CP 23 - TechLab Upgrade

Hand of the Fek

Overall Context

Clients

Jim Cook

Viji Venkataramani

TechLab Description

URL: trends.techlab.works

- Web platform for sharing tech trends and projects by TechLab
- Targeted at students, staff, educators, researchers and external partners
- TechLab aims to provide a source of information for research projects.

trends techlab
Search term

+ Compare

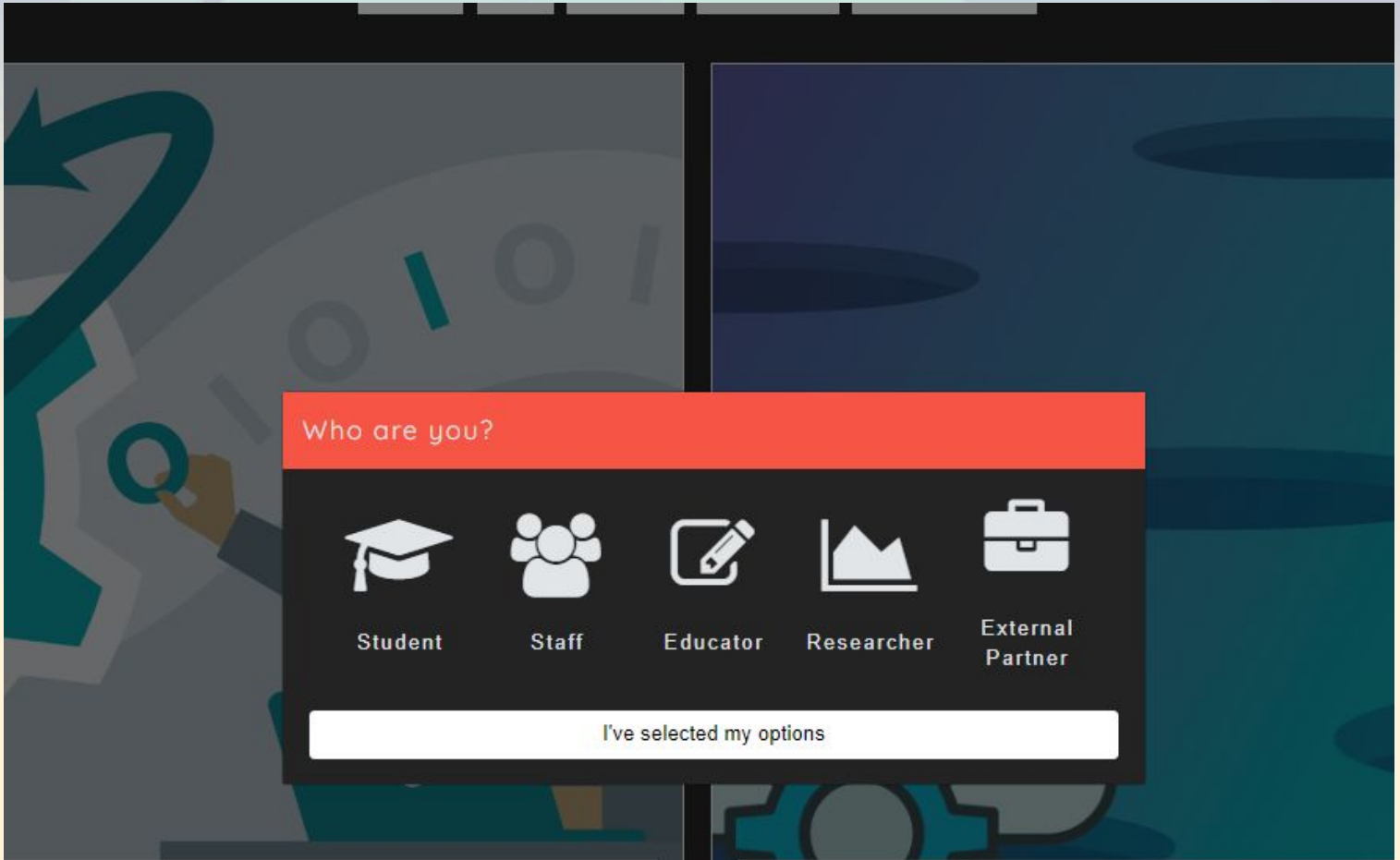
Australia | 2004 - present | All categories | Web Search

