
Software Deployment

CS580 Advanced Software Engineering

<http://cs580.yusun.io>

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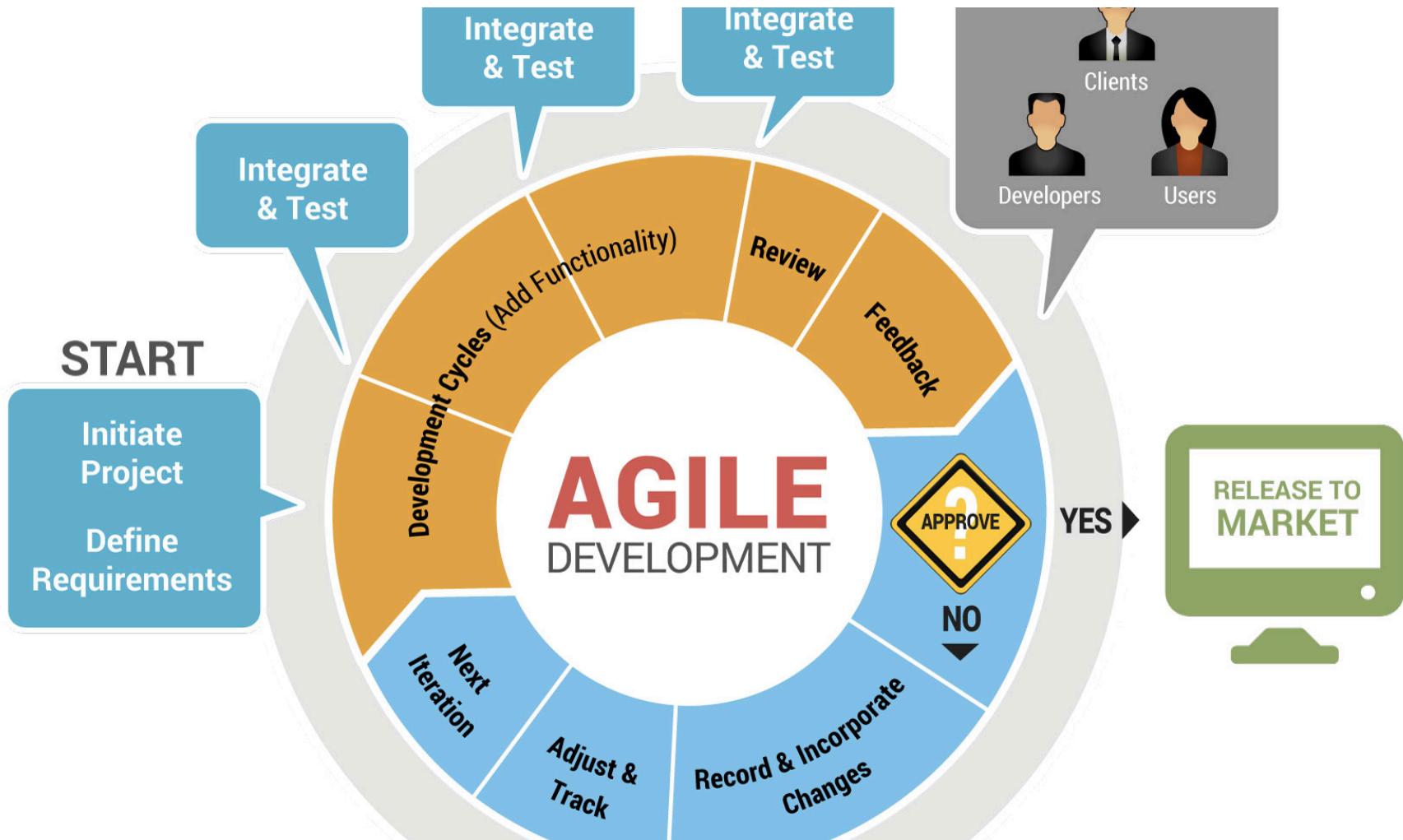
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CAL POLY POMONA

Agile Development

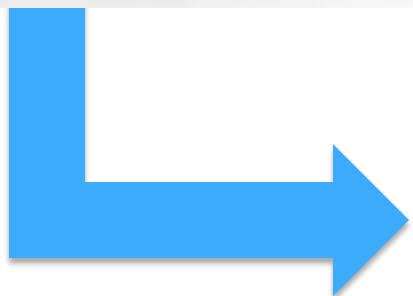


Testing, Testing and Testing

DEV QA



Ready to Deploy



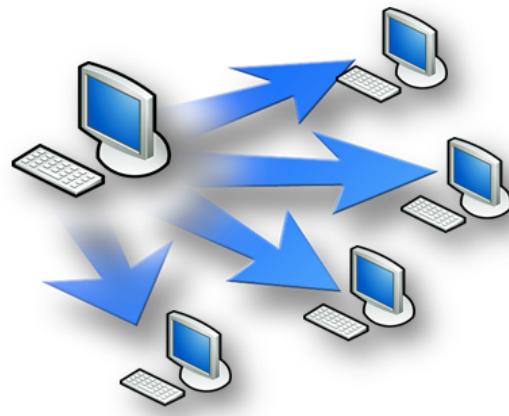
What is Software Deployment?

