

Newsfast

UCD MSc. Practicum 2015 - Black Team

Show & Tell Session 23rd June

Presentation Link: bit.ly/news23jun

Minimum Viable Product

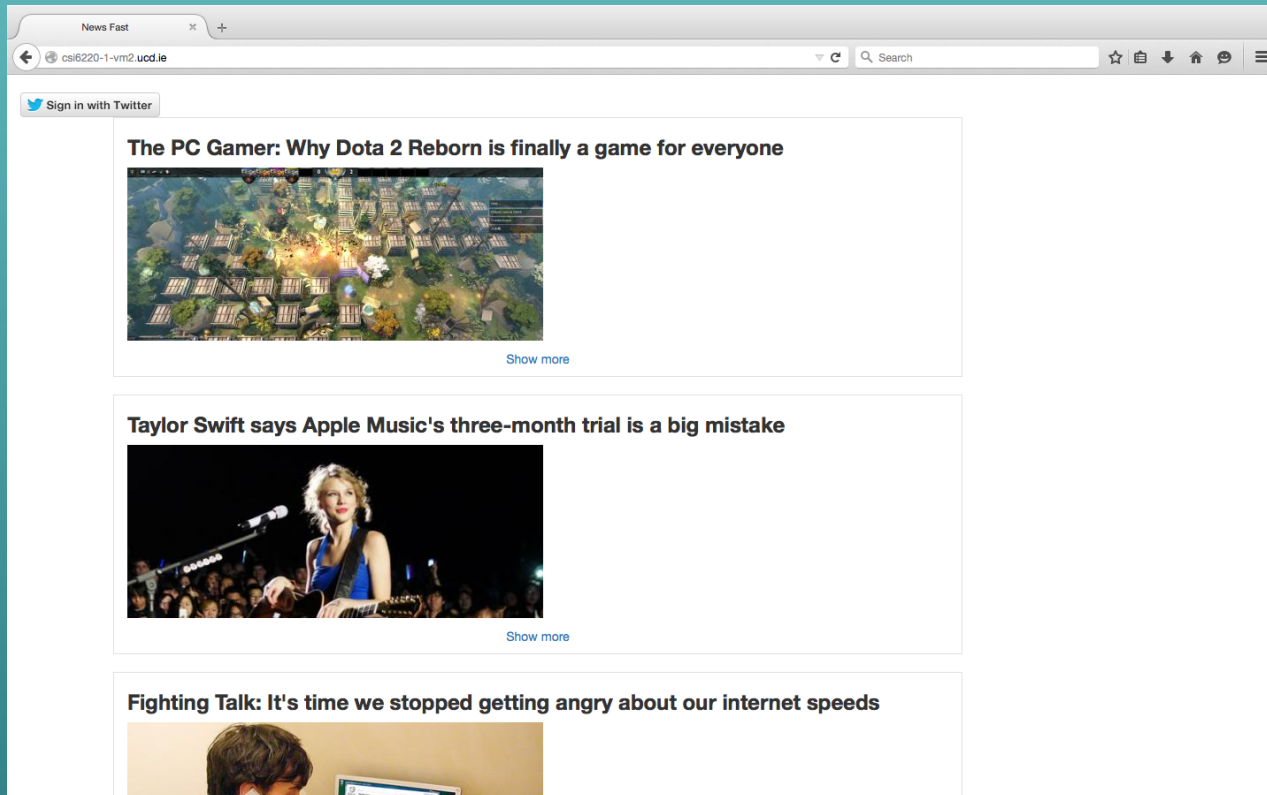
Already a product online at:

