Echos

"One place to learn and translate American Sign Language"

Project Synopsis and Development Methodology

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1. Project Synopsis

"Echos" is an application designed to teach the users American Sign Language using audiovisual tutorials and interactive quizzes.
The application is divided into three major modules:

1. Tutorial Module:
(a) Video tutorials
(b) Reading materials
(c) Quizzes
2. Community section:
(a) Add, view and like posts
(b) Add and view comments
3. ASL to text Translator:
(a) Real-time translation using video feed from the device camera.

Apart from these major modules, there would be supporting modules like tracking user progress and User Accounts.

2. Chosen model - DevOps

Created by Patrick DeBois, DevOps aims to combine Development and Operations tasks. It attempts to apply agile and lean development principles across the entire software supply chain (right from planning to deployment). The approach involves multiple stages loop continuously until the desired form of product is ready:

- **Continuous development:** Deliverable components are broken down into smaller, manageable chunks for quicker deployments. They are developed in the span of multiple sprints.
- **Continuous testing:** Automated software testing is leveraged to its full capacity to test multiple code chunks at every deployment.
- **Continuous integration:** New code changes are frequently merged into the main branch. Once it passes all the tests, it is deployed to a live production environment for real-time feedback from end users.
- **Continuous deployment:** Once automated testing validates our changes in the codebase and ensures stability, autonomous deployment to a production environment occurs.

3. Why DevOps?

DevOps mainly focuses on the continuous development and integration of the software. This model fits best this software's features. The software proposed can be easily divided into chunks that are deployable on their own and would still work fine and serve some purpose.

For example, the translator module of the software can be deployed on it's own and it would still work and serve its purpose. Similarly, if we consider the interactive learning sessions, it can also be deployed before the other modules and it would still serve its purpose. Hence, we have selected DevOps as the software development model for "Echos".