Title:

Adding Two-Factor Authentication and Email Verification to Co

Abstract:

This proposal aims to enhance the security and user verification process of the Weblate platform by implementing Two-Factor Authentication (2FA) and Email Verification functionalities. These additions will significantly strengthen the security measures and ensure that only legitimate users have access to the platform.

Introduction:

With the increasing importance of data security, it's essential for platforms like Weblate to adopt robust authentication mechanisms. By implementing 2FA and Email Verification, we aim to provide an additional layer of security and ensure the integrity of user accounts.

Objectives:

1. Implement Two-Factor Authentication (2FA) functionality for user authentication, allowing users to choose between various methods, including Time-Based One-Time Passwords (TOTP) sent to their registered email or mobile device.
2. Develop a robust system for generating and verifying TOTP codes, ensuring secure transmission and storage of sensitive information.
3. Provide users with a fallback option by issuing a set of one-time use backup codes, which they can use if they lose access to their primary 2FA device.
4. Implement a mechanism for securely storing and managing backup codes, automatically deleting them as users utilize them and issuing new ones as needed.

Methodology:

- Research and select a reliable library or API for generating and verifying TOTP codes.
- Integrate TOTP functionality into the existing authentication system, allowing users to enable and manage 2FA settings.
- Develop a secure storage system for backup codes, ensuring encryption and access control measures are in place to protect user data.
- Implement logic for generating and distributing backup codes to users, tracking their usage, and issuing new codes as necessary.

- Conduct thorough testing of both TOTP and backup code functionalities to ensure reliability, security, and user-friendliness.

Deliverables:

- Fully functional TOTP-based Two-Factor Authentication system integrated into the website's authentication flow.
- Implementation of backup code functionality, including generation, storage, and usage tracking.
- Documentation detailing the setup and usage instructions for both TOTP and backup code authentication methods.
- Test cases and reports demonstrating the security and reliability of the implemented features.
- Ensuring that user can only attempt to login 5 time in every minute this will to Stop brute force attacks.

Communication:

- Regular updates on progress, challenges, and milestones to mentor and community channels.
- Availability for discussions and feedback sessions to address any concerns or suggestions throughout the project duration.

Timeline:

- Week 1-2: Research and familiarization with the `pyotp` library, including understanding its features, documentation, and integration requirements.
- Week 3-4: Integration of `pyotp` functionality into the existing authentication system, focusing on generating and verifying TOTP codes for user authentication.
- Week 5-6: Implementation of TOTP code transmission mechanisms, including email and SMS delivery, ensuring secure transmission and user-friendly setup instructions.
- Week 7-8: Development of backup code functionality using `pyotp`, including generation, storage, and retrieval processes, with an emphasis on security and reliability.
- Week 9-10: Testing and refinement of the integrated TOTP and backup code functionalities, including comprehensive testing scenarios, security audits, and user acceptance testing.
- Week 11-12: Documentation and finalization phase, preparing detailed guides for users on setting up and managing TOTP-based 2FA, as well as backup code usage instructions. Additionally, ensure the completion of any remaining tasks and the submission of the final project deliverables.

This timeline is structured to allow for iterative development, testing, and documentation phases, ensuring that each aspect of the project is thoroughly addressed within the allocated time frame. Adjustments can be made based on project progress and any unforeseen challenges encountered during the implementation process.