csi6220-1-vm2.ucd.ie

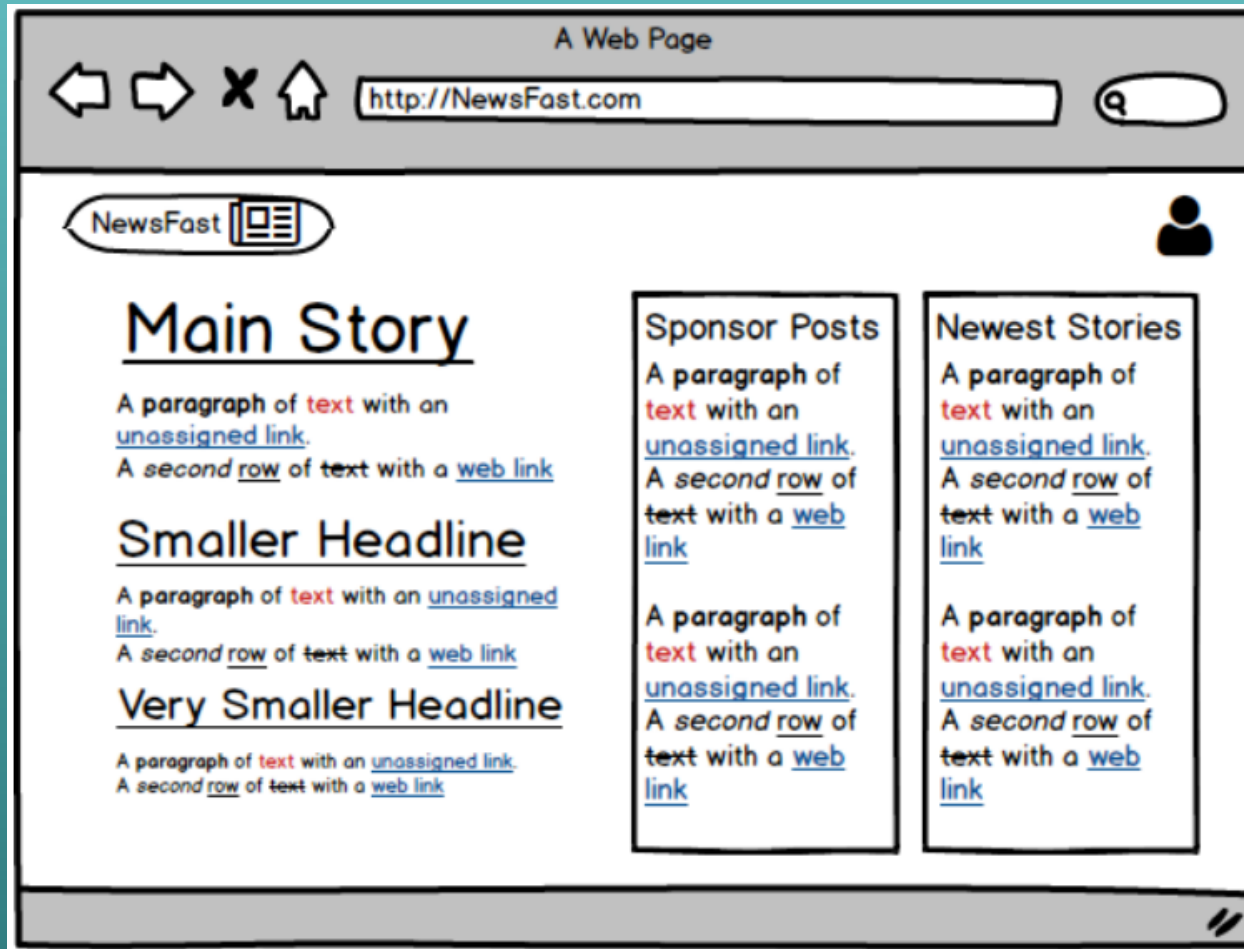
MVP Description

- Web page will display technology news from a number of RSS feeds
- User can sign in to twitter to give the news site access to their twitter content
- When the user clicks on an article, they will also see tweets relevant to the article
- The user will be prompted to select which technology topics they are interested in, the web page will then be personalised for them
- The web page will also be personalised based on their twitter content (assuming they have signed in)

