

DEVELOPING A WEB PLATFORM ENABLING REMOTE COMPLETION OF STUDENTS' FINAL QUALIFICATION WORKS

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Abstract. *In order to facilitate the remote completion of final qualification works, it is essential to understand how this process is currently progressing. Currently, students do not have the opportunity to choose their final qualification or course work; instead, they are provided with a predetermined list by university educators, and students are obliged to work on topics assigned to them. Through our system, educators contribute topics, and students select those they find acceptable. This process is monitored by the department heads' statistics. The quality assurance department will also have the ability to view statistics and issue directives. The system integrates all information of both educators and students with the current HEMIS system implemented in all universities in Uzbekistan.*

Keywords: *final qualification works, Web platform, Student autonomy, Educator contribution, Department monitoring, Quality assurance, HEMIS integration, Use Case UML diagram, User roles, Database structure, System implementation.*

System requirements. Deep understanding of the requirements of the current problem is required to propose a solution. Once the existing issues were identified, a Use Case UML diagram was developed for the system. The Use Case diagram is widely used to visually represent how users in different roles perform actions within the system.

Student: After viewing the list of topics, students have the opportunity to choose a topic, and if they have made a mistake in their choice, they can request its cancellation. Once a topic is selected, the process is initiated accordingly. During this process, the teacher evaluates the content of the topic, associated files, and the percentage of completion of the task. The student then uploads project files utilizing these opportunities. Additionally, the student can engage in discussions with the teacher, namely their academic supervisor, via chat.

Teacher: Teachers can perform actions such as creating, deleting, and editing topics. After a student selects a topic, the teacher can monitor the process created for it, evaluate the work, indicating the completion percentage, for instance, the student might show that they have completed a certain portion of their final qualification work to the teacher, who might then give a rating of 50% completion. This rating is given based on the overall progress of the assigned task.

Department head: The department head has the ability to create, edit, and delete educators. They can see which topic each assigned student is working on, their completed tasks, uploaded files, and the teacher's evaluation of their work. This statistic can be viewed and printed in various segments such as individual students, teacher-wise, group-wise, direction-wise, and semester-wise.

Education Quality Control Department: The department head can view all reports, and there is also the ability to print reports in directive form. This PDF file will display which student

has selected which topic, the identity of their academic supervisor, and the evaluation given by the academic supervisor for their work up to that point. This statistic can be viewed and printed in department-wise, group-wise, and semester-wise segments.



Fig. 1. Use Case Diagram

The situation from the time students choose a topic to its completion: the student chooses from the topics given by the teacher and starts working on it.

It is also important for the Department head, Education Quality Control Department to have information about students. When a student gets 100% grade, his/her subject status is marked as completed by the system.

Each of the classes shown in the Class UML diagram below provides its own set of attributes and functions. A class diagram for model classes is drawn as follows:

Chat: This class represents the model for conversations between users. Its attributes store information about the conversation (ID, user ID, creation and update times). The messages() function returns the list of messages in the conversation. The teacherUnreadMessagesCount() function returns the number of unread messages.

Department: A class that stores information about departments. Among its attributes are the department name and creation and update times.

Message: Model for messages in conversations. Attributes include message ID, conversation ID, message type, message text, read/unread status, creation and update times.

Process: Model for processes, such as storing actions taken during the writing process of a topic. Attributes include process ID, topic ID, content, file address, link, creation and update times. The theme() function returns the link to the topic.

Plan: Class representing the schedule of classes. Attributes include user ID, type ID, semester, date, constraints, creation and update times. The type() function returns information about the type of class schedule.

