# The Evolution of MenuGene

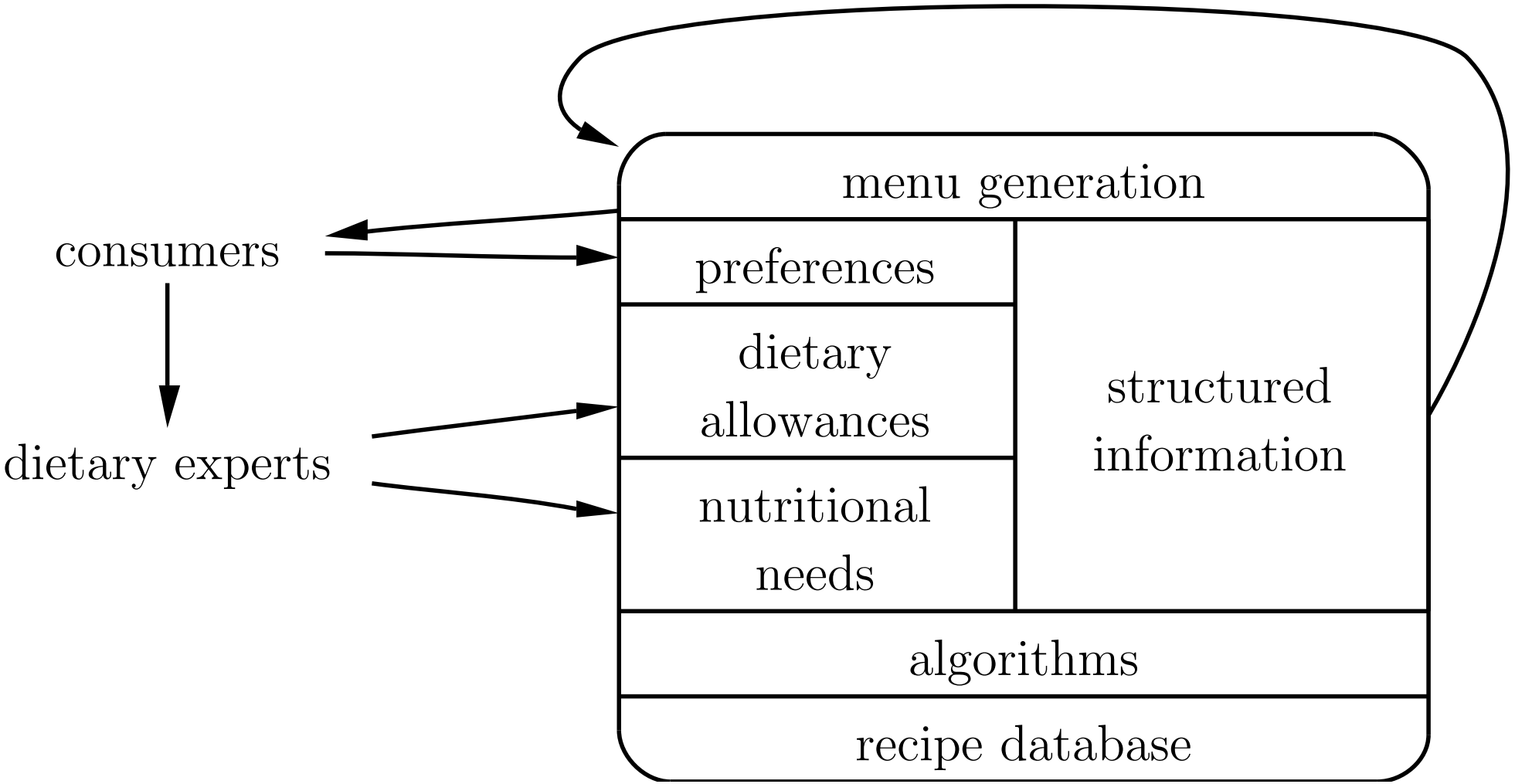
## A Dietary Counselling System

**A. Endrodi**

**Dept. of Information Systems**
**Supervisor: B. Gaal**

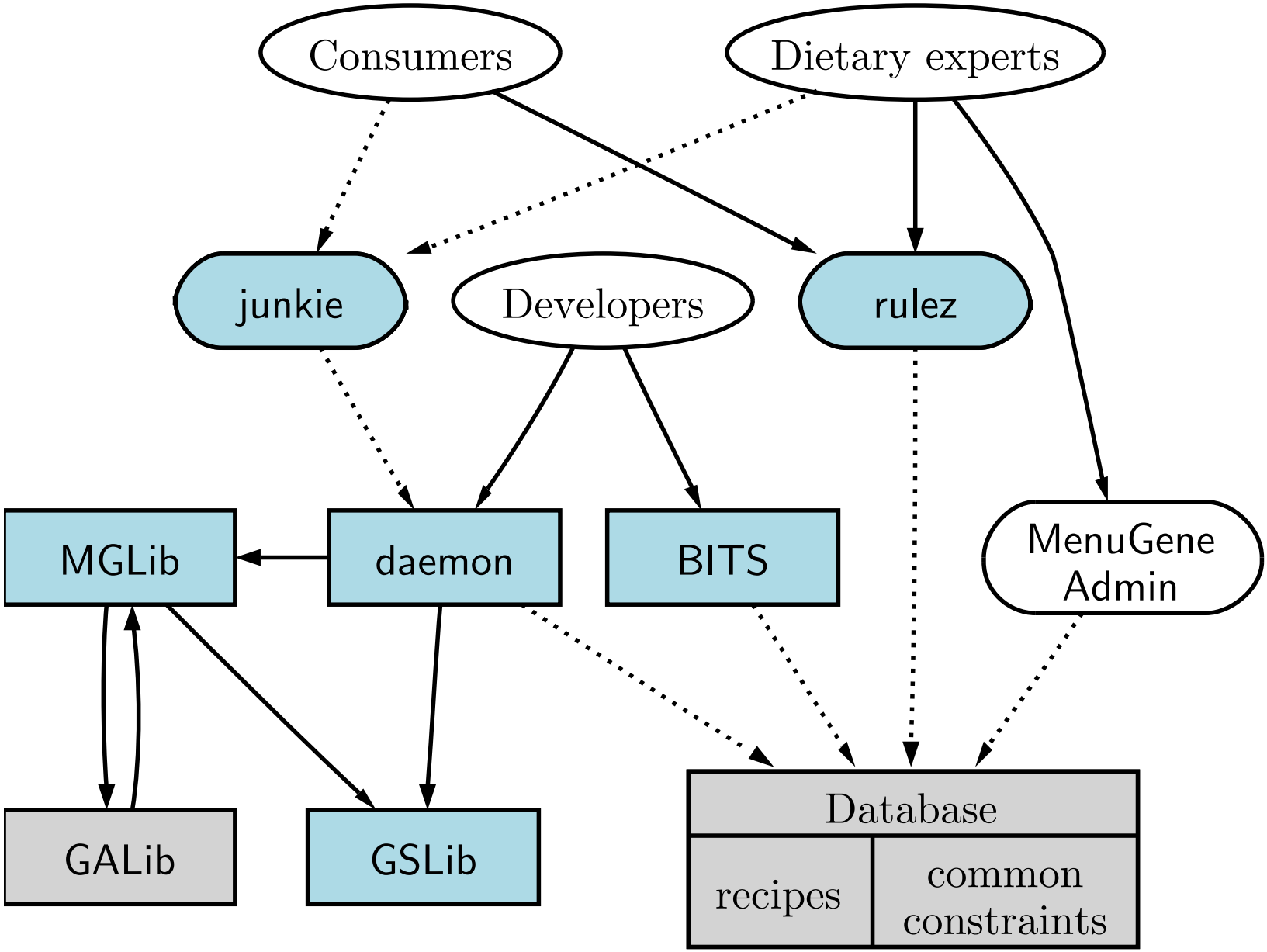
**June 14, 2007**

# Process view



- **MenuGene:**
  - **43457 lines**
  - **1097040 bytes**
- **technologies:**
  - **networking**
  - **web, XML**
  - **Oracle**
  - **GUI**
  - **genetic algorithms**

- **HioN v3.1 (1994):**
  - **5911 lines**
  - **198435 bytes**
- **languages:**
  - **Perl**
  - **C**
  - **(Objective C)**
  - **C++**
  - **PHP**