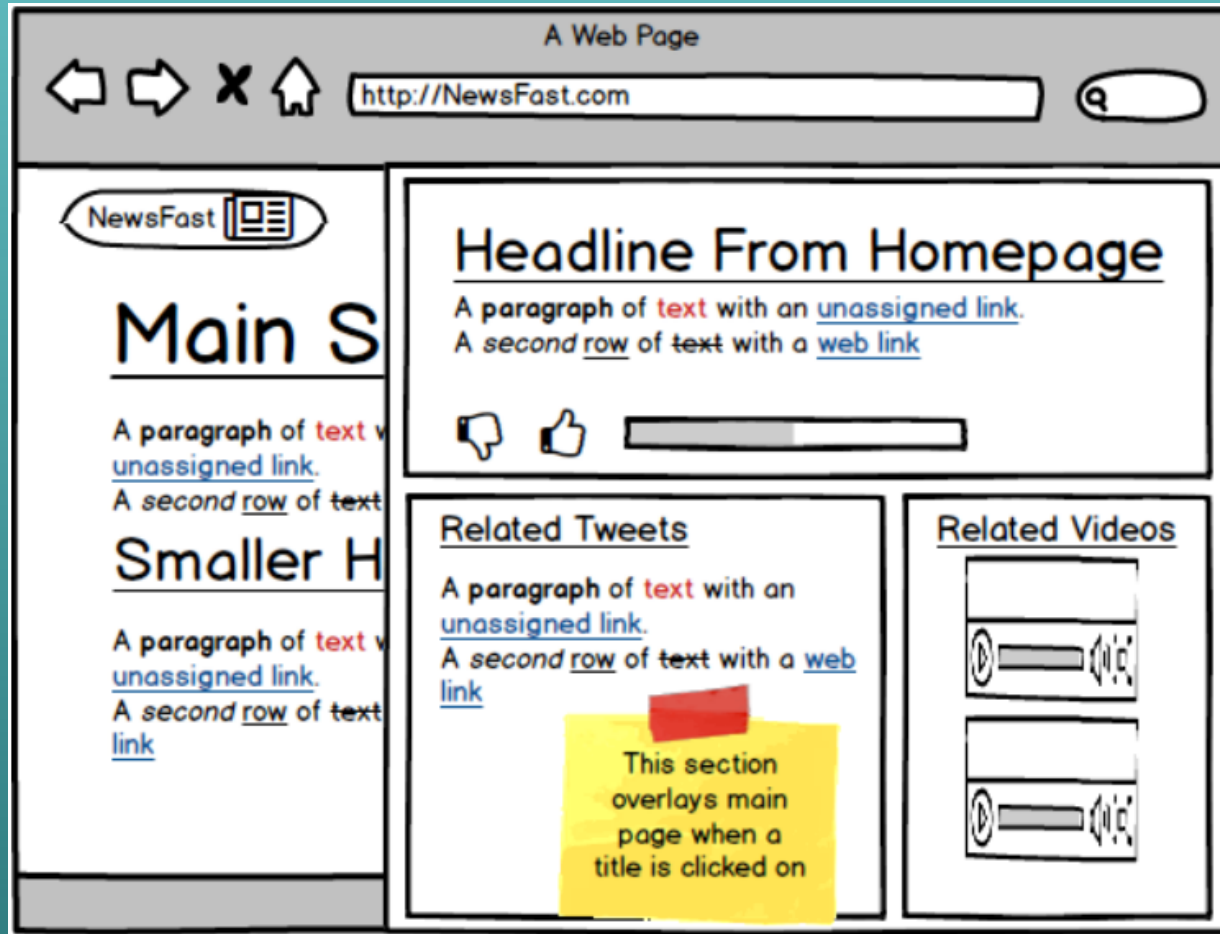
VM screenshot



MVP Mockup Homepage



MVP Mockup article



How we communicate

Trello	Agile, Sprints, Tasks etc
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Slack	Chat, IM, Reports from CI/Trello etc
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Hangouts	whole group meetings
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Various docs	Decisions, Mockups, Flow Diagrams, etc
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Technologies Used

- Celery
- Django
- Docker
- git
- Nginx
- Postgres
- Redis
- Selenium

Celery

Celery is an asynchronous task queue/job queue based on distributed message passing.



It helps us:

- Process expensive background tasks on different workers (machines / clusters etc)
- Schedule tasks
- Make sure data is pre-processed to keep application fast and the user happy

Docker

Docker is a tool for containerising applications and the most integral part of our stack.

It helps us:

- Ensure all of our environments are the same
- Consistency in use of tools
- Use locally exactly what we deploy
- Avoid dependency hell



docker

Django

Django is the web framework we are using.

It helps us:

- Do rapid prototyping
- Don't have to write boilerplate code
- Use vast array of python libraries (like oauth, requests etc)
- Use vast array of django libraries (like rest, celery etc)



Git

The best SCM tool on the planet :)



It helps us:

- Keep all of our work neatly organised
- Enables our use of industry-leading tools, processes (more on that later...)
- Be fast
- Break things!

Nginx

Nginx (pronounced Engine-X) is a web server that is *fast*.

