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Proposal for the Implementation of Continuous Integration and Continuous Deployment (CICD) for Udapeople Product

Description

Continuous Integration (CI)

It is the practice of merging all developers working copies into a shared repository several times a day.

Essentially this process massages the code written by developers and ensures it meets both functional and non-functional requirement of Udapeople product.

Its ultimate goal is to produce high quality and deployable artifacts.

CI process may include the following:

- Compile
- Unit test
- Static analysis
- Dependency vulnerability testing
- Store artifact

Continuous Deployment (CD)

It is a software engineering approach in which the value (Udapeople product) is delivered frequently through automated deployment. This stage handles everything related to deployment of artifacts.

CD related stages may include the following:

- Creating infrastructure
- Provisioning servers
- Copying files
- Promoting to production
- Smoke test
- Roll backs

The fusion of CI and CD processes creates a pipeline which deploys code in minutes at the click of a button. While eliminating human errors, bugs, security vulnerability and boast our lead time to market among other benefits.

Benefits of CICD

- Reduce cost as developers spend less time on issues from new developers code
- Avoid cost as there are less bugs in production and time is spent testing and debugging
- Avoid cost because it help prevent embarrassing or costly security holes
- Avoid cost as it reduces human error, and enable faster deployments
- Reduces cost by reducing infrastructure costs because unused resources can be removed automatically
- Increase revenue by releasing new value generating features quickly
- Increase revenue because Udapeople can go to market quicker compared to our current manual process
- Protect revenue by reducing downtime from a failed development
- Protect revenue because we can quickly the changes a failed deployment and revert back to previous working state.

We graciously await your favorable response.

Daniel Favour

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