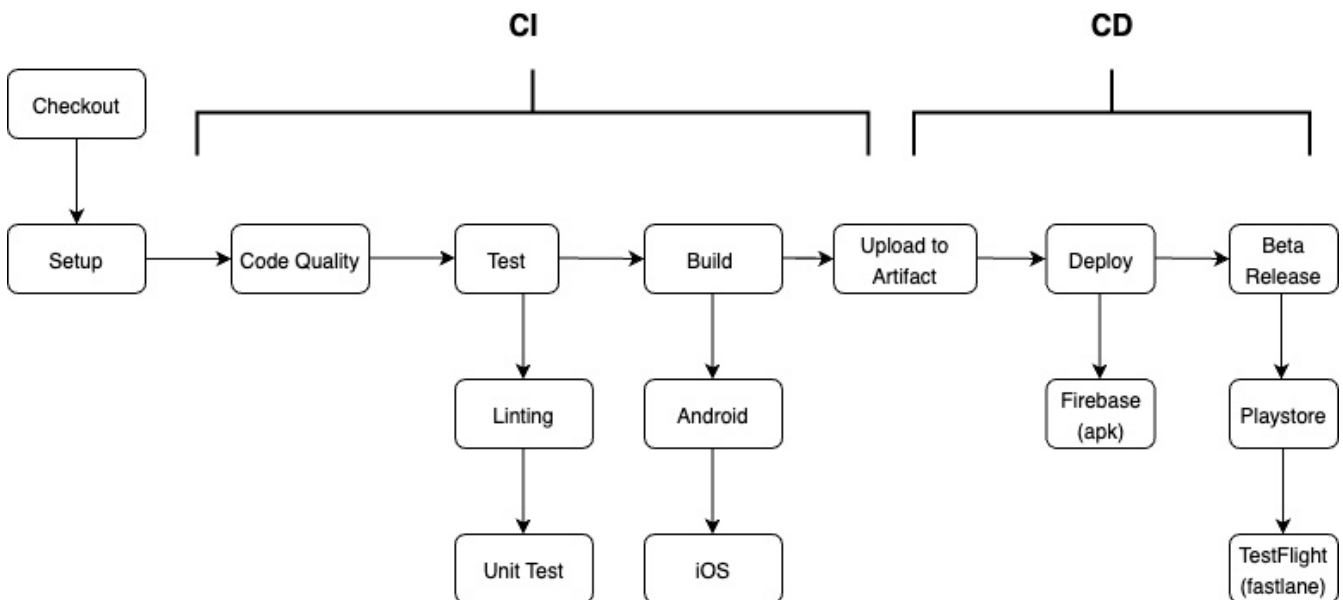# KONOMO MOBILE APP

This repository houses the code base for the Konomo Mobile Application. It is a CI/CD pipeline for both the iOS and Android builds of the application. The mobile application is built using a Flutter CI/CD pipeline, with the help of other tools and packages.

Architecture:

Konomo Mobile App CICD Pipeline

From checkout the pipeline starts in the setup stage, where in the dependencies are gathered for Flutter to run. This ranges from ensuring the appropriate Flutter, Java and Ruby versions are installed, on top of any other related packages. At this stage, everything is run using GitHub runners on an Ubuntu operating system.

Then it moves onto the code quality stage. Here Dart Code Metrics is used to analyse the dart code, from reporting code metrics to providing recommendations in the form of a report in the workflow.

After the code quality check, the Linting and Unit Testing take place. Using Flutter Analyser, the code is scanned and specific commands are tested to ensure there are no issues. This step requires the setup and code quality stages to be successful in order for it run.

The next stage is the build stage, this is where the Android and iOS packages are created. When an Android .apk is being built, the GitHub runner will be on Ubuntu. When the iOS .ipa package is being built, the runner will be on MacOS.

The packages are then stored as artefacts in the pipeline, then registered in GitHub packages. After

this, a version tag is attached to the most recent changes and released to GitHub releases. Both the Android and iOS packages are also available here.

Once the packages have been created, they are then deployed to the deployment platforms using Fastlane and Firebase. Here they can be further tested, before being pushed into the Google Playstore and Apple Appstore.

Tools:

There are a few tools required to assist with the various stages of the Flutter CI/CD pipeline.

GitHub

GitHub is a cloud hosted platform to manage software projects, long established as an Open Source supporter it is equally powerful for businesses and private projects. GitHub is owned by Microsoft and has many of the capabilities of the enterprise Azure DevOps solution.

To access GitHub simply goto https://github.com. You can signup for a free account, and if you already have an account you can associate multiple email addresses to your account. Once registered you will need to be invited to the organisation by an administrator, how will also need to allocate you to the required project(s).

Some tips for using GitHub:

1. Add two factor authentication to protect your account.

2. Make sure to setup SSH keys so you can push and pull changes with minimal intervention.

3. Add GPG keys to your account, this protects your commits with verified (signed) commits - dont forget to back these up for when you setup a new computer in the future too.