Manage And Control

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Abstract:

This document provides an overview of the management and control aspects of the pronunciation trainer application. The application aims to help users improve their English pronunciation through automated feedback on their spoken reference texts. The development process incorporates Python, Flask, HTML, CSS, and JavaScript. Version management is handled using GitHub, including CI/CD workflows and project board management. Additionally, the document discusses the organization of the development environment with automated build and test infrastructure, as well as configuration, change, and release management in conjunction with infrastructure management.

# Application Workflow

When a user interacts with the pronunciation trainer application, they are prompted to speak a provided reference text. The application listens to the user's voice input and processes it, comparing it to the reference text. Using advanced algorithms and speech recognition techniques, the application determines the accuracy of the user's pronunciation and provides immediate feedback.

If the user's pronunciation matches the reference text with a high degree of accuracy, the application acknowledges their proficiency and offers them the option to proceed. In case of pronunciation discrepancies, the application provides constructive feedback, indicating areas for improvement and suggesting practice exercises.

The user has the opportunity to repeat the reference text, practicing until they achieve the desired level of accuracy. The application records the user's progress and offers ongoing support to facilitate their pronunciation improvement journey.

# Management and Control

In addition to the application's functionality, the project implements robust management and control practices. These practices ensure the stability, quality, and continuous enhancement of the application. The key management and control activities include:

Organizing a Development Environment with Automated Build and Test Infrastructure:  
  
  
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The development environment is set up to streamline the build and test processes. Automated build tools are employed to efficiently compile and package the application. Test infrastructure is established to automate unit testing, integration testing, and system testing. This infrastructure helps maintain code quality and ensures the application's proper functionality across different stages of the development lifecycle.  
  
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Configuration, Change, and Release Management:

Configuration management involves tracking and managing the application's configuration items, such as code files, dependencies, and environment settings. Change management processes are implemented to handle changes to the application, including bug fixes, feature enhancements, and optimizations. Release management ensures a controlled and systematic deployment of new versions, managing version numbers, release notes, and distribution channels. Infrastructure management is closely coordinated with configuration, change, and release management to provide a seamless deployment and operation of the application.  
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By effectively organizing the development environment with automated build and test infrastructure and implementing configuration, change, and release management processes, the project ensures a streamlined and controlled development process. These practices maintain code quality and deliver a high-quality pronunciation trainer application to the users.

Conclusion:

The management and control aspects of project play a vital role in ensuring the successful development and delivery of the pronunciation trainer application. By utilizing automated build and test infrastructure, and incorporating configuration, change, and release management practices, the project team can efficiently organize the development environment, maintain code quality, and deliver regular updates to users. This comprehensive approach guarantees the stability, reliability, and continuous improvement of the application, enabling users to enhance their English pronunciation effectively.