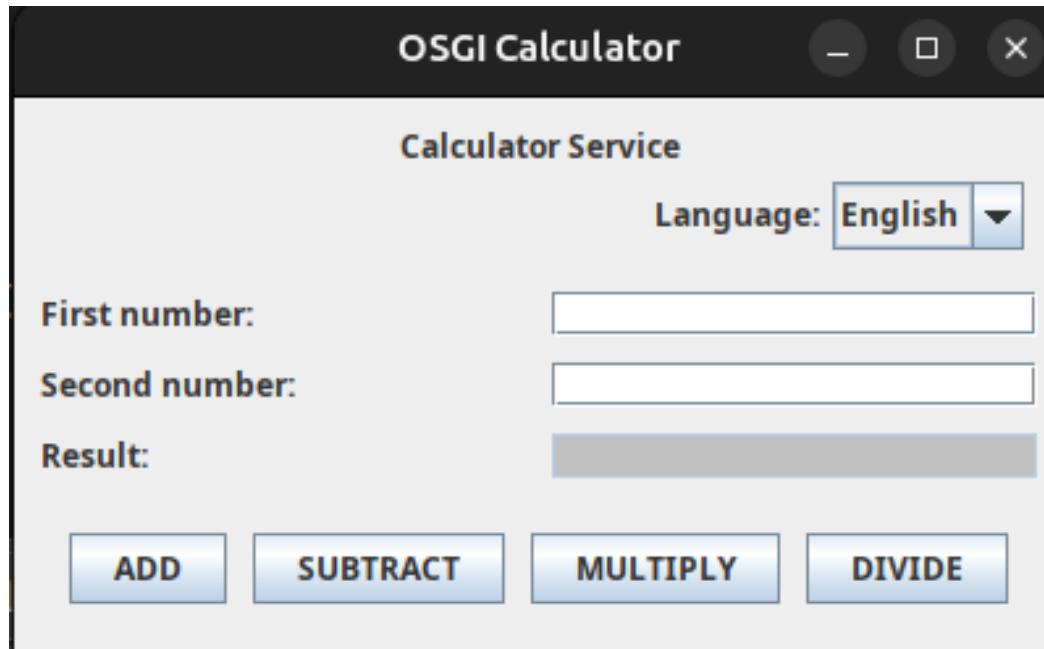


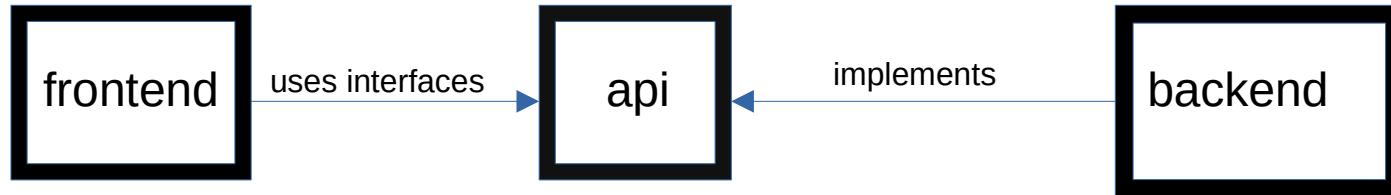
OSGI Calculator



Can Beydoğan

High-Level Architecture

- Modules:
 - **api** → interfaces
 - **backend** → language logic & services
 - **frontend** → UI & user interaction



API Module (api)

- **No implementations**
- only interfaces
 - DataService
 - NumberLanguage
- Shared **dependency** for both backend and frontend

Backend Module (backend)

- An OSGi bundle that **implements** the interfaces from api
 - DataServiceImpl
- **language-specific** implementations
 - TurkishNumbers
 - EnglishNumbers
- **Map-driven** number logic
- Language rules **isolated** per class
 - **Easy to add new languages**

Frontend Module (frontend)

- **Purpose** : User interface & localization

- **Contents:**

- MainWindow.java
 - UI.java
 - properties

- **Responsibilities:**

- UI rendering
 - Locale detection

- **Localization:**

- messages_en.properties
 - messages_tr.properties
 - UI text separated from logic

Examples

OSGI Hesap Makinesi

Calculator Service

Dil: Türkçe ▾

Birinci sayı:

İkinci sayı:

Sonuç:

TOPLA **ÇIKAR** **ÇARP** **BÖL**

This screenshot shows the OSGI Hesap Makinesi (OSGI Calculator) interface. The title bar says "OSGI Hesap Makinesi". The main area is titled "Calculator Service" and has a language dropdown set to "Türkçe". It contains three input fields for numbers and one result field. The first two fields have values "iki yüz bir" and "on bir" respectively. The result field has a long, complex value starting with "iki bin iki yüz on bir". Below the fields are four buttons labeled TOPLA, ÇIKAR, ÇARP, and BÖL.

Default Language (tr)

OSGI Calculator

Calculator Service

Language: English ▾

First number:

Second number:

Result:

ADD **SUBTRACT** **MULTIPLY** **DIVIDE**

This screenshot shows the OSGI Calculator interface. The title bar says "OSGI Calculator". The main area is titled "Calculator Service" and has a language dropdown set to "English". It contains three input fields for numbers and one result field. The first two fields have values "two hundred one" and "eleven" respectively. The result field has a value "two thousand two hundred eleven". Below the fields are four buttons labeled ADD, SUBTRACT, MULTIPLY, and DIVIDE.

Locale = "en"

Any Question

- GitHub repo:

<https://github.com/Cann23/OSGI-Calculator>