Interest over time

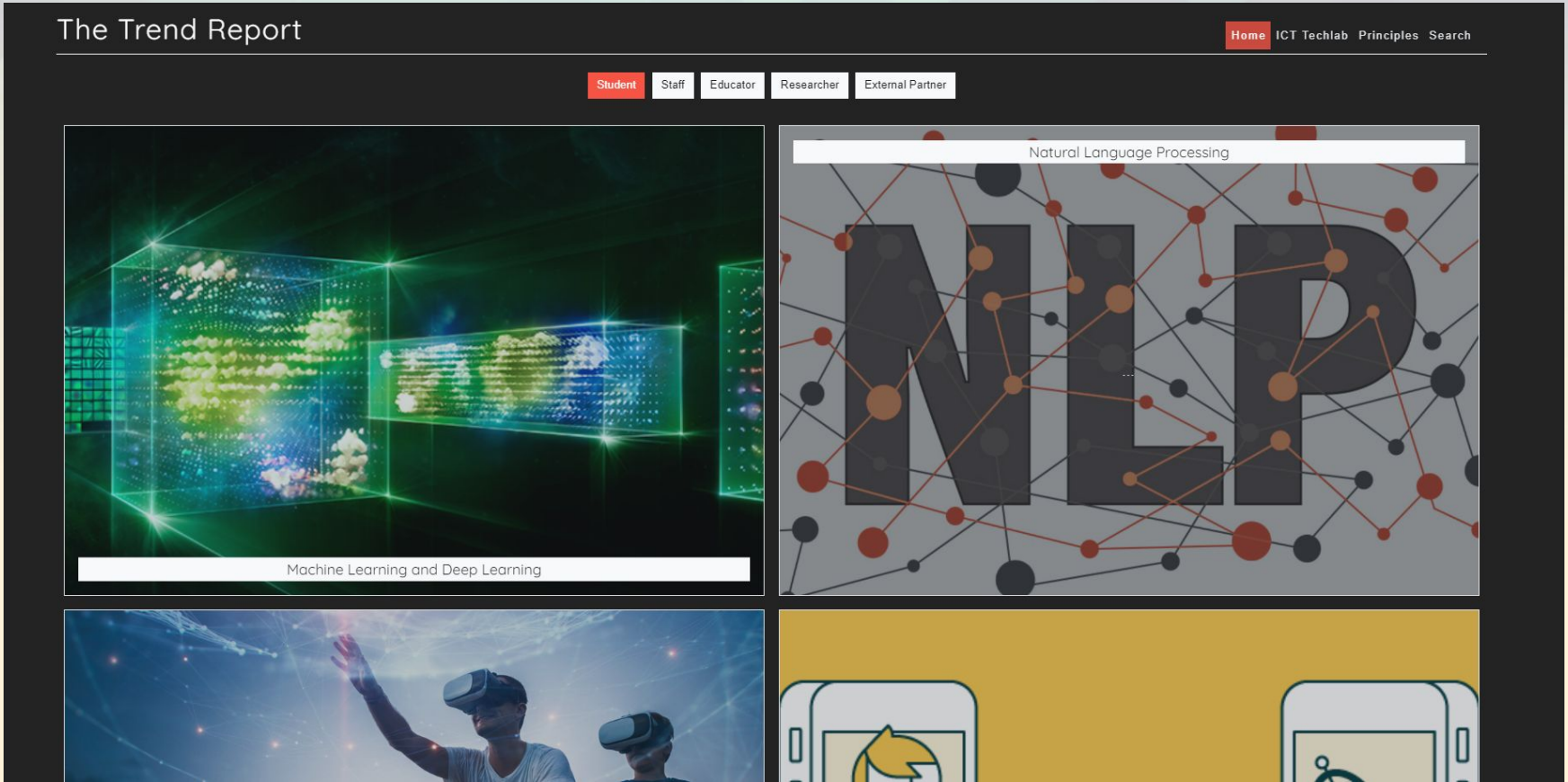
Hmm, your search doesn't have enough data to show here.

Please make sure everything is spelled correctly, or try a more general term.

