

TU VIENNA

SOFTWARE ARCHITECTURE

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## SWAG - Assignment 3

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# 1 Use Cases

The following Use Cases were identified and implemented

<b>Use Case</b>	<b>Create User Account</b>
Goal in Context	User can create a account
Additional Notes	Starting base is initialized, user gets an e-mail with his generated password

<b>Use Case</b>	<b>Delete User Account</b>
Goal in Context	User can delete his account
Additional Notes	Bases are abandoned and can be taken by other players

<b>Use Case</b>	<b>Login/Logout</b>
Goal in Context	User can Login/Logout on/off his account
Additional Notes	Game State must be saved correctly until next Login, while the game continues and already taken actions continue

<b>Use Case</b>	<b>Send Ingame Message</b>
Goal in Context	User can send ingame messages to other users

<b>Use Case</b>	<b>Receive Ingame Message</b>
Goal in Context	User can receive ingame messages from other users

<b>Use Case</b>	<b>Build Base</b>
Goal in Context	User can build base on a map

<b>Use Case</b>	<b>Build Building</b>
Goal in Context	User can build building on a base

<b>Use Case</b>	<b>Upgrade Building</b>
Goal in Context	User can upgrade his existing buildings

<b>Use Case</b>	<b>Navigate Maps</b>
Goal in Context	User can navigate through existing maps

<b>Use Case</b>	<b>Build Troops</b>
Goal in Context	User can build troops

<b>Use Case</b>	<b>Form Squad</b>
Goal in Context	User can form squads with built troops

<b>Use Case</b>	<b>Move Squads</b>
Goal in Context	User can move his squads to other squares
Additional Notes	Squares occupied by foreign squads will be attacked by moving there, the "stronger" squads win, defeated troops disappear, if only foreign buildings remain on the square, they are attacked and will disappear, remaining resources are assigned to the attacker

## 2 Issues and Decisions

<b>Issue</b>	The Application must be able to scale according to a unknown player count
Decision	Server load is minimized through gui-rendering executed client-side (html-prefetch & JavaScript)
Status	Implemented
Constraints	None
Related Principles	Thick Client
Related Artifacts	GUI

<b>Issue</b>	Reliable and fast communication between GUI and Business Logic to minimize overhead and loading times
Decision	JSON-Format mesaging between GUI (Client) and Business Logic (Server)
Status	Implemented
Constraints	None
Related Principles	Thick Client
Related Artifacts	All GUI-related Components

<b>Issue</b>	The application must be extensible
Decision	New modules and Services can easily be implemented in the ex- isiting structure
Status	Implemented
Constraints	None
Related Principles	Extensibility
Related Artifacts	All

### 2.1 Implementation Details

Application Server: **Glassfish 3.1**

Database: **PostgreSQL 8.4**

Client-Side (Rendering): **AJAX**

The following JavaScript Libraries were used:

