**VILNIUS UNIVERSITY**

**KAUNAS FACULTY**

**Three top rated processes description with UML Sequence diagrams**

Documentation

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**File description**

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**Description of three top rated processes**

1. ***Anonymous Account - Change of Personal Data:***

* Innovation: 4/5
* Originality: 5/5
* Competitiveness: 4/5

***Key Features:***

EchoesForum’s approach to allowing users to change personal data on anonymous accounts demonstrates innovation by ensuring user privacy while enabling modifications.

The originality lies in the platform’s ability to facilitate changes to personal data without compromising user anonymity, maintaining a high level of security.

This feature gives users a competitive advantage by offering them control over their information without compromising their anonymous status, a unique proposition compared to other platforms.

1. ***Anonymous Creation of Posts:***

* Innovation: 3/5
* Originality: 4/5
* Competitiveness: 4/5

***Key Features:***

EchoesForum’s provision for anonymous creation of posts showcases innovation by enabling users to initiate conversations without revealing their identity.

The originality lies in the platform’s approach to structuring and guiding the creation of content while preserving user anonymity, ensuring a safe and open discussion environment.

This feature competes favorably by offering users a platform to express themselves anonymously, a distinct and compelling feature compared to traditional forums.

1. ***Anonymous Messaging:***

* Innovation: 4/5
* Originality: 4/5
* Competitiveness: 3/5

***Key Features:***

EchoesForum’s anonymous messaging system innovates by providing secure communication channels without compromising user identities.

The originality is evident in the platform’s approach to enabling anonymous chats initiated by clicking on avatars, promoting interaction without divulging identities.

While competitive, the emphasis on anonymity slightly reduces its competitiveness compared to similar platforms that prioritize user identification in messaging.

**UML Sequence diagrams for top three processes with description**

The “Create Post Sequence Diagram” details the process of a user creating a post within the system. Initiated by the user pressing the “Create Post” button, the system first verifies the user’s session. Upon a valid session, the system prompts the user to input post content. The user provides the content, which undergoes sanitization and validation by the system. If the content meets validation criteria, the system generates a unique post ID, timestamps the post, considers the user’s anonymity preferences, and stores the post in the database. A confirmation message, “Post Created Successfully,” is sent upon successful creation. In case of invalid content, the system sends a validation error message. Alternatively, if the session is invalid, the system sends an authentication error message. This sequence diagram encapsulates the steps involved in creating a post, from user initiation to content validation, storage, and error handling for both valid and invalid scenarios regarding the user session and content validation.

A diagram of a computer program

Description automatically generated with medium confidence

The “Change Personal Data Sequence Diagram” illustrates the user’s interactions for altering personal information within the system. Initiated by the user pressing the relevant option (“Change password,” “Change email,” “Change phone number,” or “Change language”), the system guides the user through specific steps for each action. For password changes, the user enters the old password, verifies it, sets a new password, and completes the process. Similarly, for email and phone number changes, the system verifies the old password, prompts the user to choose the method for receiving a code (email or phone), verifies the code, and updates the user’s details accordingly. Language change involves the user selecting a new language, and upon confirmation, the system switches the interface language. In case of incorrect data entry, a loop guides the user to rectify the erroneous information. This comprehensive diagram covers the processes for altering passwords, email, phone numbers, and language settings while accommodating error handling for incorrect data entries.

A diagram of a phone number

Description automatically generated

The “Send Message Sequence Diagram” delineates the process of sending a message within the system, analogous to the post creation sequence but with additional steps. Initiated by the user clicking the “Send Message” button, the system begins by verifying the user’s session for authentication. Once authenticated, the user inputs the message content and recipient details. Following content validation, an additional step, “Verify Receiver Data,” ensures the recipient’s existence within the system. Unlike post creation, messages are not stored in the database. Upon successful content and recipient validation, a confirmation message, “Message Sent Successfully,” is sent to the user. Conversely, in cases of an invalid recipient (non-existent), the system generates a specific error message, “Receiver Doesn’t Exist,” indicating an invalid recipient. This sequence diagram mirrors the post creation process but includes a specific step for verifying the recipient’s existence, excludes message storage, issues a unique confirmation message, and handles invalid recipients with dedicated error messaging.

A close-up of a document

Description automatically generated

**UML Sequence diagrams for other basic processes**

The “Log In Sequence Diagram” depicts the interaction flow between a user and the system during login, password recovery, and account registration processes. It begins with the user initiating the login action by pressing the “Log In” button. The system responds by providing input fields, which the user fills in and submits. Data is then directed to an Authentication Service for validation. Successful authentication prompts an anti-bot task, while a forgotten password triggers a verification process via email or SMS. Incorrect data entry loops the user back to rectify the erroneous information. Successful authentication grants access or permits password updates, while account registration redirects the user to a dedicated registration page. This sequence diagram comprehensively illustrates user-system interactions across login, password recovery, and registration scenarios.

A diagram of a company

Description automatically generated with medium confidence

The “Register Sequence Diagram” outlines the user’s interaction with the system during account registration. It begins with the user initiating the process by pressing the “Register an account” button. The system redirects the user to a specialized registration page with designated text fields for necessary information. After data entry and submission by the user, the system verifies and adds the new user to the database through the Authentication Service. Upon successful registration, an anti-bot task is presented to confirm user authenticity. Upon task completion, the system redirects the user to the login page for the newly created account. The option to log in with an existing account is also provided, redirecting the user accordingly. In case of incorrect or duplicate data entry, a loop guides the user to rectify the erroneous information. This diagram comprehensively illustrates the registration process, including successful account creation, login options, and error handling for incorrect or duplicate data entry.

A screenshot of a diagram

Description automatically generated