Consumers
Dietary experts
junkie
Developers
rulez
MGLib
daemon
BITS
MenuGene
Admin
GALib
GSLib
Database
recipes
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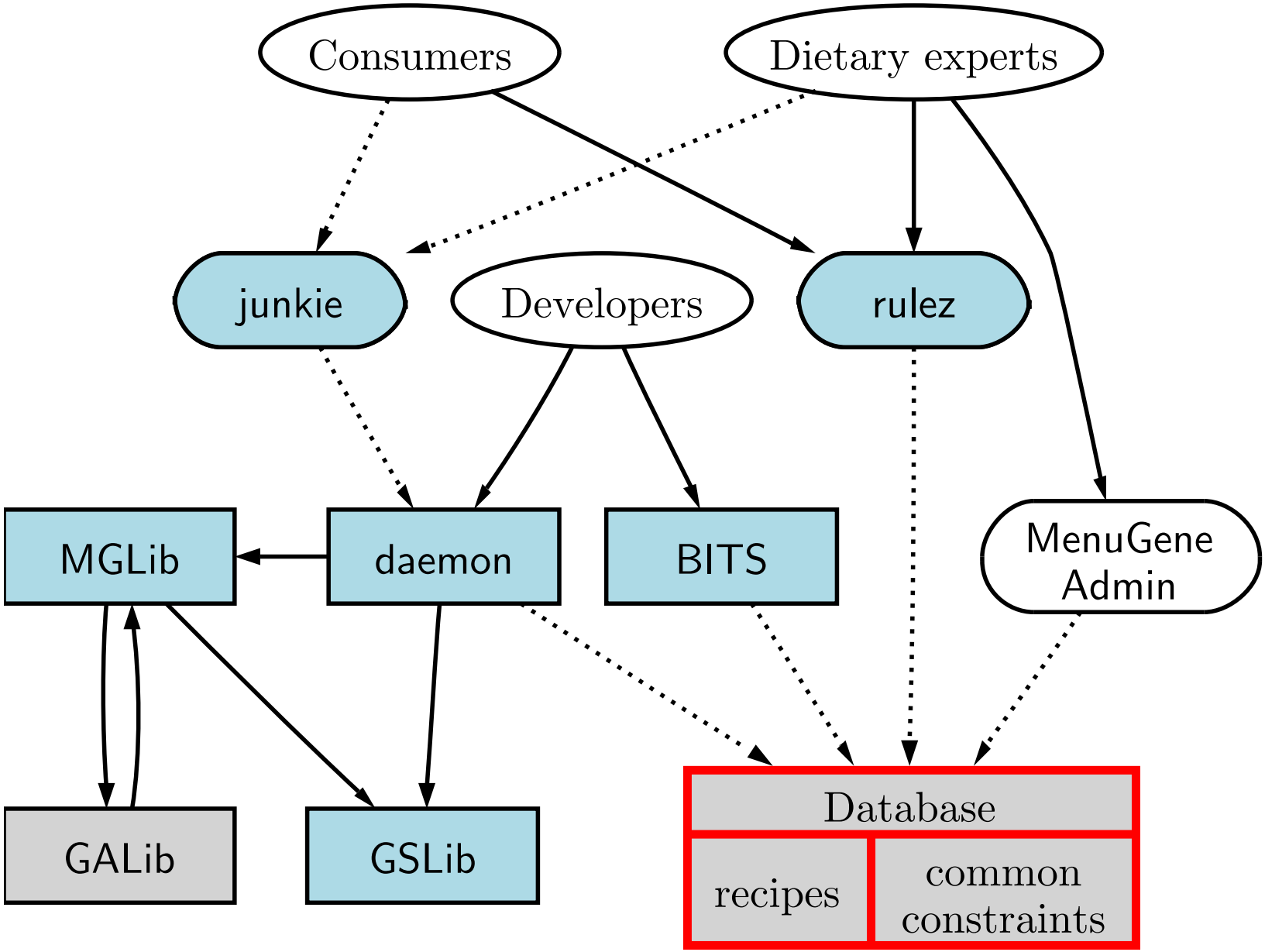
constraints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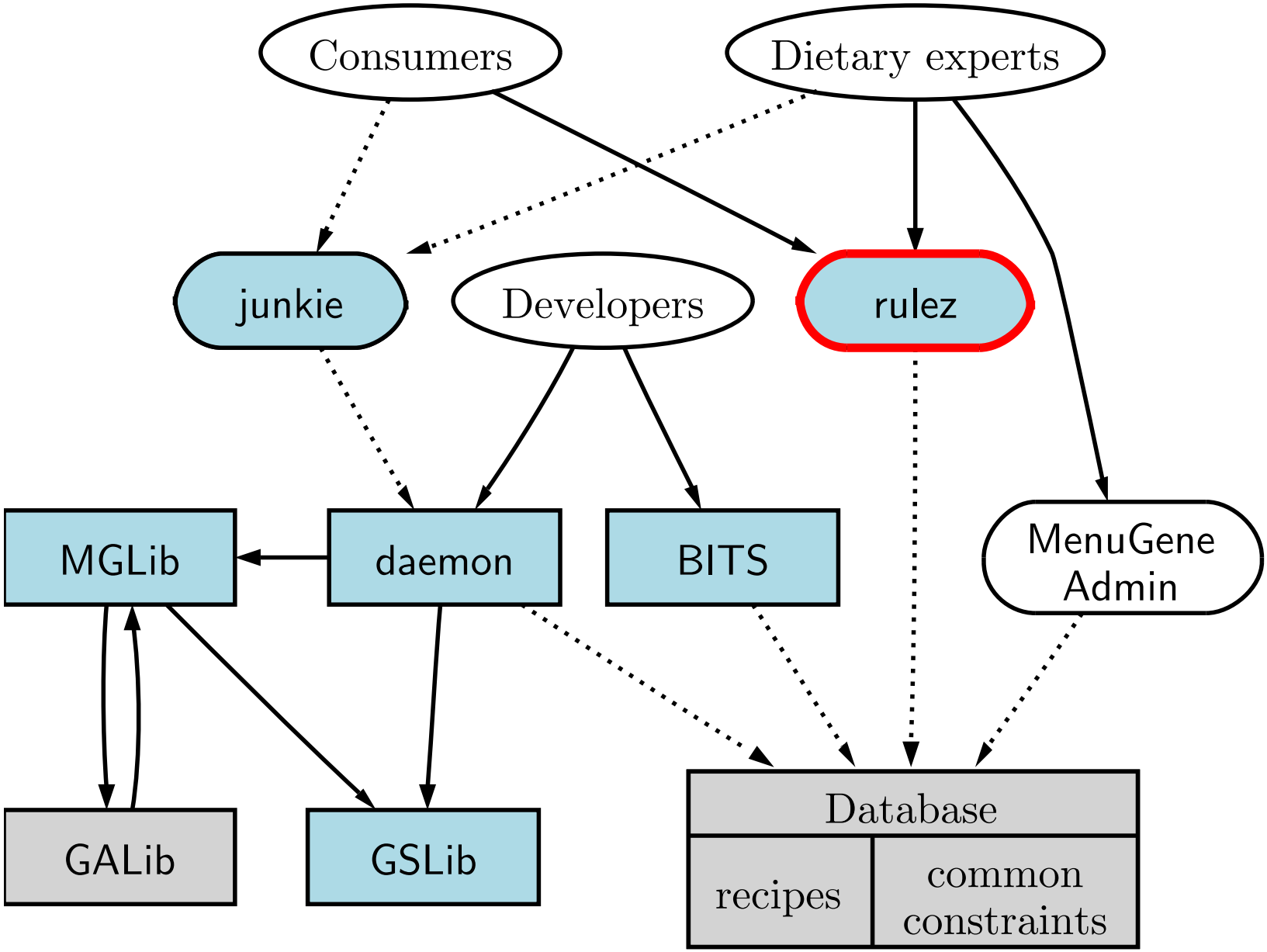
