CI/CD - Continuous Integration, Continuous Delivery And Continuous Deployment.

I am writing this proposal to enlighten the organization on the need to implement the concept of CI/CD to the UdaPeople Product.

I would give a short definition of the term CI/CD in the sentences below.

- **Continuous Integration** is the practice of merging all developers working copies to a shared mainline several times a day.

- **Continuous Delivery** is a software development practice where code changes are automatically prepared for a realese to production

- **Continuous Deployment** is a software engineering approach in which the value/product is delivered frequently through automated deployments.

This definition may vary across different platforms in the engineering space.

In summary, CI/CD is a set of development practices aimed at automating the building, testing and deployment of applications.

CI/CD

The image in the background shows the simple pipepline of a CI/CD, the pipeline could be splitted into units to further more on the important processes. A more explained pipeline would be given for the UdaPeople product.

Plan | Code | Build | Test | Release | Deploy | Operate

This processes are continual and ensures a reliable software releases in a quick period of time. The image shows well the tasks on continuous integration and continuous delivery.

Continuous Integration

Continuous Delivery

CI/CD - A Revenue Boost

It is important to translate the CI/CD concept to a non-technical approach which would be associated to the revenue of the company.

Here are some technical concepts in CI/CD and their translations.

- **Quick Compile Error Checks**

  A CI tool can help in autodetecting compile errors from the developer's job after merging the codes for testing.

  Value

  This approach **reduces cost** because developers spends lesser time on troubleshooting codes in their team. The company in return saves cost on them.

- **Detect Security Vulnerabilities**

  CI helps in checking security holes which could impose unneccesary expenses on the company which could have emanated from even software hackers

  Value

  This approach helps in **avoiding cost of spending.**

- **Automate Infrastructure Creation**

Certain tools for CD helps in automated infrastructure provisioning this makes deployment faster and helps to reduce errors from human.

Value

Avoids Cost which could come from errors in infrastructure creation manually.

- **Automatic Deployment**

New value-generating features are released more quickly without manual checks through CD concepts and the products takes less time to market

Value

This brings about **Increase in Revenue** because services are readily available for use at a fast speed

- **Automated Smoke Tests**

Smoke tests helps to check for reduced downtime from a deploy-related crash or a bug, this is so important to ensure the provisioning of continuous and long lasting services.

Value

This process helps in **securing the Revenue** which simply implies that the company's revenue increases without the fear of incurring losses.

Conclusion.

CI/CD offers many more services in enhancing the development and the life cycle of a sofware. Importantly, it promotes a good state of finance in the company through many processes that are automated and free of manual checks and even human services.

I hope we can transit to this good practices and technology to step up the UdaPeople products in terms of provisioning of lasting services, making the company's revolve with the healthy economic and financial trends.