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## **Proposal for the Implementation of Continuous Integration and Continuous Deployment (CICD) for Udapeople Application**

Continuous Integration (CI) is the practice of merging codes from all developers into a shared repository several times a day. This process ensures the code written by developers is functional and also meets other non-functional requirements of the Udapeople application.

Its ultimate goal is to produce a high-quality and deployable artefact. CI process may include the following:

1. Compile
2. Unit test
3. Static analysis
4. Dependency vulnerability testing and
5. Store artefact

On the other hand, Continuous Deployment (CD) is a software engineering approach in which the Udapeople Application is delivered frequently through automated deployments. This stage handles everything related to the deployment of artefacts. Continuous Delivery related stages may include the following:

1. Creating infrastructure
2. Provisioning servers
3. Copying files
4. Promoting to production
5. Smoke test and
6. Rollbacks

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, and security vulnerability and boasting our lead time to market among other benefits.

### **Some Benefits of CICD include:**

1. Reduce cost as developers spend less time on issues from new developers' code
2. Avoid cost as there are fewer bugs in production and time is spent testing and debugging
3. Avoid cost because it helps prevent embarrassing or costly security holes
4. Avoid cost as it reduces human error, and enables faster deployments
5. Reduces cost by reducing infrastructure costs because unused resources can be removed automatically

6. Increase revenue by releasing new value-generating features quickly
7. Increase revenue because Udapeople can go to market quicker compared to our current manual process
8. Protect revenue by reducing downtime from a failed development
9. Protect revenue because we can quickly change a failed deployment and revert to a previous working state.

I graciously await your favourable response.

Ekene Ezeasor  
UdaPeople Inc.