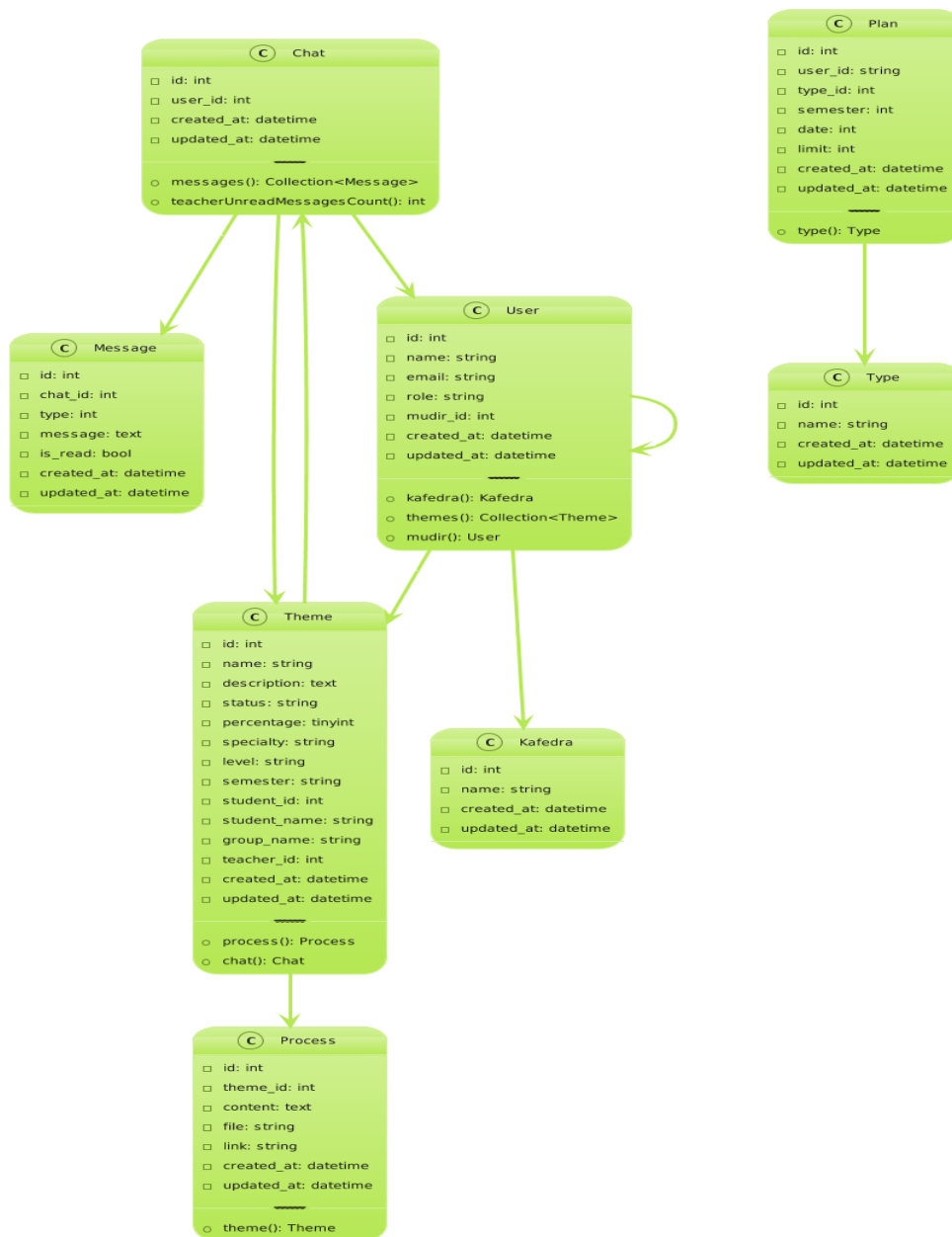


Fig. 2. Class diagram

Theme: Model for topics. Attributes include topic ID, name, description, status, percentage, specialization, degree, semester, student ID, student name, group name, teacher ID, creation and update times. The process() function returns the process for the topic, and the chat() function returns the conversation for the topic.

Type: Model for types of topics. Attributes include topic ID, name, creation and update times.

User: Model for users. Attributes include user ID, name, email address, role, department ID, creation and update times. The department() function returns the department in which the user works, the themes() function returns the list of topics related to the user, and the supervisor() function returns the user's supervisor.

The UML diagram illustrates the relationships between these classes. For example, the Chat class is associated with the Message class, and both Chat and User classes are associated. This diagram is useful for understanding the system and depicting relationships between data.

The database was formed as follows:



Fig. 3. Database tables and relationships

CONCLUSION.

We have developed and put into practice a system that allows remote work of graduate qualification work. Currently, this system has been launched in test mode for the Urgench branch of the Tashkent University of Information Technologies. The use of this system for all universities is being worked on. The main advantages of the system are that all graduate work is regulated and strictly controlled. The work of both teachers and students will be eased through the system. Processes are automated and work efficiency increases.

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