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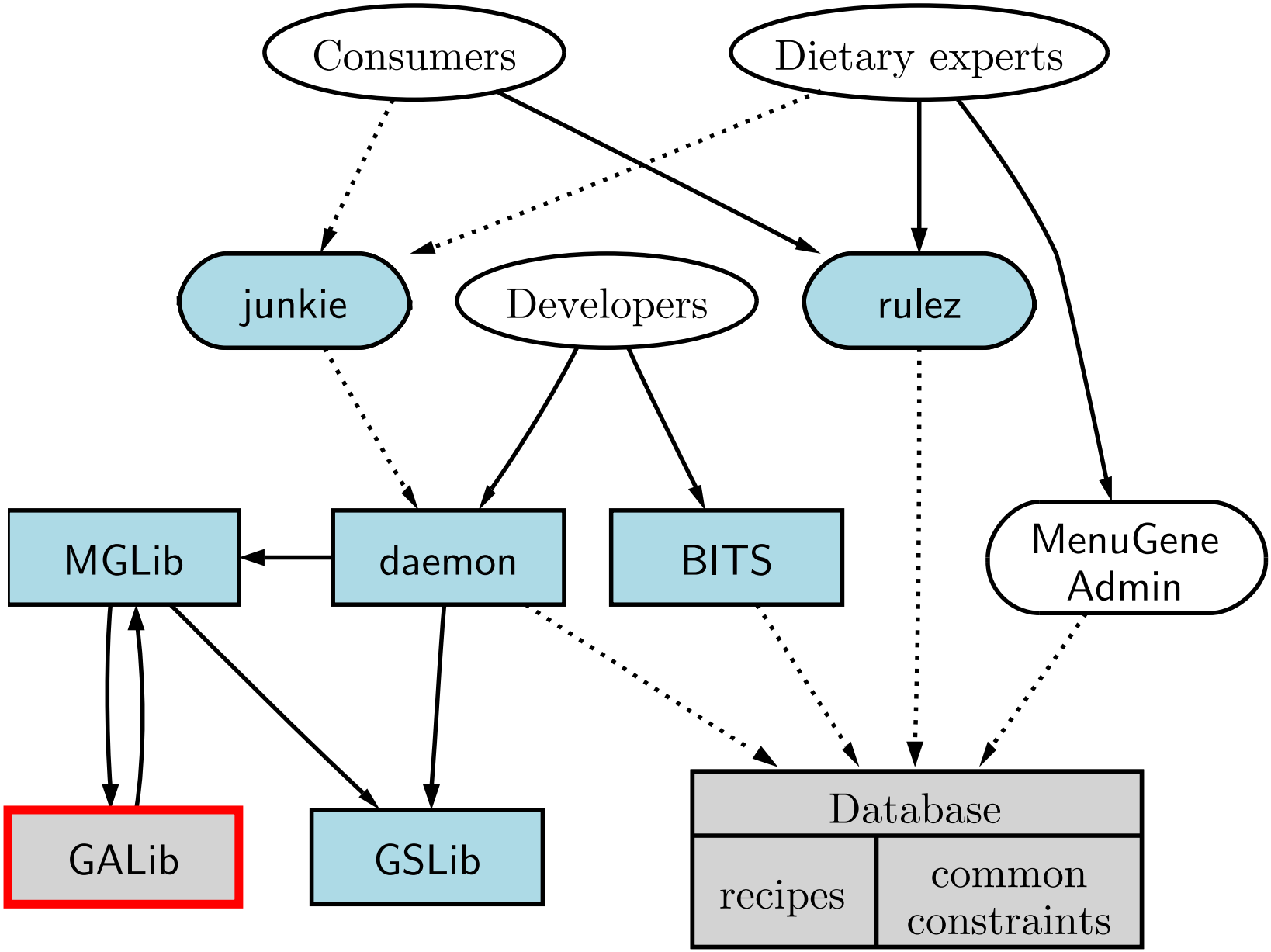
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