Old Website Walkthrough - Home



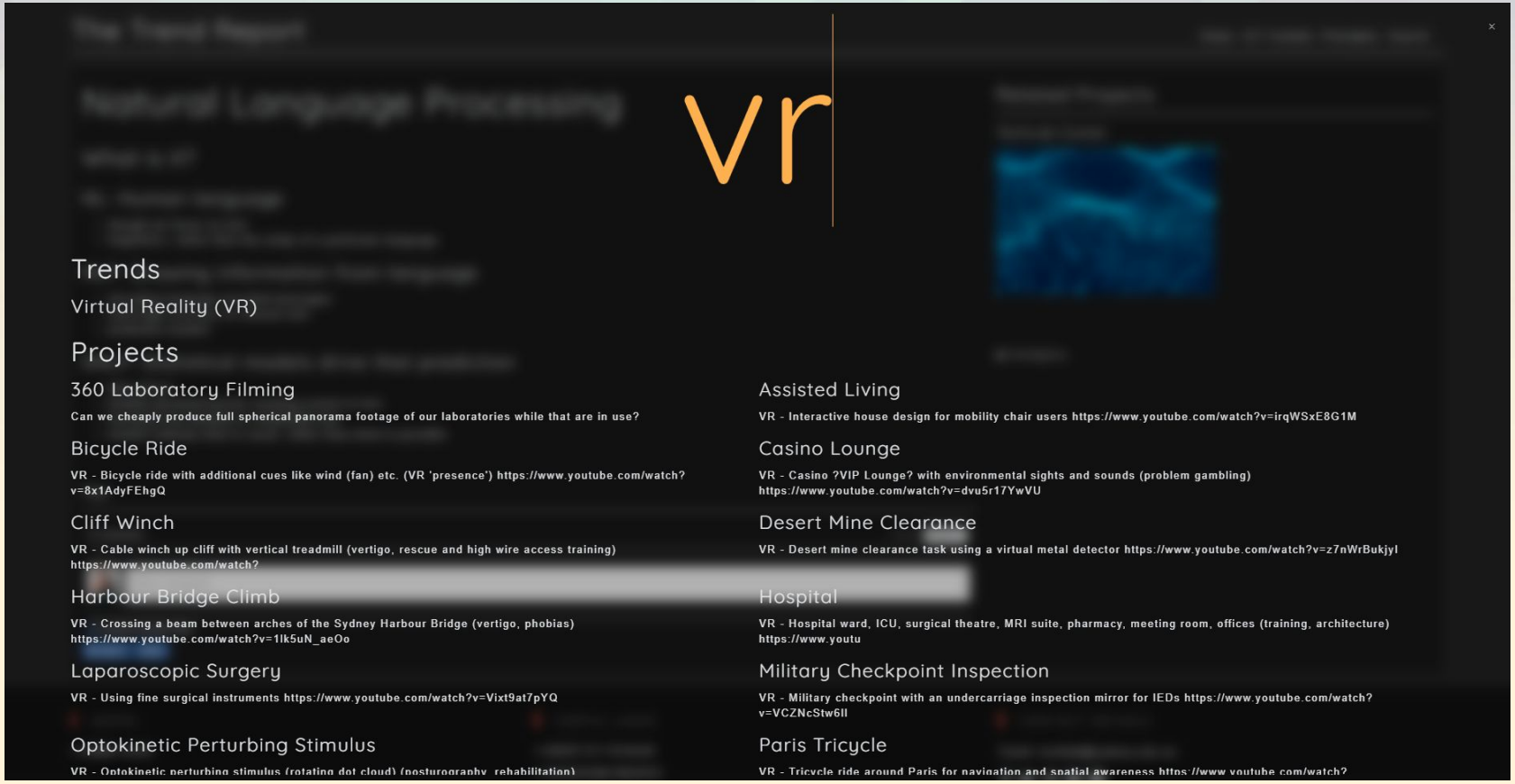
TechLab Trends HomePage



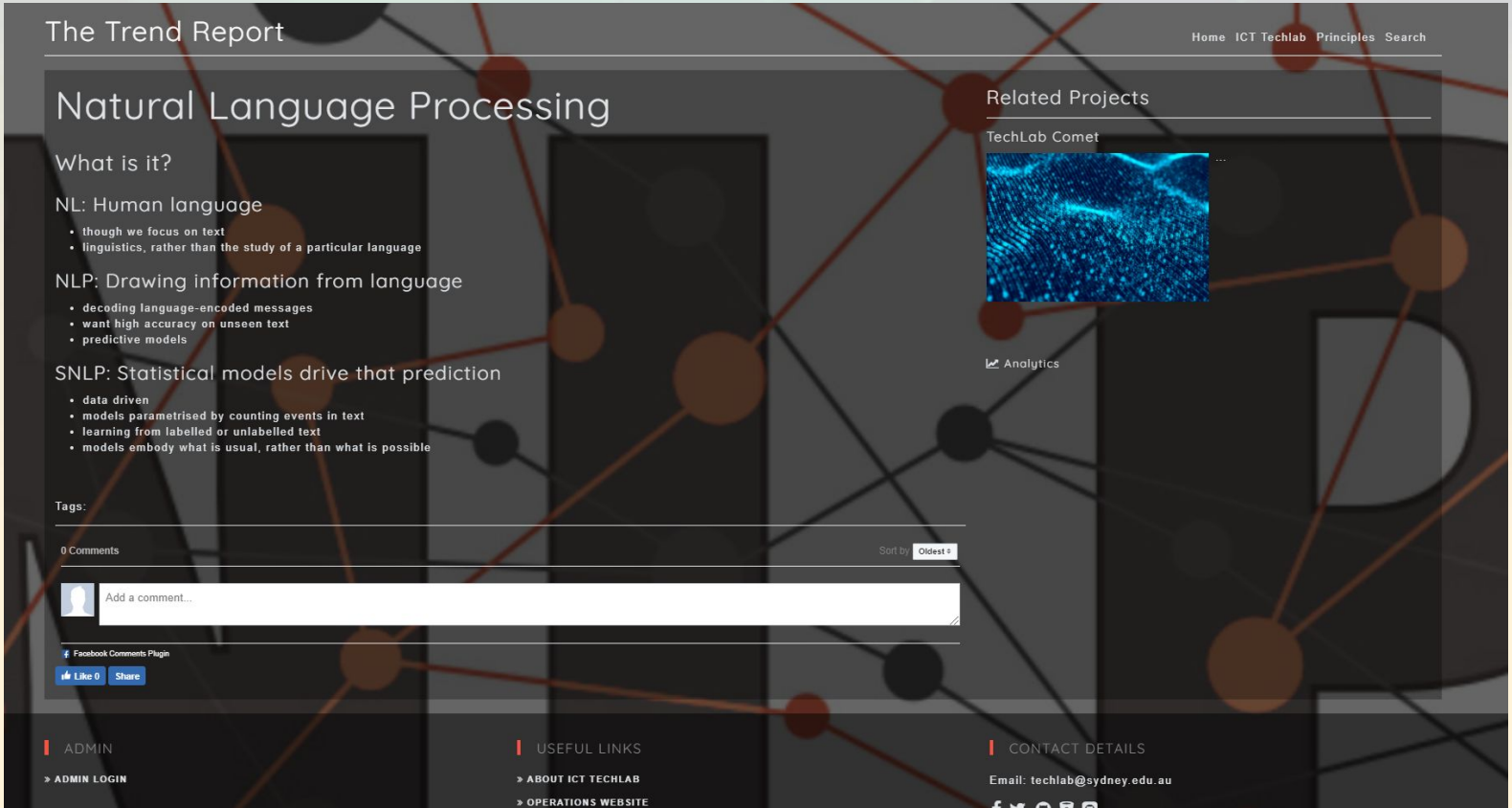
TechLab Previous Issues

- Need for a redesigned UI/UX for easier and more engaging browsing.
- **Basic search capabilities**, only shows trends and related projects
- No navigation between articles back to home page
- Lacks tagging system

Old Website Walkthrough - Search



TechLab Trends Article



TechLab Trends - Requirements

- Choosing the ‘type of user’ will filter articles on the home page and allow admins to **monitor type of engagement**

- A need for more a sophisticated search for a **more tailored user experience**.

- Improved monitoring of site engagement

User Stories

Priorities through:

- Team capability
- Client’s request
- Client’s Interest

User (Reader) stories

As a reader I would like to be able to **search for articles** so that I can **find related articles** I am interested in.

As a reader, I would like to **expand information specifically related to my role** as a student/tutor/academic researcher so that I can see **information only relevant to me.**

As a reader, I would like to browse through the website without being overwhelmed so that I can **browse for longer with comfort**

As a reader I would like to **look through categories** and **tag**s so that I can find all **related articles** at once.