- jquery
- requirejs
- jquery.cookie
- jquery.bind
- jquery.ui
- md5

### 3 Component Diagram

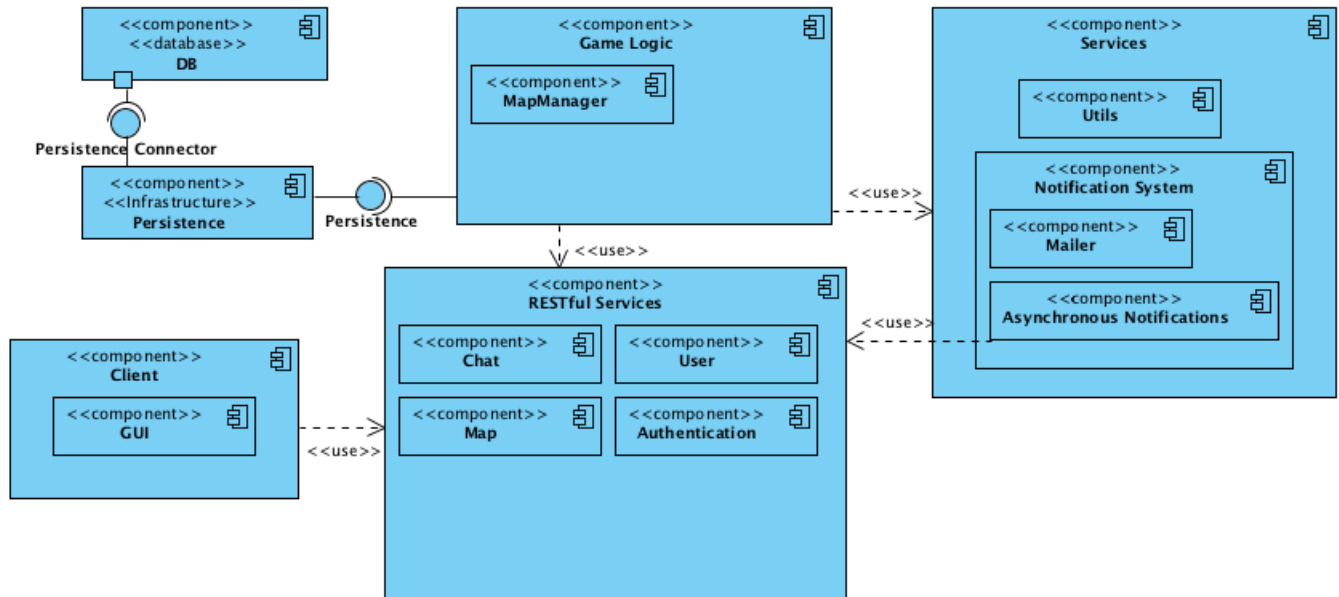


Figure 1: SWAG Component Diagram

## 4 Database Model

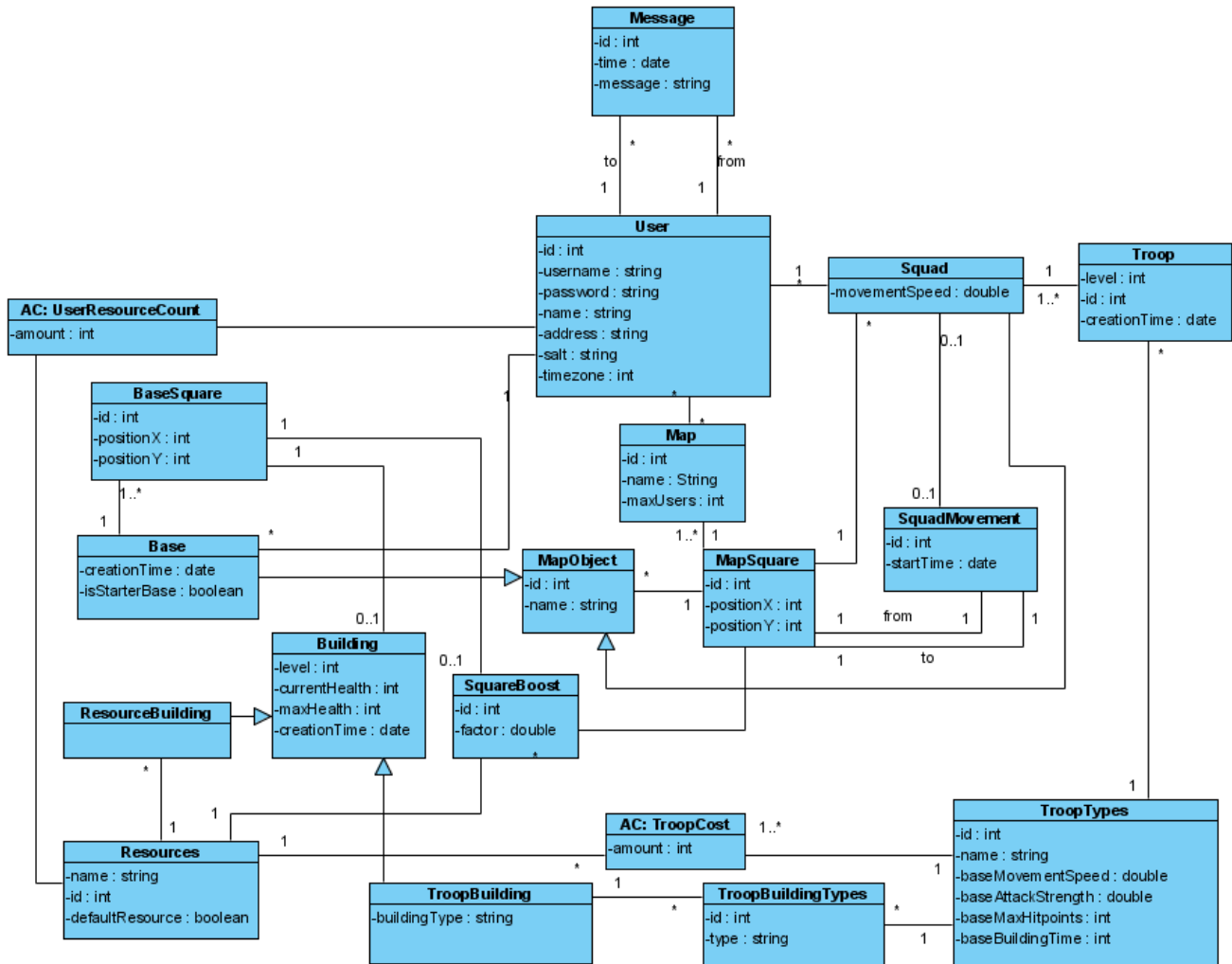


Figure 2: SWAG Database Model