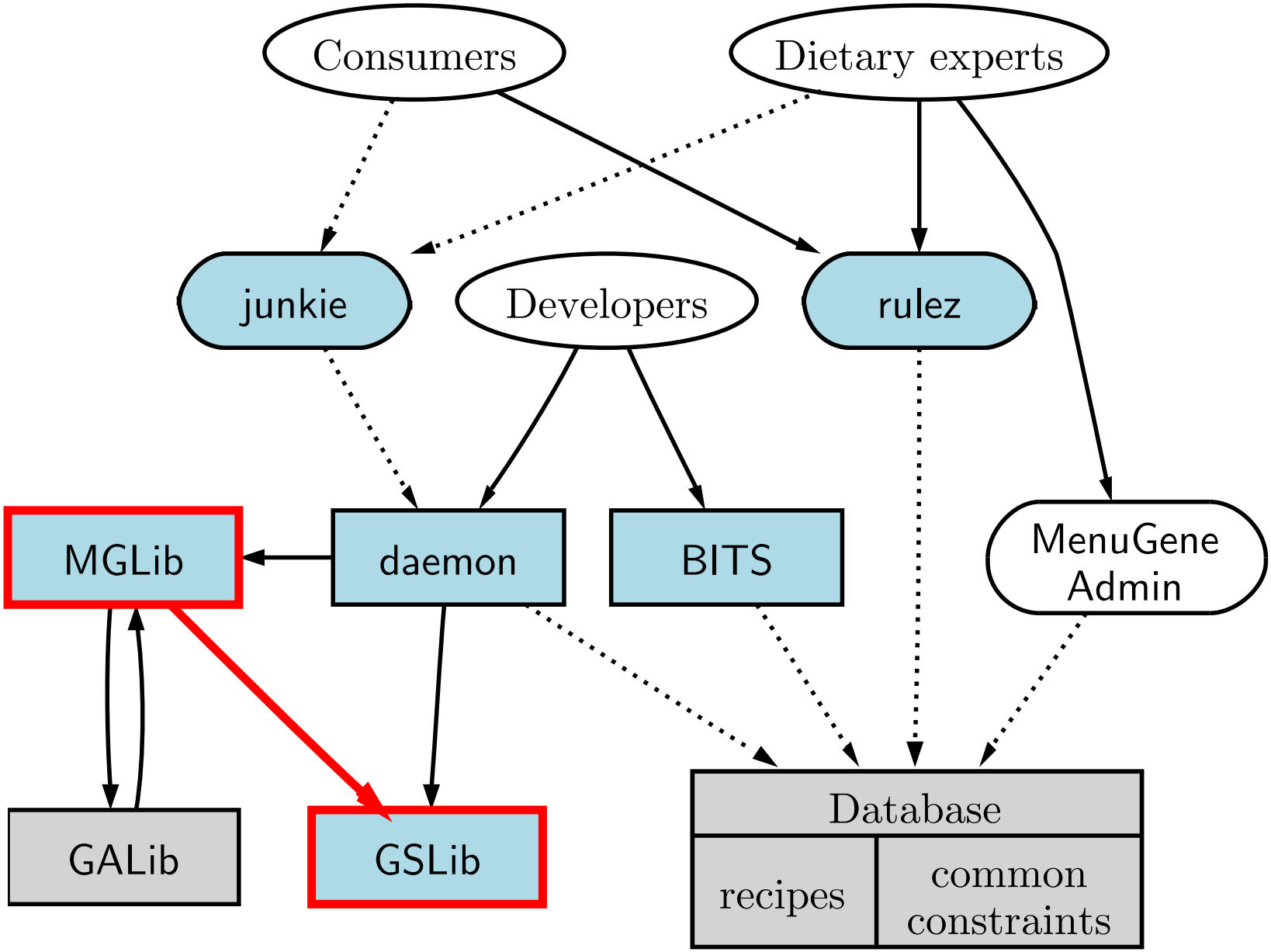
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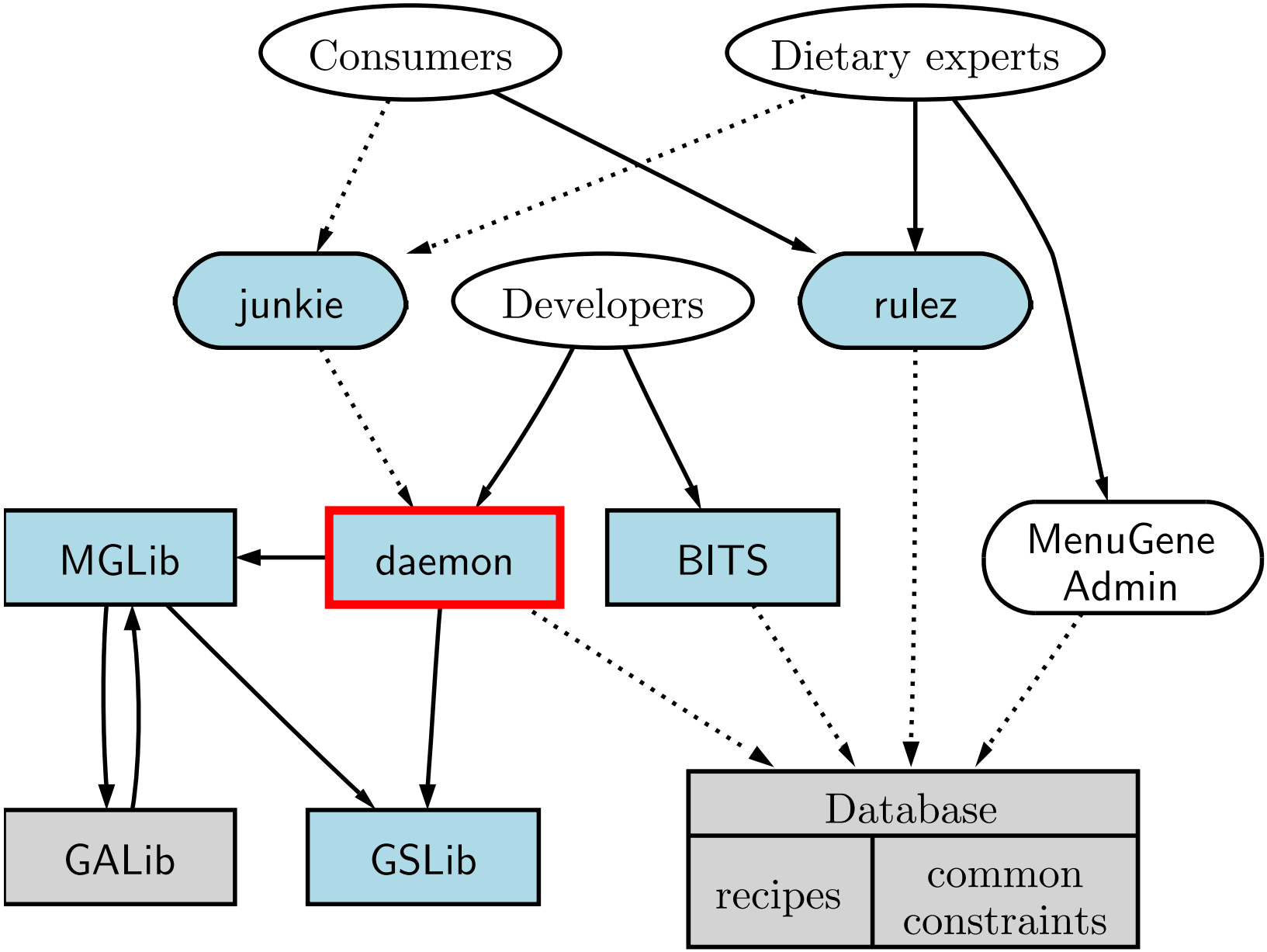