It helps us:

- Load balance requests
- Serve static files immediately
- Send requests to Django that need to be processed dynamically (reverse-proxying)
- Keeps backend hidden

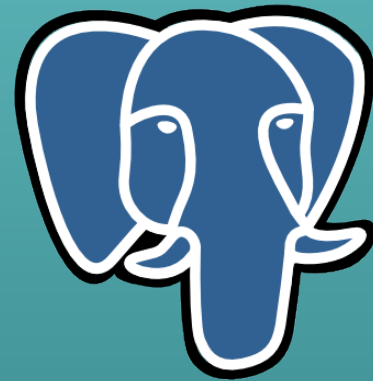


Postgres

PostgreSQL is a powerful, open source object-relational database system.

It helps us:

- Store data in a robust manner
- Easily integrate with django, no need for custom SQL queries
- Can store lots of data
- Fast



PostgreSQL

Redis

Redis is a data structure server. It is open-source, networked, in-memory, and stores keys with optional durability.

It helps us:

- As a backend to Celery
- Easily integrates with django
- Can store lots of data, with no particular structure required
- Fast / Can act as a cache

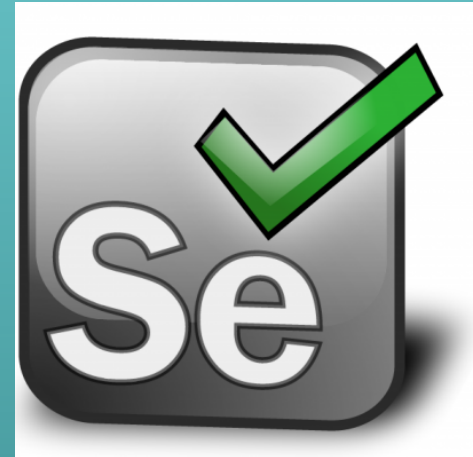


Selenium

Selenium is a browser driving tool, commonly used for automation.

It helps us:

- Automate user-acceptance test
- Ensure no functionality is broken by new feature
- Write once, run on every push



Development Process

We follow the [git-flow](#) process, which means we have two main development branches:

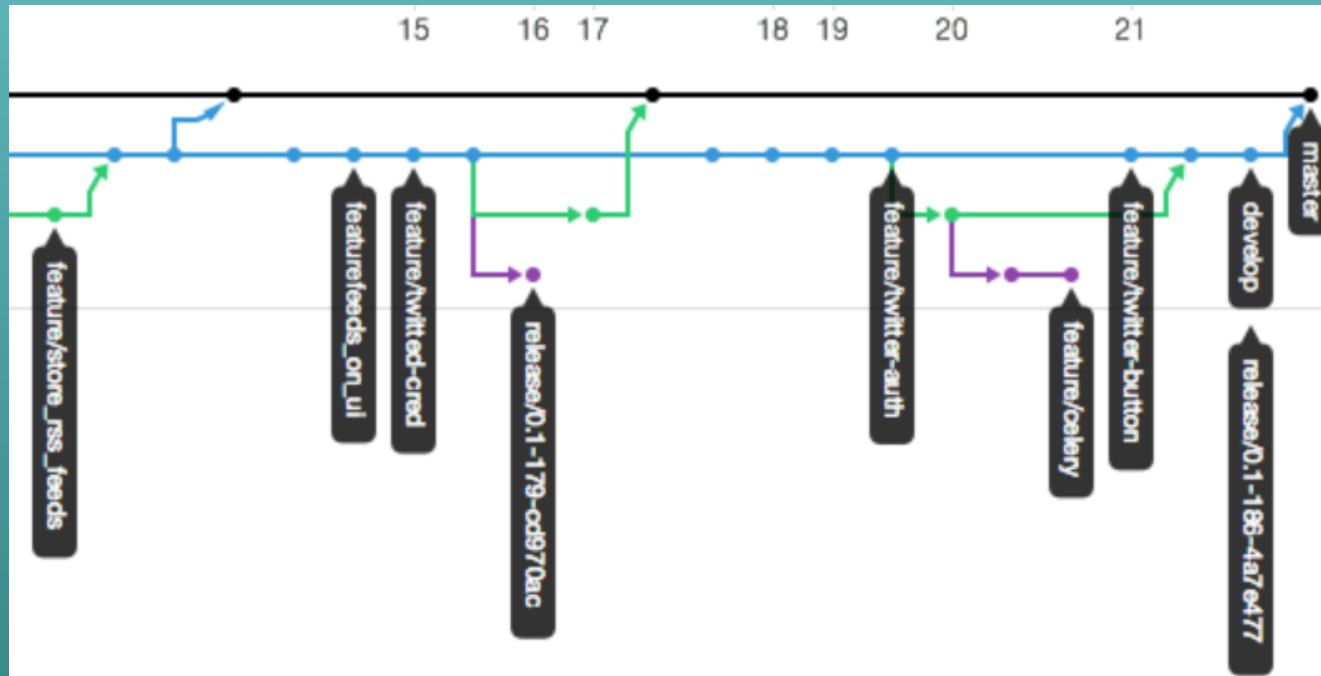
- **master** - deployed to server
- **develop** - where all features merged and tested