As a reader, I would like to **filter the website's content using tags** so that I can search for content interesting to me.

As a reader, I want to **know the length of articles** so that I can determine whether I **have enough time to read through it.**

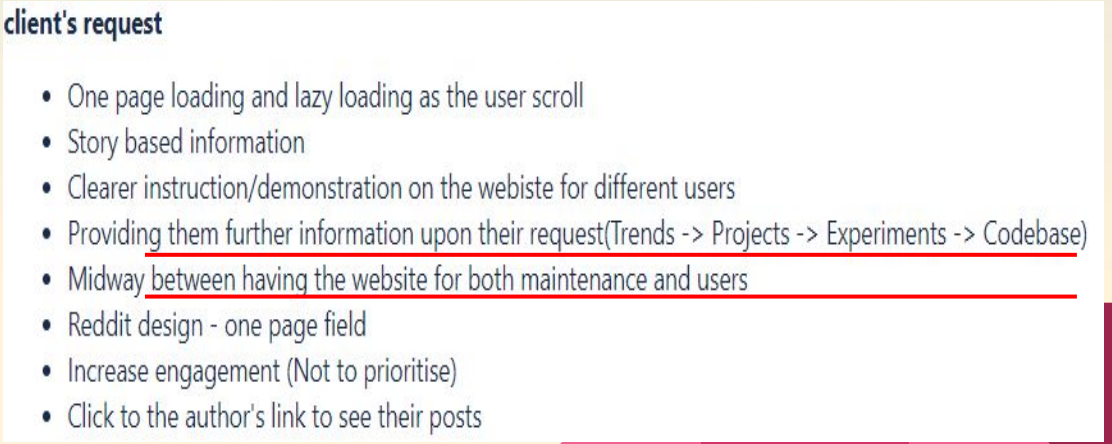
As a reader would like to **lazy load articles with infinite scroll** so that I can **seamlessly browse articles.**

User (Reader) stories with top-priority

As a reader, I would like to **expand information specifically related to my role as a student/tutor/academic researcher** so that I can **see information only relevant to me.**

- Client requested feature (Point3 & 4)
- Expected sprint 4-5 days
- Acceptance criteria set by checking with the clients and being able to categorise information on different levels.
- Ensure progress with client through weekly meetings

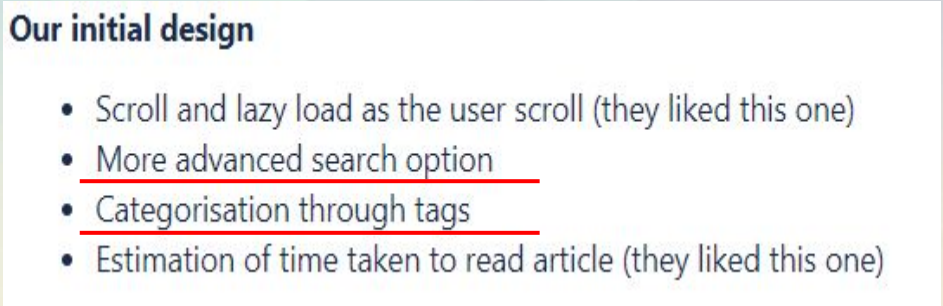
- **Functional requirement:** Readers should be able to select level of information they want to read and expand on more information upon their request
- **Non-functional requirement:** The website should display enhanced accessibility of organised content to the readers of different roles.



User (Reader) stories with top-priority

As a reader, I would like to **look through categories and tags** so that I can **find all related articles at once.**

- Our initial design that the client showed interest
- Expected **sprint 9-10 days** to **upgrade existing search bar** which has no advanced function and tags.
- **Acceptance criteria** set by the clients through meetings.
- Ensure progress with client through weekly meetings and look for any need for changes.



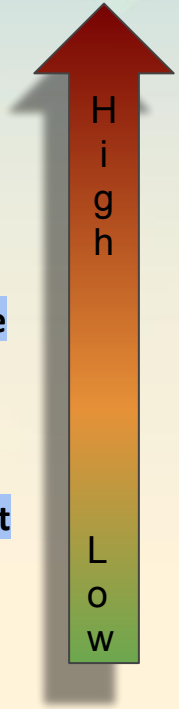
- **Functional requirement**: Readers are able to navigate to chosen topics via reader selected categories or tags.
- **Non-functional requirement**: Categories and tags should help the users to browse through the TechLab report with increased efficiency compared to original version.

User (admin) stories

As an author, I would like to be able to easily change the contents of the reports so that I can easily edit and add changes to the existing posts

As an admin, I would like to be able to easily add tags to an article so that I can easily categorise the content.

As an author, I would like to provide quick navigation to other social networking sites so that the readers can actively communicate with us.



Priority

As an author, I would like to easily add new admins onto the list so that I can easily give specific permissions.

As an admin, I would like to expand on articles about trends by providing sections for Trends -> Projects -> Experiments -> Codebase, so that I can easily add more information about a trend.

As an admin, I would like a way to capture user interaction so that I can capture and analyse the type of engagement with the content.

User (Admin) stories with tests

As an admin, I would like to be **able to easily add tags to an article** so that I can **easily categorise the content.**

- Current tags contain nothing but client showed interest in using them.
- Estimated to take 2-3 days to generate tagging system.
- Acceptance criteria would include correct navigation, use and display of tags in the article but also by clients..
- Ensure progress with client through weekly meetings and look for any need for changes..

- **Functional requirement**: Admins should be able to easily add or edit tags through edit tag or add tag function.
- **Non-functional requirement**: If implemented, it should increase the quality of maintainability of the articles and reports for the admins as it supports organisation of articles based on categories for the admins.