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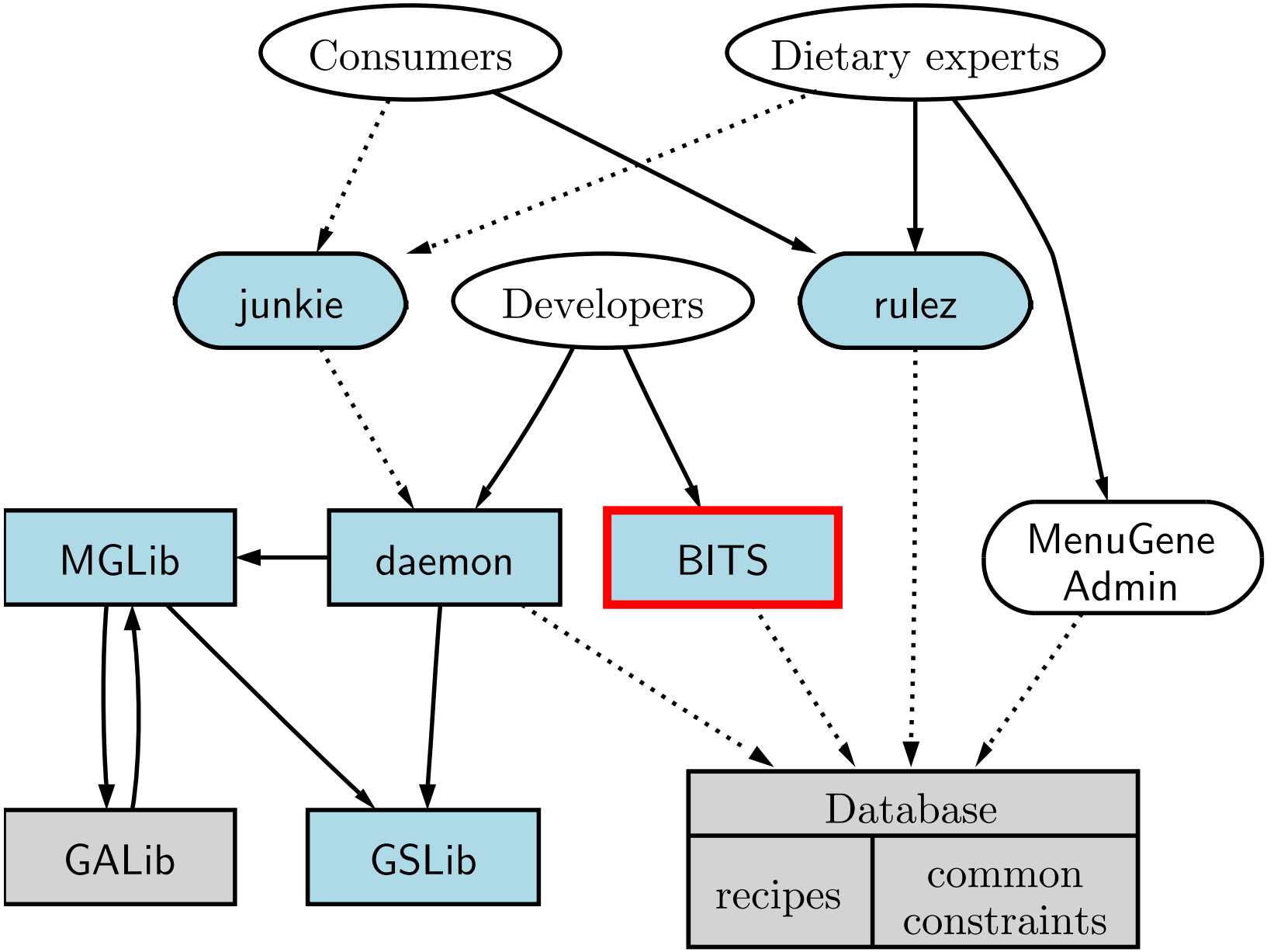
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