Features, releases and hotfixes get their own branch:

- feature/my-cool-feature - merged to develop when tested in isolation and done
- release/my-cool-release - merges develop and master to form release
- hotfix/my_mistake - fixes problems with releases, merged to develop and master

[Great git-flow command cheat sheet here](#)

Our branches



Continuous Integration

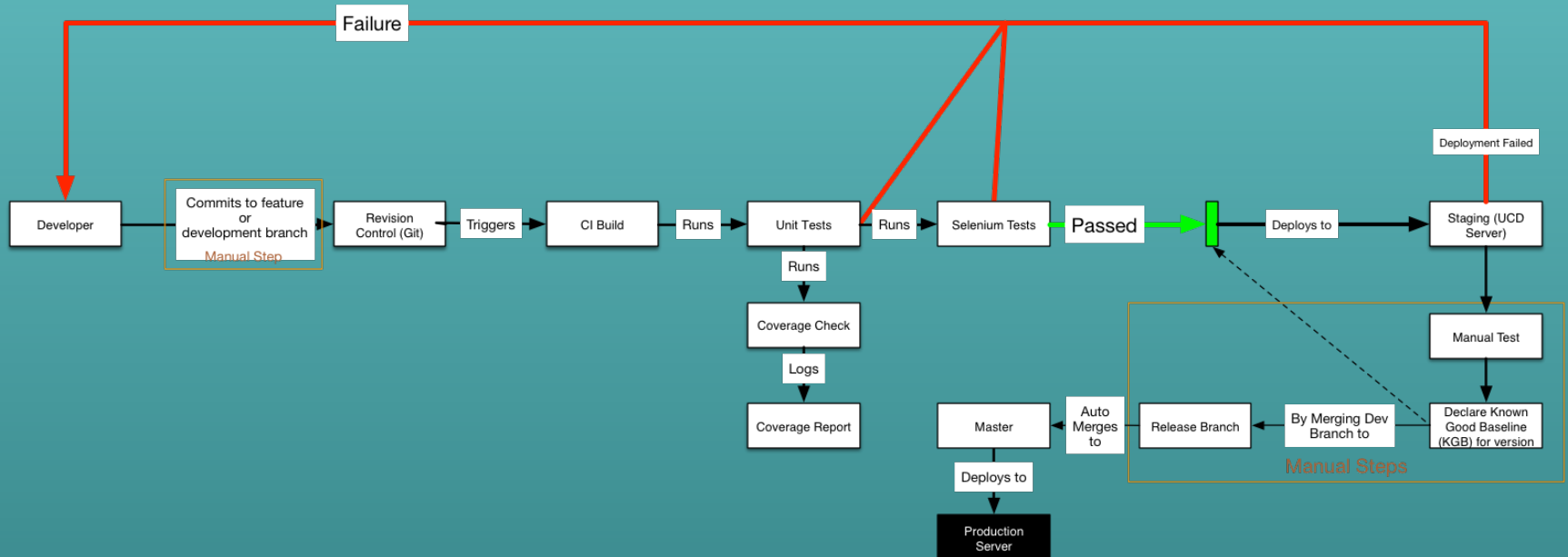
Our method:

- Fail early, fail often
- Protect deployments

Tools used:

- Travis CI
- CircleCI

Our CI Flow



Travis CI

One of the original free-for-open source CI software as a service (SaaS) providers.

- Runs our unit tests
- Runs our selenium tests
- Easily understandable configuration



CircleCI

Great addition to Travis, provides more level of confidence having two CI services.

- Can build/run docker
- Runs unit
- Runs selenium
- Runs code coverage
- Saves artifacts
- Provides debugging

