



Introduction of CI/CD

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Peter Muturi

Self Udacity

123 Your Street

Your City, ST 12345

Overview

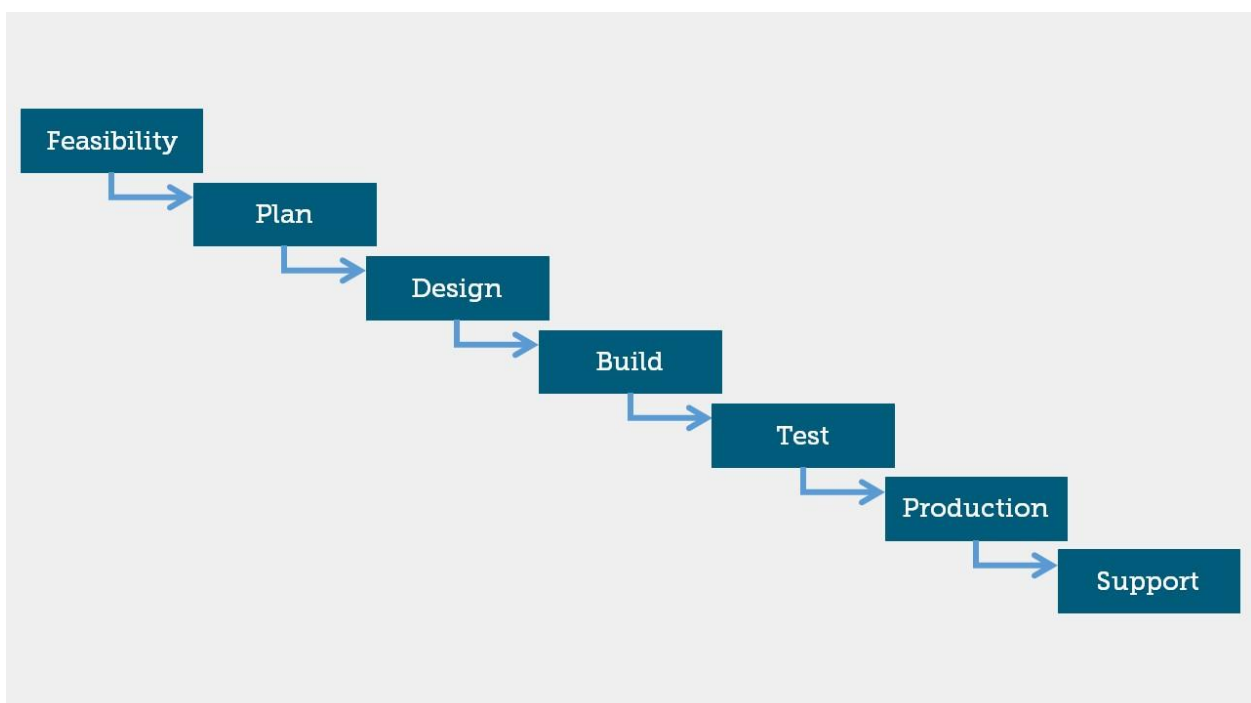
This is a proposal to incorporate CI/CD: **continuous integration/ continuous delivery** in our way of working together as a team in developing the UDASystem.

Goals

1. Benefit of CI/CD in departments
2. Business advantages of adopting CI/CD

Specifications

Human Resource is fundamental to the growth of a business, hence we need a way to manage the resource and take care of the human/employee. As uda people we have separate departments that contribute to the core of our product **The HR System**. While having inter departmental collaboration between the different teams has its advantage with the speed at which we deliver to our clients, it's also fit to take a look at how things work write now as demonstrated in the figure below



Looking at the figure below we see the process being a trickle down process, which has its advantages but lets review the financial constraints that may arise from this kind of way of working.

Delayed feedback

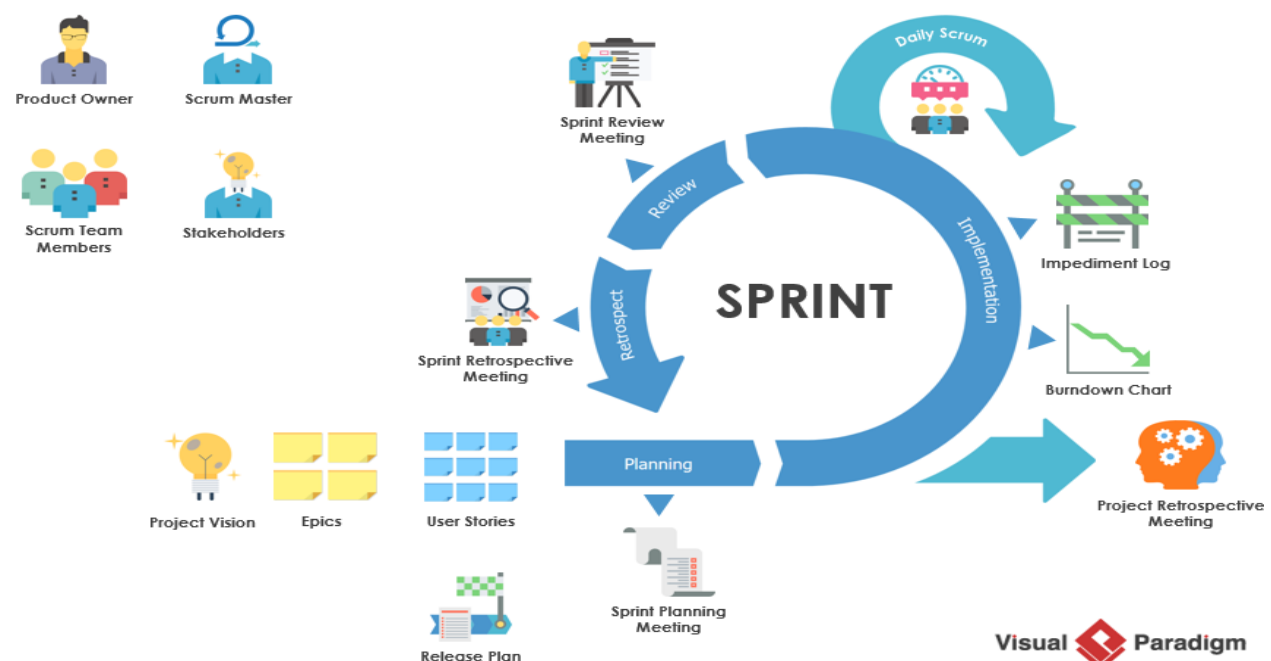
- This may arise from the process of waiting for information to trickle down from person/department. This may appear not to have any significance effect but with delayed feedback, as a team we also suffer delays in the speed at which we release feature to the market which makes us lose a **Revenue generation opportunity**