- ◆ *Software Deployment* is the art of deploying software artifacts produced as a result of build, on the target environment (*Development, Staging, Production*)



What is Software Deployment?

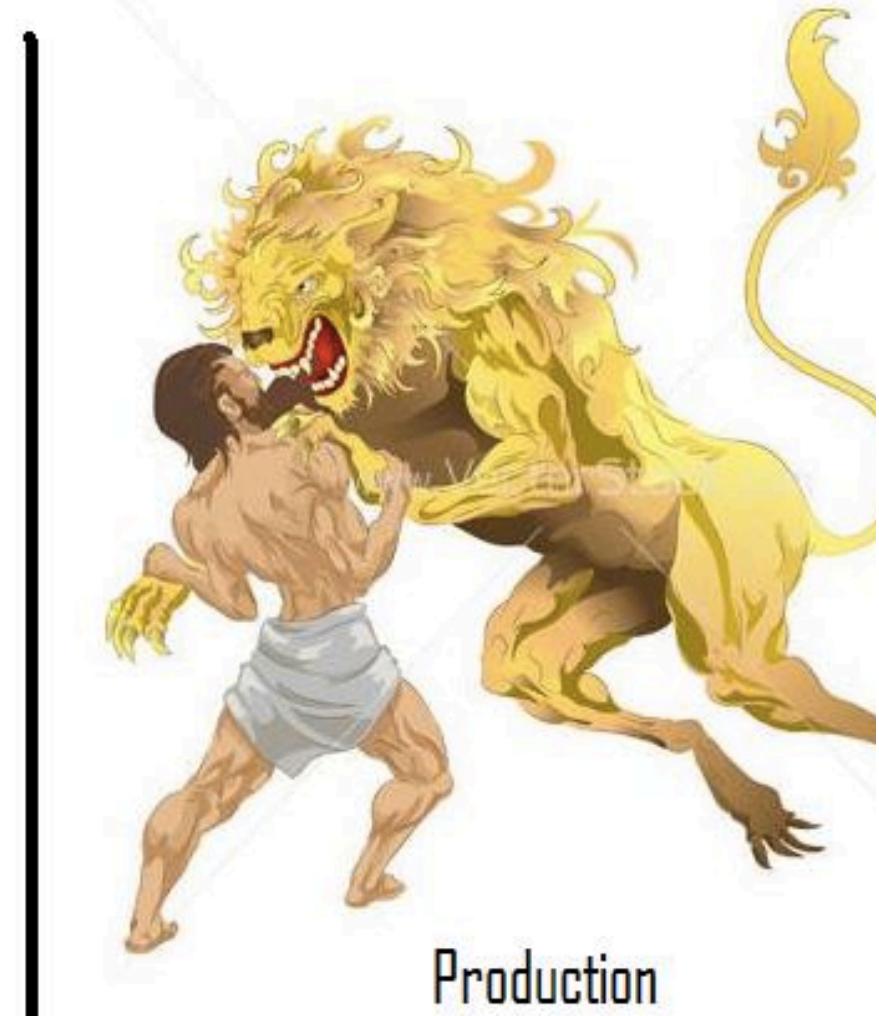
- ◆ Move your software from your local (dev) environment to the remote (prod) environment



Deployment is Risky



Development



Production

Deployment is Risky



A screenshot of the Amazon mobile website. The header includes the Amazon logo and "Prime" text. On the right, there are search and shopping cart icons. The main content area has a dark header bar with the text "New & Used Offers". Below this, a red-bordered box contains the message: "The Amazon.com mobile service encountered a problem. Please try again shortly. (CS4)". At the bottom right of the message box is a button labeled "OK".

A screenshot of a Twitter post from the official Netflix account (@Netflixhelps). The tweet contains the following text: "We're aware that some members are experiencing issues streaming movies and TV shows. We're working to resolve the problem." Below the text are three blue social media interaction buttons: "Reply", "Retweet", and "Favorite". At the bottom, there is a "RETWEETS" counter showing 14, and a row of small thumbnail images representing other tweets or media.



