Project: Add CI/CD Pipeline to Udapeople

A CI/CD (continuous integration and continuous deployment) pipeline consists of a series of steps that must be performed in order to deliver a new version of software, this includes building, testing, and deploying code. The objective of this project is to automate this process to minimize human error and maintain a consistent process for how our software is released.

Having a CI/CD pipeline will help us to stay competitive in the market, by:

- Reducing risk of downtime with more frequent test and code deployment, this means that the end-users will less likely see bugs or errors in production. A stable operating environment and faster resolution to production requirements enable you to cement customer loyalty and create great experiences.
- Doing faster deliveries: meaning that our end-users will see new features and improvements faster, which will likely lead to them spending more time on our platform. This is accomplished by testing and deploying features automatically with almost no manual intervention.
- Increasing observability: having a good amount of logs will help developers to find bugs and solutions faster, this will lead to, if we do get a bug to production, the end-users will likely see it for a less amount of time, than if we didn't have a CI/CD solution.
- Reducing rollback time: in case of an emergency, that a deployment breaks the production environment, having a CI/CD pipeline will reduce the rollback time to almost nothing, by immediately returning the application to its previous state.
- Reducing cost: Embracing CI/CD is the perfect fix to shorten the time to finish a project and market new features. The shorter the development cycle, the less money and resources spent on ongoing maintenance and management.

Conclusion

Adapting a CI/CD pipeline, while costly at first, the benefits outweigh the implementation cost and learning curve. As we previously stated, not only our development team will be happy to not spend nights fixing production-environment bugs, but also we will have a reduction on our development cost, and most importantly, our customers will have a world-class experience while using our products.