Delayed reaction Time

- From the stack of stairs and our point above, the room to correct or react to mistakes is rather long as compared to a different system such as Agile. This will create expenses to the business as cost is incurred either in maintaining a good image after an outage of the system or a feature not functioning properly, Thus creating a coast to the business, which on the inverse reduces the Revenue

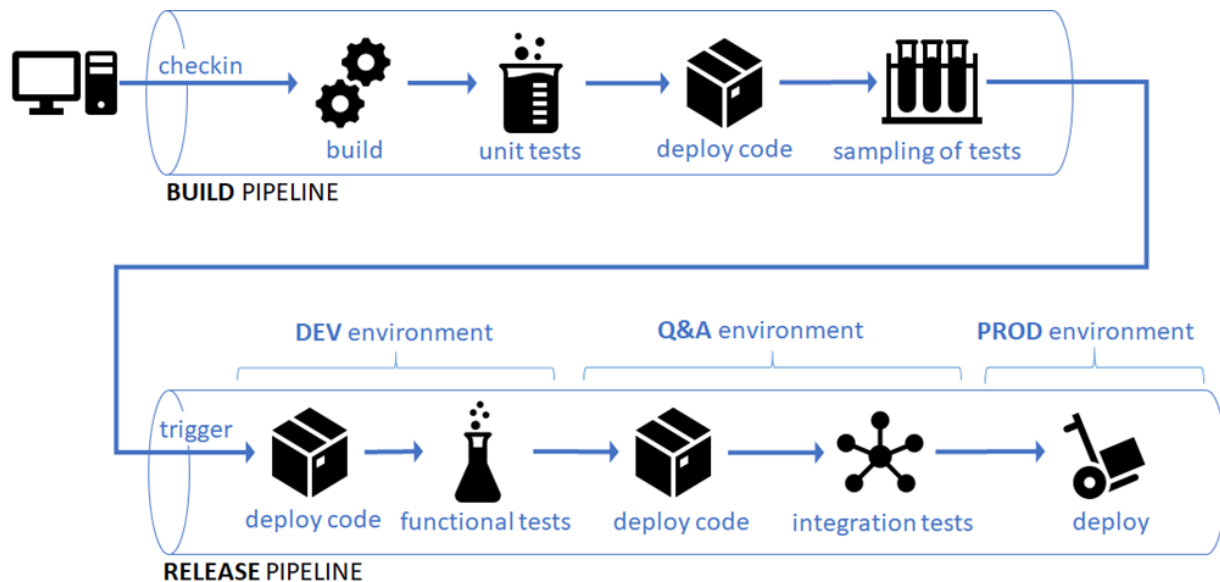
Proposal

The Agile – Scrum Framework



Looking at the above pain points we can incorporate an **Agile system** of working which in turn has CI/CD incorporated within .

We are going to focus on the CI/CD and precisely how it is going to benefit the business. So what are the advantages of CI/CD itself, not just to the technical team but also to the business at large.



Advantages of Ci/CD


I. Catch Compile Errors After Merge

The feedback loop is short and fast for the developing team, this enables the team to focus on building the product rather than understanding new changes in code. The less time spent on building translates to

II. Automate Infrastructure Creation

Infrastructure creating is the backbone to shipping out a product, this is a job that is labor and human intensive, but with CI/CD the process is automated hence reducing the chances of an err which avoids cost to be incurred by the business. And also creates revenue generation points as deployments are faster

III. Automated Smoke Tests



Testing is a crucial bit to any product whether dynamic or static testing or even better smoke testing. Testing can take quite some time but with automated tests the time load to review and public or rollback changes is reduced by a significant amount, This allows the development team to test and push only stable code, reducing the chances of bugs in production which translates to higher availability of our product hence protecting our revenue by maintaining a good customer relation

IV. Detect Security Vulnerabilities

CI/CD allows and enables us to test our products, whether through integration or in a single functioning unit. Preventing security loopholes finding their way into production. With this in mind chances of losing revenue to coast accrued over compensation is reduced