Stretch Goals

As a user, I would like to be notified of upcoming events and view all upcoming events

As an author, I would like to be able to notify users of upcoming events related to TechLab

As a user, I want to be able to have a storage of my last viewed, favourited and ‘read later’ articles in order to improve viewing experience

As a user I want to have an integrated chatbox so that I can be able to communicate with support quickly and determine a field I am interested in..

As a user I would like to have a modal design when browsing through articles, this way it allows me to easily navigate around the website.

Front End

Front-end - Tools & Frameworks

React:

- Javascript framework/library
- Chosen for its compositional nature (high reusability)
- High capability (safety net if client expands requirements)
- Fast development compared to vanilla JS

HTML/CSS:

- As standard

Sass:

- CSS preprocessor
- Improves maintainability and structure of CSS (7-1 architecture)

Jest:

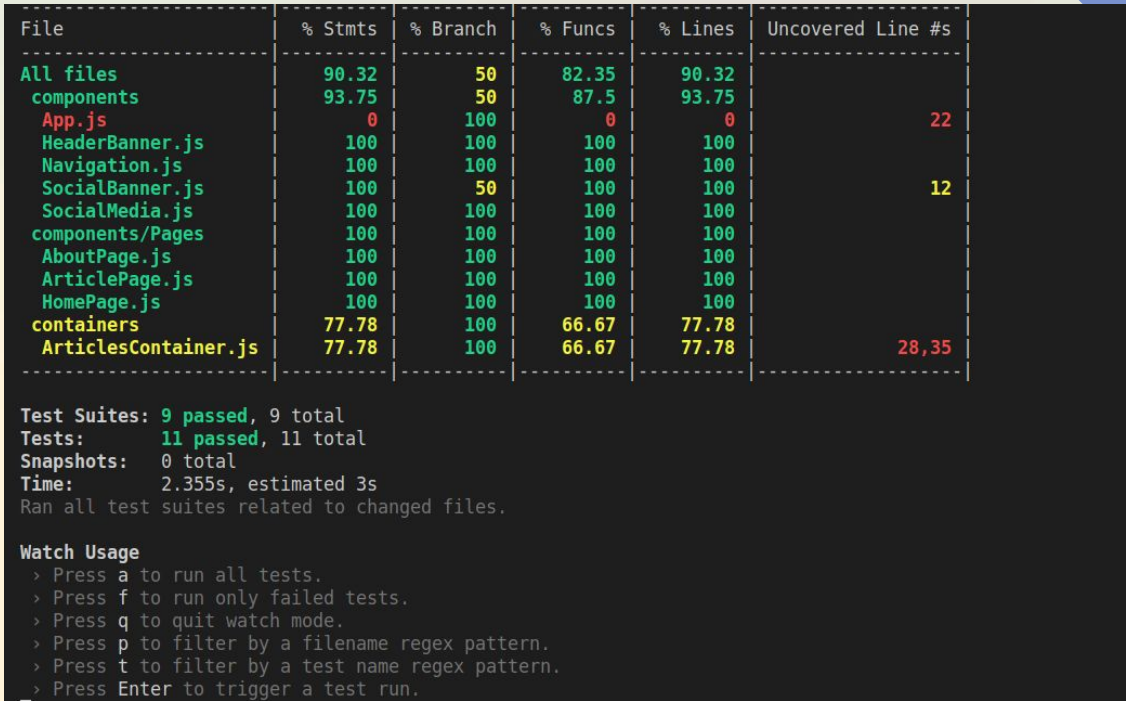
- Javascript unit and integration testing
- Chosen because it includes testing, coverage reporting and mocking
- Familiar with it so no learning time required

Enzyme:

- Testing library build by airbnb for testing React components
- Used to mount components on a virtual DOM for interaction/assertion

Cypress.io:

- E2E testing library
- Can traverse a website simulating events
- Will be used for total system tests ensuring front
  and back end communicating correctly



File	% Stmts	% Branch	% Funcs	% Lines	Uncovered Line #s
All files	90.32	50	82.35	90.32	
components	93.75	50	87.5	93.75	
App.js	0	100	0	0	22
HeaderBanner.js	100	100	100	100	
Navigation.js	100	100	100	100	
SocialBanner.js	100	50	100	100	12
SocialMedia.js	100	100	100	100	
components/Pages	100	100	100	100	
AboutPage.js	100	100	100	100	
ArticlePage.js	100	100	100	100	
HomePage.js	100	100	100	100	
containers	77.78	100	66.67	77.78	
ArticlesContainer.js	77.78	100	66.67	77.78	28,35

```
Test Suites: 9 passed, 9 total
Tests:       11 passed, 11 total
Snapshots:   0 total
Time:        2.355s, estimated 3s
Ran all test suites related to changed files.

Watch Usage
 › Press a to run all tests.
 › Press f to run only failed tests.
 › Press q to quit watch mode.
 › Press p to filter by a filename regex pattern.
 › Press t to filter by a test name regex pattern.
 › Press Enter to trigger a test run.
```

Front-end - Test Examples

Story #1: As a reader I want to search for articles so I can find related articles that I'm interested in

Test plan:

System test: *Cypress* will be used. It will trigger a search and assert at least one article has been returned and rendered by the search by looking for the component's data-componentType attribute

An enzyme test will be written with a mounted *<SearchResultsContainer />* component which will make an API call to a mocked endpoint. We will assert the *<SearchResultsContainer />* renders the correct SearchResult components (based on the mock)

Story #2 : As a reader I would like to look through categories and tags so I can find all related articles at once

System test: Cypress - trigger a search with a specific tag set, assertion iterates over each search result ensuring all have the matching tag rendered in the DOM

