Software Architecture Group
Faculty of Informatics
University of Vienna
http://cs.univie.ac.at/swa

050132 Advanced Software Architecture (UE), Winter Semester 2015/16
Task 1

Task 1: Modelling
(and preparation for the MDD tasks)

Task-ID: MOD

General Remarks

- The **deadline** for this work is the 25.10.2015, which can also be found in Moodle (https://moodle.univie.ac.at/course/view.php?id=46197). The deadline is firm! No deadline extensions are given.
- You will have to present your solution during the presentation in class: 03.11.2015 (Group 3), 04.11.2015 (Group 2), 05.11.2015 (Group 4), 06.11.2015 (Group 1)– so be prepared and bring with you the requisite materials (laptop, your presentation, running example, …)
- Your delivered solution will be graded with up to 10 points, which have to be defended during presentation.
- This is an **individual work**. Consequently, group work is **not** allowed in this assignment.
- If you have problems, do not hesitate to query the Moodle forum (https://moodle.univie.ac.at/mod/forum/view.php?id=1120095), contact the tutors (ase.tutor@swa.univie.ac.at), or us (ase@swa.univie.ac.at) via e-mail.

Submission Guidelines

- The guidelines proposed on https://swa.univie.ac.at/General_guidelines must **always** be satisfied.
- If guidelines are ignored,
  - an assessment of the tasks **cannot be guaranteed** because they are processed electronically.
  - In case of any unsatisfied guidelines, three (3) points will be deducted from the assessment of the task.
- Artifacts to upload into Moodle are (see guidelines for more information):
  One (1) ZIP archive containing:
  - Diagram of your model (PDF)
  - Eclipse project (folder) including source code of your model implementation and your runnable application, organized in the defined packages
  - Document about your assumptions (PDF)

Task Definition:

Right at the Start

Please, read the guidelines at https://swa.univie.ac.at/General_guidelines, especially the part about naming conventions for your uploads! If you do not follow these guidelines, we will not be able to grade your work, because we will not be able to find your files any more (yes, it is that simple …).

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Wikipedia (https://en.wikipedia.org/wiki/Main_Page) is an online, free, open-to-all encyclopedia. Your task during this semester will be to model it and reconstruct a working example of a Wikipedia-like application.

The Domain and Model Description

a) Wikipedia is a free, online encyclopedia project that consists of its content and its community (users).

b) Content is divided into three broad categories: encyclopedia entries (articles), media (e.g. https://en.wikipedia.org/wiki/File:Great_Wave_off_Kanagawa2.jpg), and internal Wikipedia project pages (e.g. https://en.wikipedia.org/wiki/Wikipedia:Community_portal, https://en.wikipedia.org/wiki/Wikipedia:MOS, https://en.wikipedia.org/wiki/Wikipedia:AUSTRIA, or https://en.wikipedia.org/wiki/Wikipedia:Help_desk). Each of these has a relevant discussion page, and a version history page. Content belonging to internal Wikipedia material or projects forms special groups and must be clearly marked as such.

b) There are two kinds of users, registered and unregistered. Users can opt for/shift between two modes, reader and editor. Reader mode allows a user to search and browse articles and Wikipedia project pages, view media, read article talk pages, etc. Reader mode allows browsing the entire public content, including article history, but cannot alter it. Editor mode allows a user to edit articles, including moving them, and participate in discussions in article talk pages.

c) Some editor actions require the user to be registered and to possess specific editor privileges. Privileges are cumulative based on a user hierarchy, comprising simple registered users, autoconfirmed users, administrators, and sysops. A simple registered user has the same rights as an unregistered user, i.e. basic editing rights on already existing pages. An autoconfirmed user can create and move pages, and upload or move a media file. An administrator can delete pages and block users. A sysop can make a user into an administrator, revoke adminship, and block administrators.

d) Each registered user has his/her own unique username and a user page (profile) and user talk page (e.g. https://en.wikipedia.org/wiki/User:User). Unregistered users are identified by their IP address.

e) Registered users can declare membership to specific Wikipedia projects or interest groups.

Implementation Description

a) Model the Wikipedia system as described above. The description contains information of varying quality. Think twice before you model it or before you decide to drop it. If you are uncertain or make certain assumptions, document your thoughts. Draw a diagram which represents the model. You can draw either simple “boxes and lines” using a pen and a piece of paper, UML Class Diagrams, or something similar.

b) Subsequent to creating the model diagram, create class stubs for all relevant classes and provide a full implementation for the content classes in Java [1] and an instance with sample data thereof. If you have to make your own assumptions, document them in a separate file. Use the Eclipse IDE [2] (including modeling tools) so you get used to it for future assignments. We strongly recommend not

using any tools not mentioned by us, since we will be working with them during the course, but all complete and working solutions will be accepted.

Organize your source files in the following packages, where *MY-MNR* is your matriculation number with leading character (e.g., a0123456):

- model implementation: at.ac.univie.swa.ase2015.*MY-MNR*.task1.model
- application: at.ac.univie.swa.ase2015.*MY-MNR*.task1.application

Checklist

Before uploading your solution, ensure the following checkpoints can be marked positive:

- I followed the guidelines and conventions from https://swa.univie.ac.at/General_guidelines
- I drew a diagram representing my model
- I implemented the prescribed part of the model using Java
- I implemented a simple application using my model
- I organized my source code using the defined packages

References

[1] Java Development Kit, http://www.oracle.com/technetwork/java/javase/downloads/jdk8-downloads-2133151.html
[2] Eclipse Modeling Tools, https://www.eclipse.org/downloads/packages/eclipse-modeling-tools/mars1