PHOTO ILLUSTRATION: SHREENAKT/ONHONEY

Deployment is Risky



Deployment Tips

- ◆ Deployable Artifacts
- ◆ Repeatable Builds
- ◆ Consistent Environments
- ◆ Autonomous Packages
- ◆ Ease to-do/un-do Releases



Deployable Artifacts

- ◆ Executable
- ◆ Easy to execute

```
for h3 in page.findAll("h3"):
    value = (h3.contents[0])
    if value != "Afdeling":
        print >> txt, value
import codecs
f = codecs.open("alle.txt", "r", encoding="utf-8")
text = f.read()
f.close()
# open the file again for writing
f = codecs.open("alle.txt", "w", encoding="utf-8")
f.write(value+"\n")
# write the original contents
```



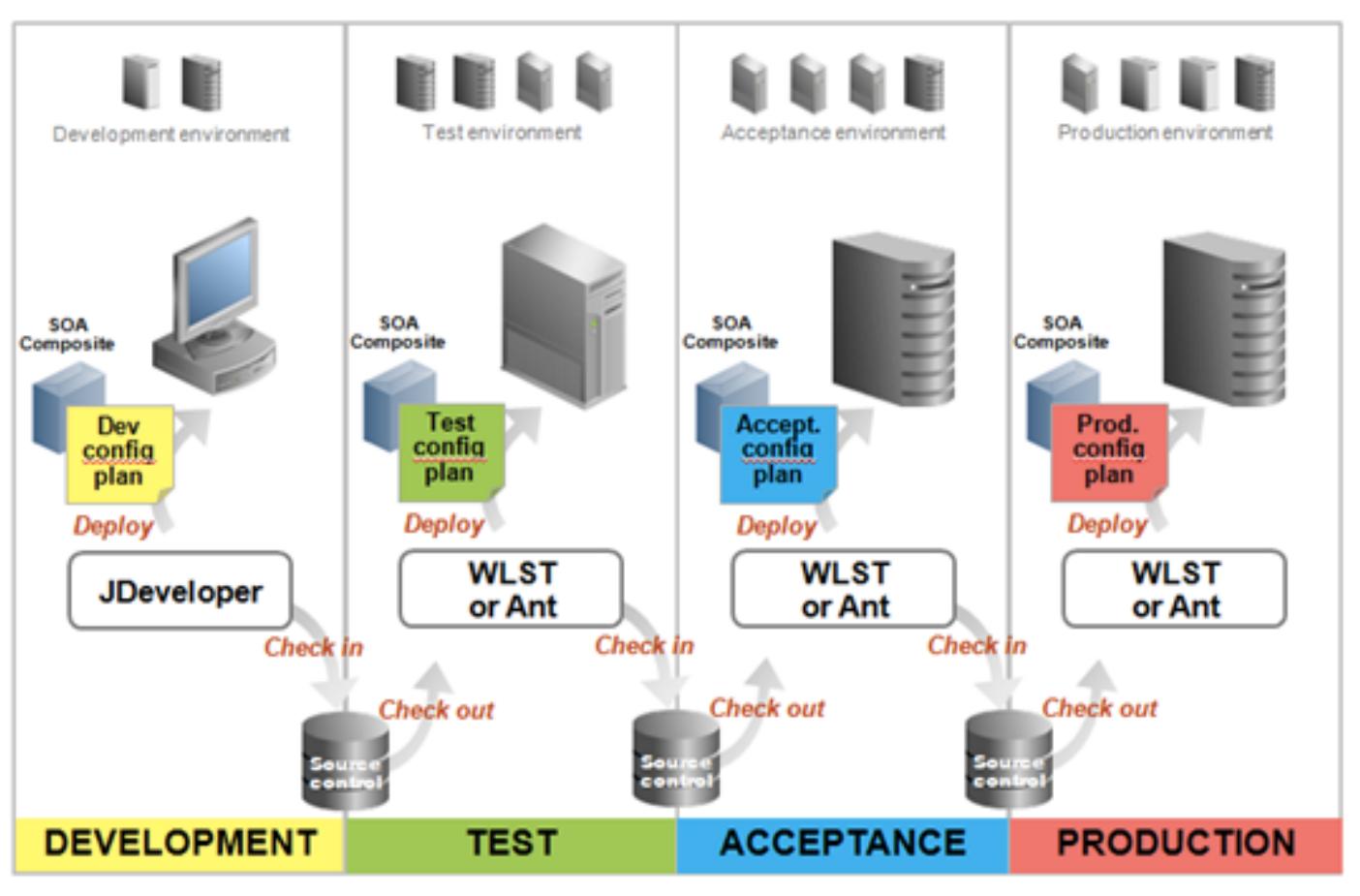
Repeatable Builds

- ◆ One should have the provision of rebuilding the application exactly in the same way as it was built at the time of release
 - ◆ Same dependencies
 - ◆ Same versions
- ◆ IDEs do not work
- ◆ Use a build tool