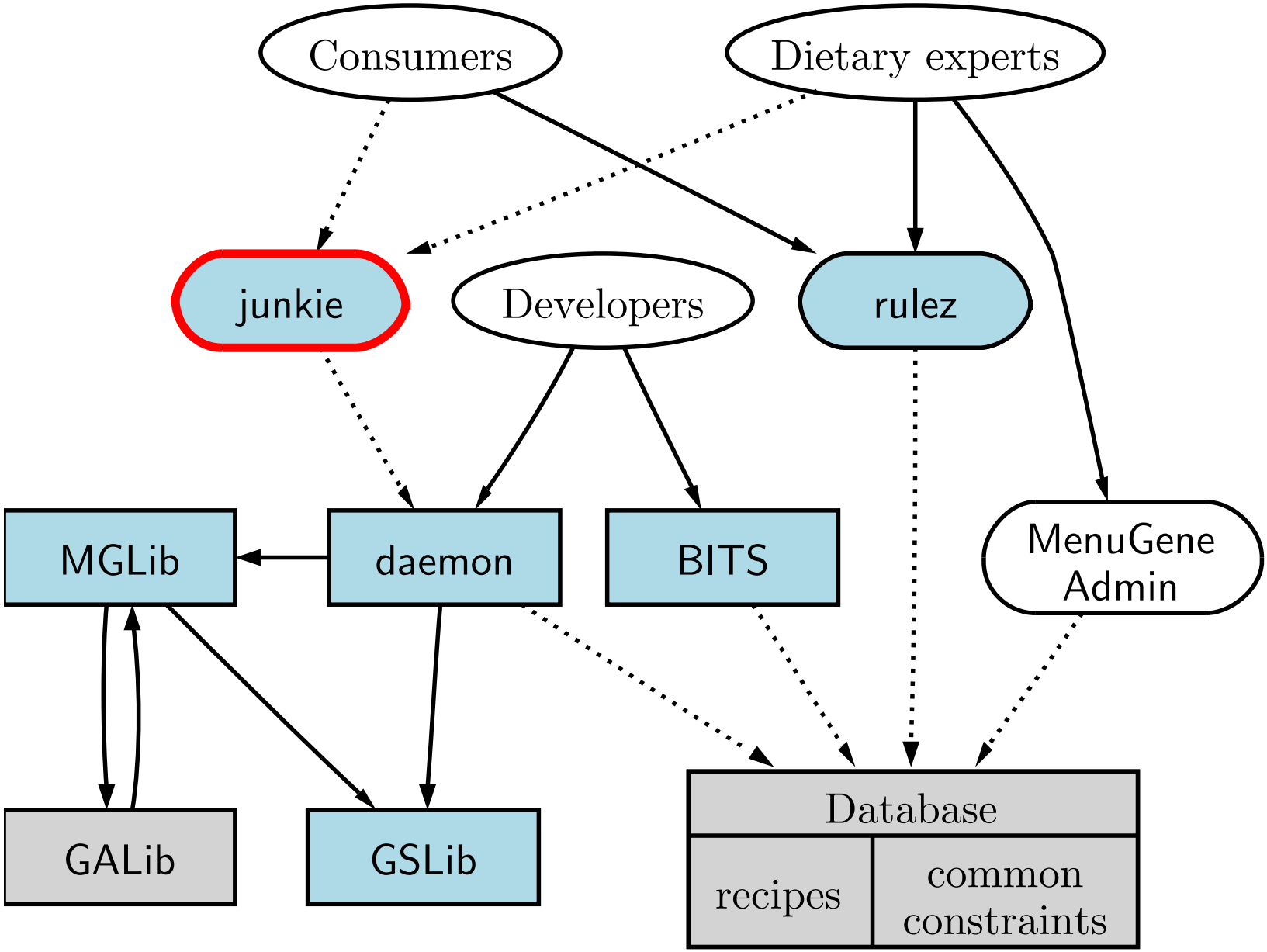
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Cordelia Menugene
intelligens táplálkozási tanácsadó rendszer