Back End

Back-end - Tools & Frameworks

Python3.5/Django

- MVC web framework
- Thoroughly featured for complex web development
  - Built-in database features
  - Built-in user system
  - Administration tools
  - Industry standard security implementations
- Used in large-scale industry applications
  - Social media: Instagram, Spotify, Youtube
  - Cloud services: Dropbox, Bitbucket
- Framework used in existing implementation
  - Does not require system changes to server

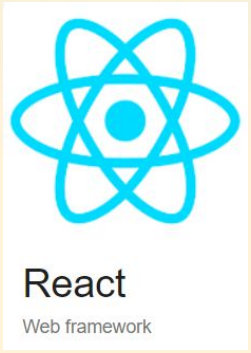
Back-end - Tools & Frameworks

MySQL Databases

- Reliable, secure DBMS, used commonly in industry applications
  - Military/Government applications: US navy, NASA
  - Social media/News: Tumblr, Twitter, BBC News
- Django support for MySQL 5.6+
- DBMS used in existing implementation

Quality Assurance

System Architecture



Django - RESTful API framework

- Web framework for Python 3.5

- Used for the original Techlab Trends codebase

- Front-end: Integrates ReactJS to serve practical interfaces
- Back-end: Integrates MySQL using Connectors to fulfill database-related requirements.

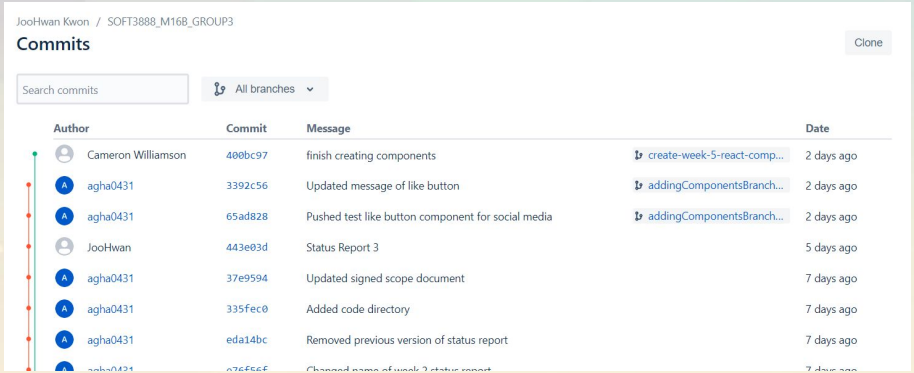
Back-end Testing

- Purpose of system back-end is to resolve API calls
  - Unit testing: Standard Python *unittest* module for Django
    - API reference to be used as foundation of testing I/O, e.g.

      For valid input “GET */article/[id]*”,
      Expect JSON object:
      { success: true, article: { title: [article *id* title], content: title: [article *id* content], image: title: [article *id* header image], author: [article *id* author], tags: [tags associated with article *id*] } };
- Security testing
  - Common SQL injection vectors
  - Cross-site vulnerabilities (XSS/CSRF)
  - Stress testing for availability under high load

Group Collaboration and processes

Bitbucket - Git repository for codebase & files



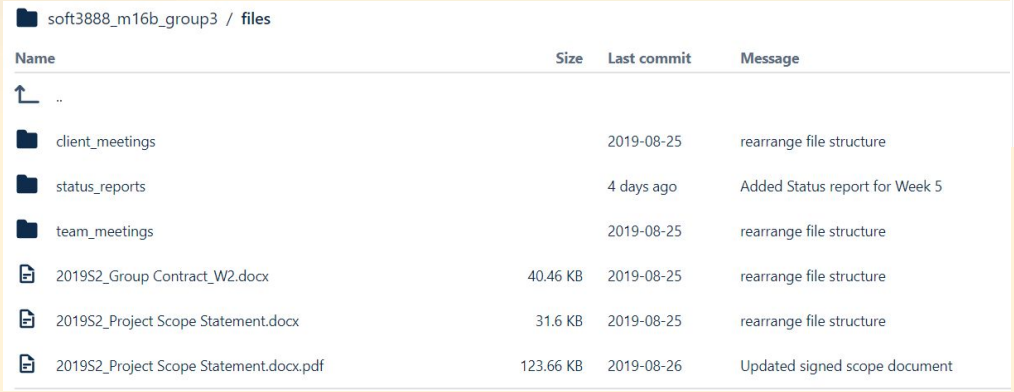
JooHwan Kwon / SOFT3888_M16B_GROUP3

Commits

Clone

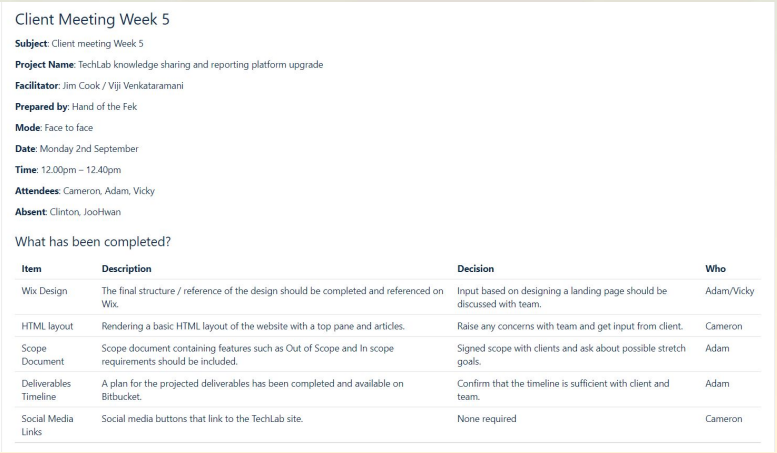
Search commits | All branches

Author	Commit	Message		Date
Cameron Williamson	400bc97	finish creating components	create-week-5-react-comp...	2 days ago
agha0431	3392c56	Updated message of like button	addingComponentsBranch...	2 days ago
agha0431	65ad828	Pushed test like button component for social media	addingComponentsBranch...	2 days ago
JooHwan	443e03d	Status Report 3		5 days ago
agha0431	37e9594	Updated signed scope document		7 days ago
agha0431	335fec0	Added code directory		7 days ago
agha0431	eda14bc	Removed previous version of status report		7 days ago
agha0431	e76f56f	Changed name of week 2 status report		7 days ago