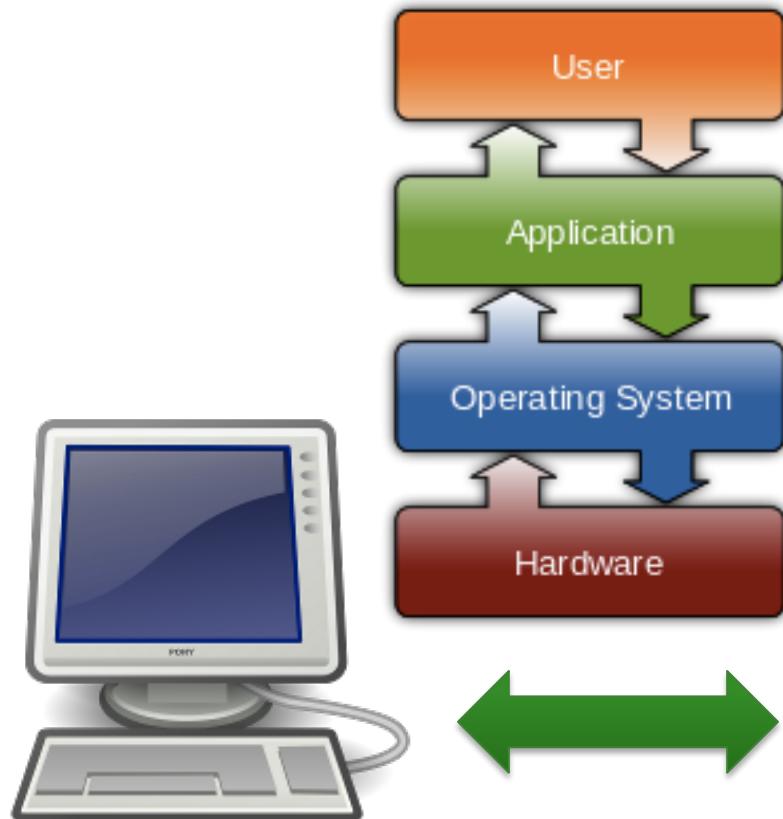
Consistent Environment

- ◆ An environment includes all the components needed to build and run the application



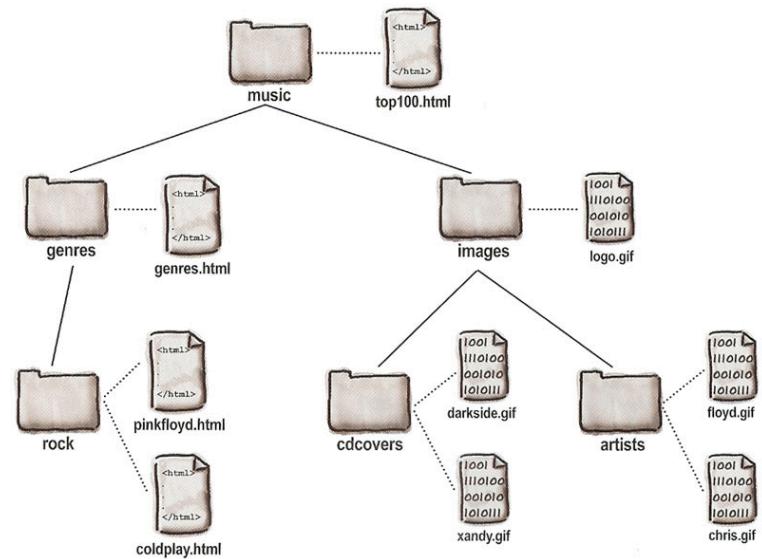
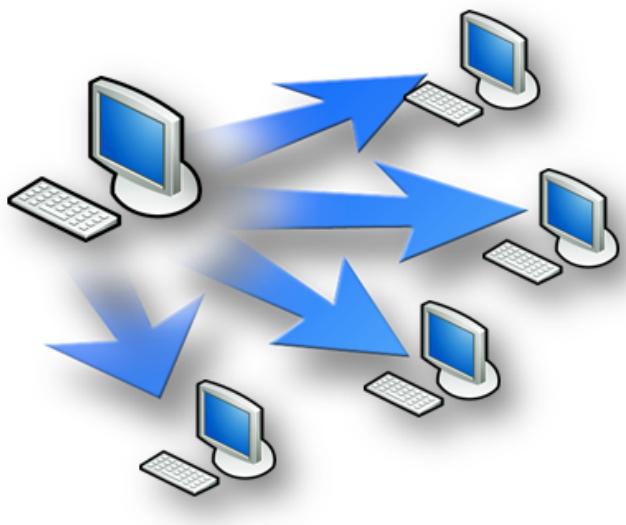
Consistent Environment

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Autonomous Packages

- ◆ Autonomous Packages means the deployable package should exist independently
- ◆ The more autonomous the deployable package is the more easier to deploy and maintain.



Easy Todo/Undo/Redo

- ◆ Ensure software releases can be easy to
 - ◆ Install
 - ◆ Uninstall
 - ◆ Rollback