English Magyar Exit

Hide bounds

# Bounds

| Remove all | Nourishment components | Minimum | Optimal | Maximum |
|---|---|---|---|---|
| Remove | Energy | 271 | 286 | 300 |
| Remove | Protein | 64 | 66 | 71 |
| Remove | Fat | 21 | 25 | 29 |
| Add | valid | | | |

Generate menu for ◉ a day ○ a week Defaults Save Generate

Basic Fitness algorithm: TDK Initial cset: 0

# Your daily plan

| | | Energy | Protein | Fat |
|---|---|---|---|---|
| Topping | Racos sertes szelet | 43 | 23 | 6 |
| Garnish | Szekelykaposzta | 58 | 26 | 7 |
| Soup | Spargakremleves | 159 | 1 | 1 |
| Dessert | Malnas dessert 100 db | 18 | 15 | 3 |
| Drink | Gyumolcsivole 5/1. | 1 | -- | -- |
| | ***Daily total*** | 279 | 65 | 17 |

Generation took 0:29.5 seconds.

| Accuracy | | |
|---|---|---|
| Nourishment component | Distance | Accuracy |
| Energy | 7 | 78.221954% |
| Protein | 1 | 75% |
| Fat | 8 | -300% |
| *Total* | 10.677078 | -48.926014% |

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# Behind the hardcover



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- PostScript, SVG
- . . .

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Over

# The framework
## GSLib

- **Object model**
  - **reference counting**
  - **copy on write**
  - **containers**
- **Logging**
- **Error handling**
- **Collections**
- **XML driver**
- **Test suite**

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- ttc: execution tracer
- subborn: Subversion history browser
- Prima: several enhancements
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  - undo manager
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# Database schema
## Postgres

- table inheritance
- type domains
- composite types
- arrays
- partial indices

# Moral lessons

- Don't fear low marketshare technologies
- Do fear the Inferior But Marketable
- Investment in development tools pays back