soft3888_m16b_group3 / **files**

Name	Size	Last commit	Message
..			
client_meetings		2019-08-25	rearrange file structure
status_reports		4 days ago	Added Status report for Week 5
team_meetings		2019-08-25	rearrange file structure
2019S2_Group Contract_W2.docx	40.46 KB	2019-08-25	rearrange file structure
2019S2_Project Scope Statement.docx	31.6 KB	2019-08-25	rearrange file structure
2019S2_Project Scope Statement.docx.pdf	123.66 KB	2019-08-26	Updated signed scope document



Client Meeting Week 5

Subject: Client meeting Week 5

Project Name: TechLab knowledge sharing and reporting platform upgrade

Facilitator: Jim Cook / Viji Venkataramani

Prepared by: Hand of the Fek

Mode: Face to face

Date: Monday 2nd September

Time: 12.00pm – 12.40pm

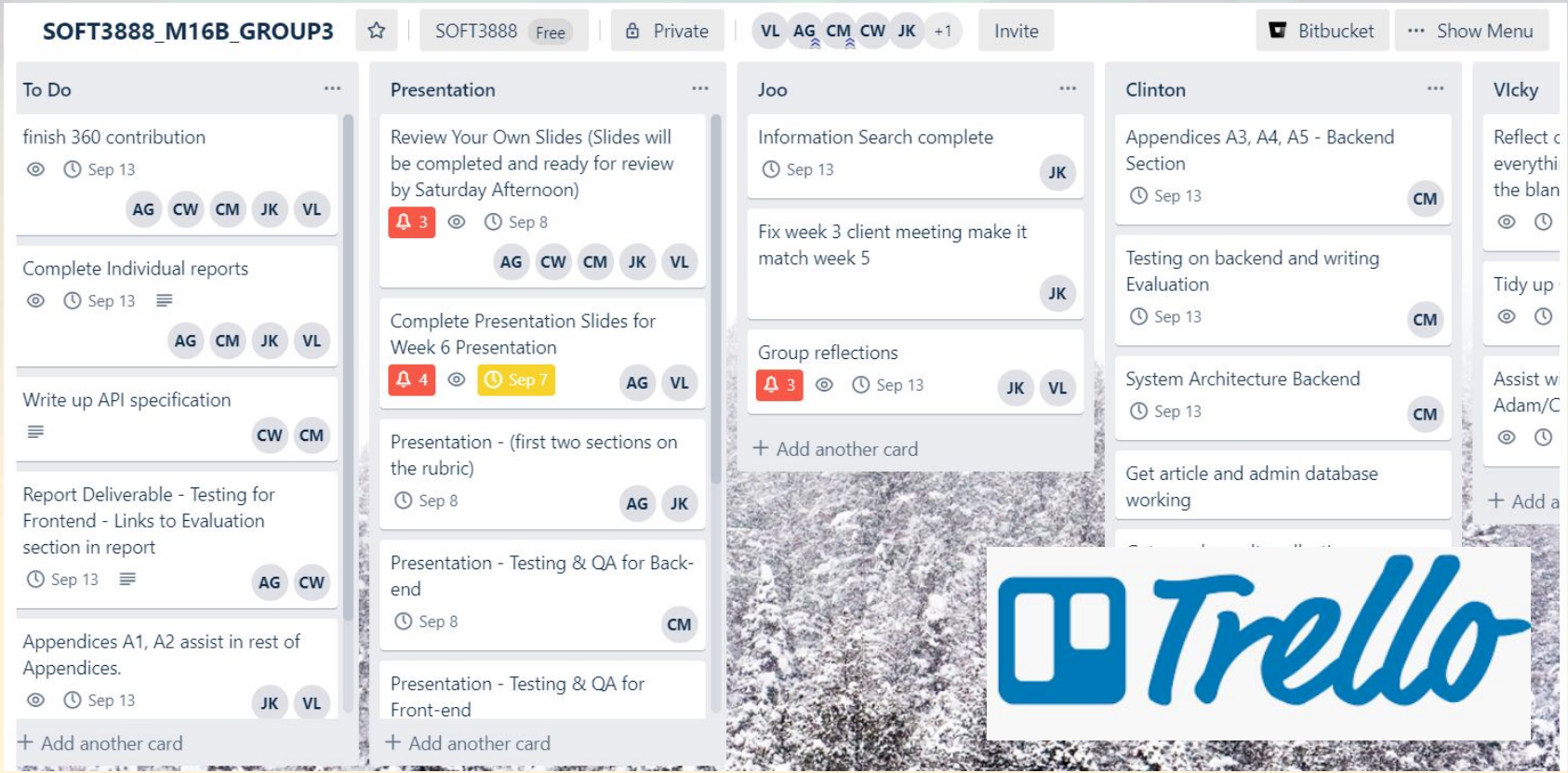
Attendees: Cameron, Adam, Vicky

Absent: Clinton, JooHwan

What has been completed?

Item	Description	Decision	Who
Wix Design	The final structure / reference of the design should be completed and referenced on Wix.	Input based on designing a landing page should be discussed with team.	Adam/Vicky
HTML layout	Rendering a basic HTML layout of the website with a top pane and articles.	Raise any concerns with team and get input from client.	Cameron
Scope Document	Scope document containing features such as Out of Scope and In scope requirements should be included.	Signed scope with clients and ask about possible stretch goals.	Adam
Deliverables Timeline	A plan for the projected deliverables has been completed and available on Bitbucket.	Confirm that the timeline is sufficient with client and team.	Adam
Social Media Links	Social media buttons that link to the TechLab site.	None required	Cameron

Trello Board



Collaboration over documents

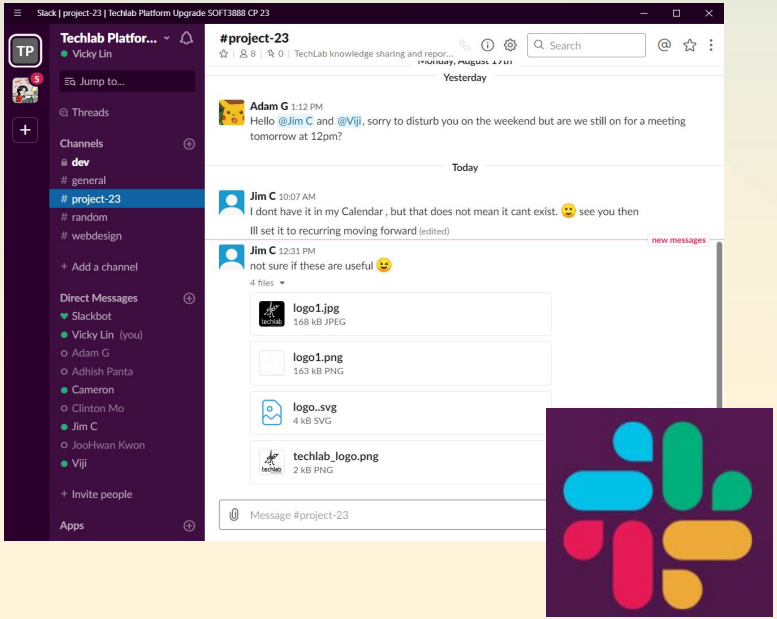
Shared with me > SOFT3888

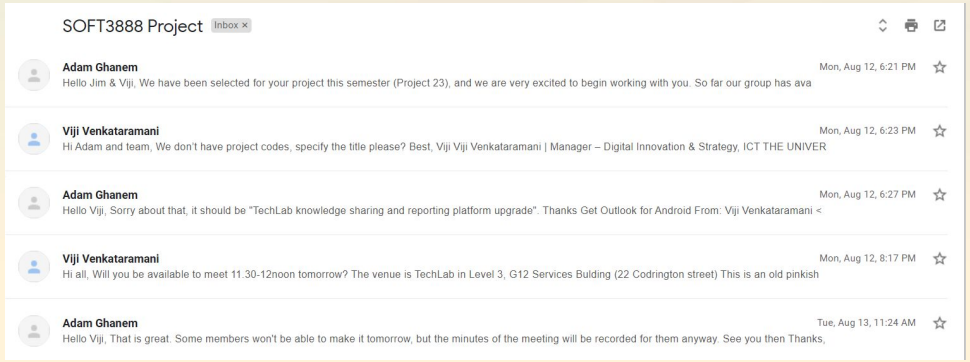
Name	Owner	Last modified
Team Meeting Minutes	Cameron Williamson	Sep 2, 2019 Cameron Williamson.
Client Meeting Minutes	Cameron Williamson	Sep 2, 2019 Cameron Williamson.
Weekly Status Reports	Cameron Williamson	Sep 2, 2019 Cameron Williamson.
Copy of Techlab presentation	Adam Ghanem	11:46 AM me
Techlab presentation	me	11:46 AM me
Group Contract 2 M16B Group 3	Adam Ghanem	Sep 3, 2019 Adam Ghanem
Group Report	Adam Ghanem	Sep 2, 2019 joo hwan kwon
2019S2_Project Scope Statement.docx	Adam Ghanem	Aug 26, 2019 Adam Ghanem
WEEK 6 INDIVIDAUL REPORT.pdf	Adam Ghanem	Aug 26, 2019 Adam Ghanem
WEEK 6 GROUP REPORT.pdf	Adam Ghanem	Aug 26, 2019 Adam Ghanem
Group Contract - M16B Group 3	Adam Ghanem	Aug 14, 2019 Adam Ghanem
CP 23.docx	me	Aug 12, 2019 me

Slack - Client interaction

Client Signatures	Team signatures
Jim Cook Viji Venkataramani	Adam Ghanem Cameron Williamson Vicky Lin Joo Hwan Kwon Clinton Mo

Scope Statement signatures





Email correspondence with clients

XP

XP Role	Members
Tracker	Adam
Manager	Adam
Customer	JooHwan
Programmer	Clinton
Tester	Vicky
Doomsayer	Cameron

Directly Responsible Individuals (DRI)

- Promotes taking ownership for tasks and therefore holding members accountable
- Alleviates strain on manager

Group Roles

Git Expert - Cameron
Slack Expert - Clinton
BitBucket Expert - Adam
XP Expert - JooHwan, Vicky

Critique

What has worked well

- Members are present at offline meetings and responsive offline - great communication
- Trello board is great at keeping track of tickets and goals
- Experts made sure the team is aware of all the components used in the project
- XP roles assigned each member responsibilities as a group member. E.g. the manager helps run smooth meetings and delegates tasks quickly

What needs improvement

- Changed Trello board so each member has a section for their tasks to have clearer division of tasks
- Decomposition of tasks so that each member was directly responsible for more specific work packages.

Thank you

Front-end Testing

Coverage Reports or paste screenshot of test