

Group 42



STUDY CHAIN

Studying made simple

Study Chain

MEET THE GROUP

Areeb

Ifaz

Rayan

Basit

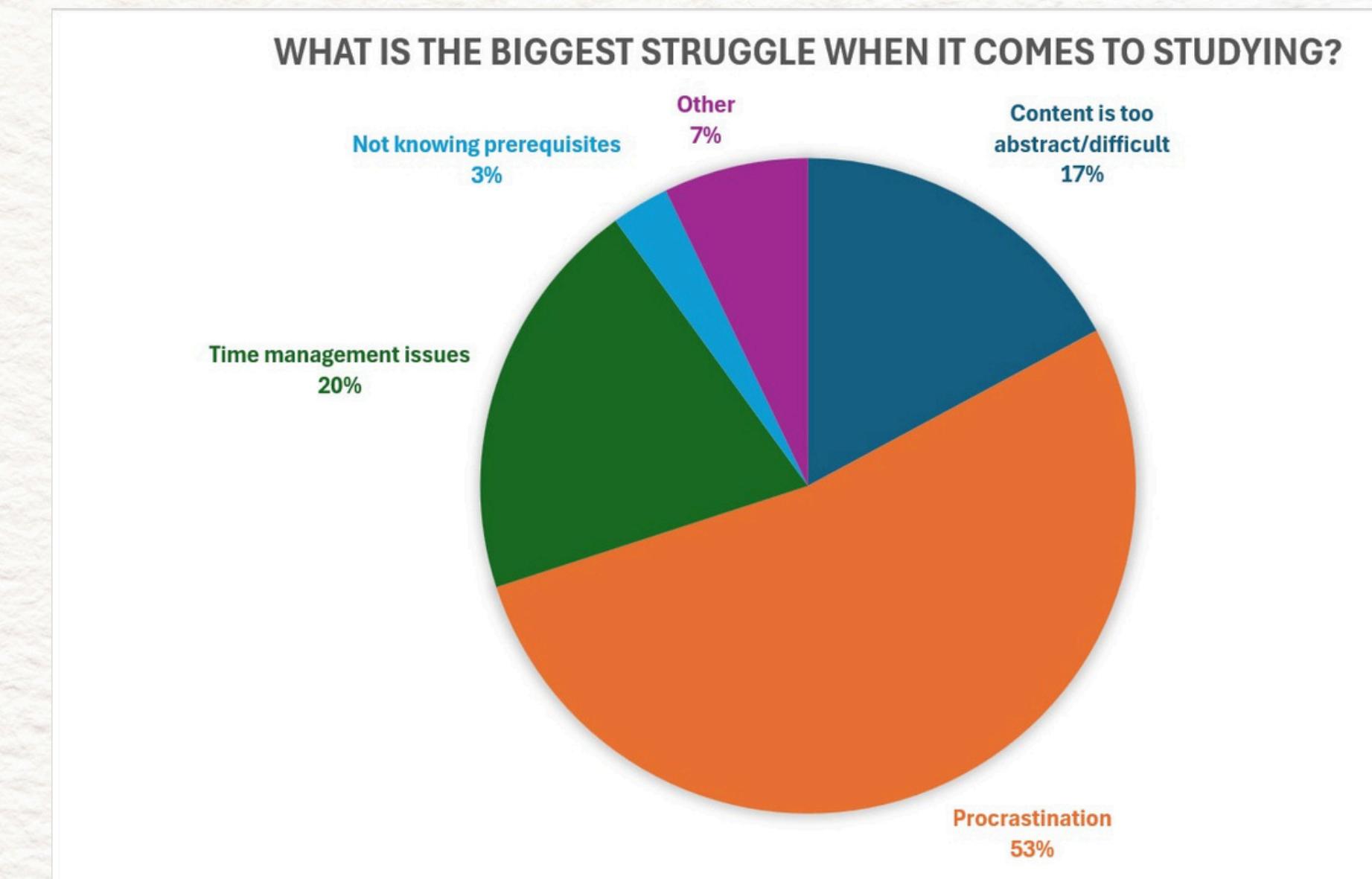
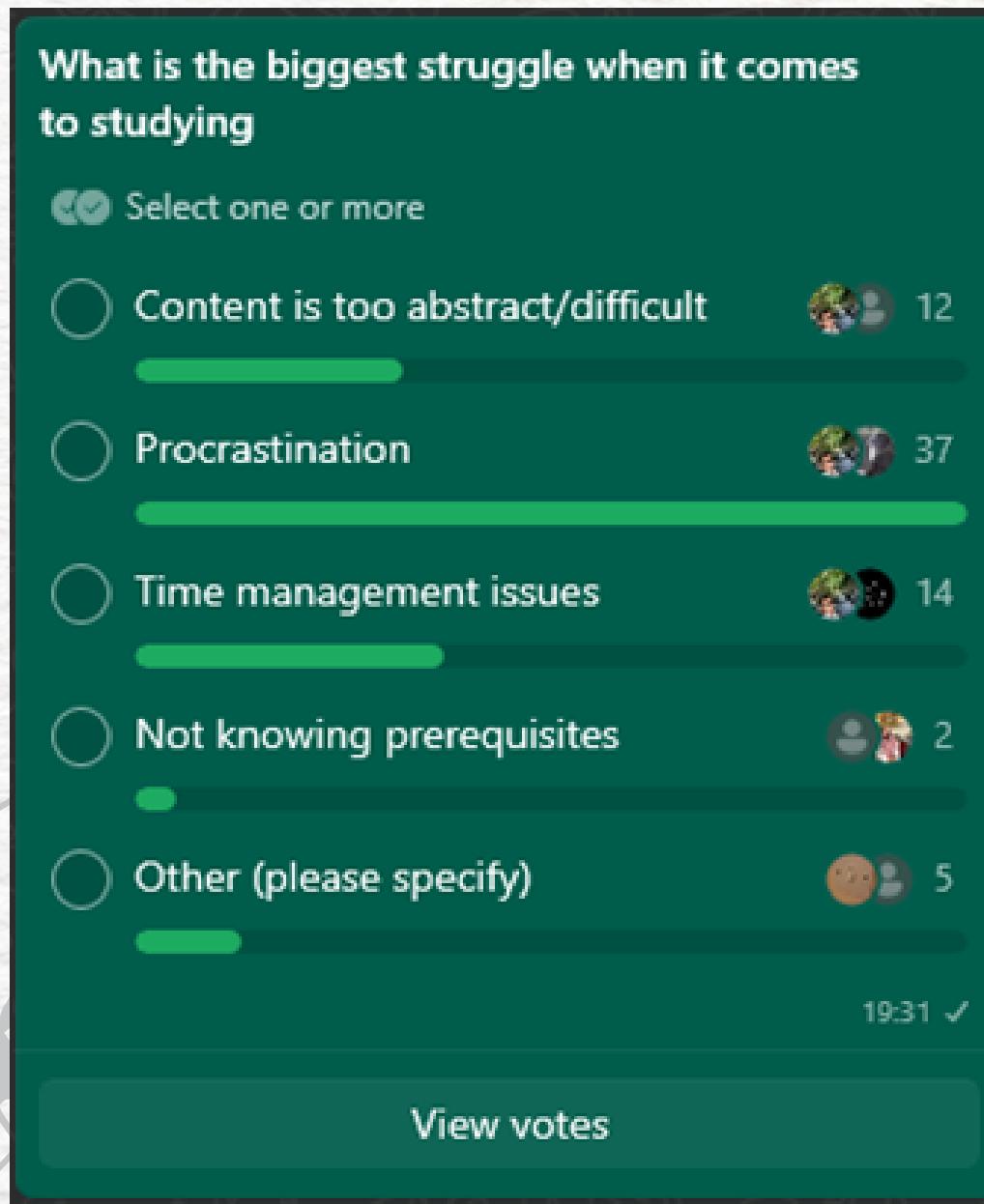


Study Chain

FOCUS AREA

STUDYING STRUGGLES

“55% of undergraduate students are having trouble staying engaged and studying for their modules”



FOCUS AREA

STUDYING STRUGGLES

“Lecture notes are never enough, so you have to spend time searching online”



Ahmed, 3rd Year Imperial Maths

“Often I end up wasting lots of time going back and forth, trying to understand what I need to learn”

Hamza, 2nd year Medicine



HASAN

- Hasan is a 2nd year Imperial Maths student.
- Taking courses which depend upon knowledge from first year.
- He has forgotten some of the topics. But whenever he gets stuck due to forgetting or not knowing a theorem, he has to spend a lot of time searching for it through his year 1 notes and online.
- As a result, he falls behind and starts struggling

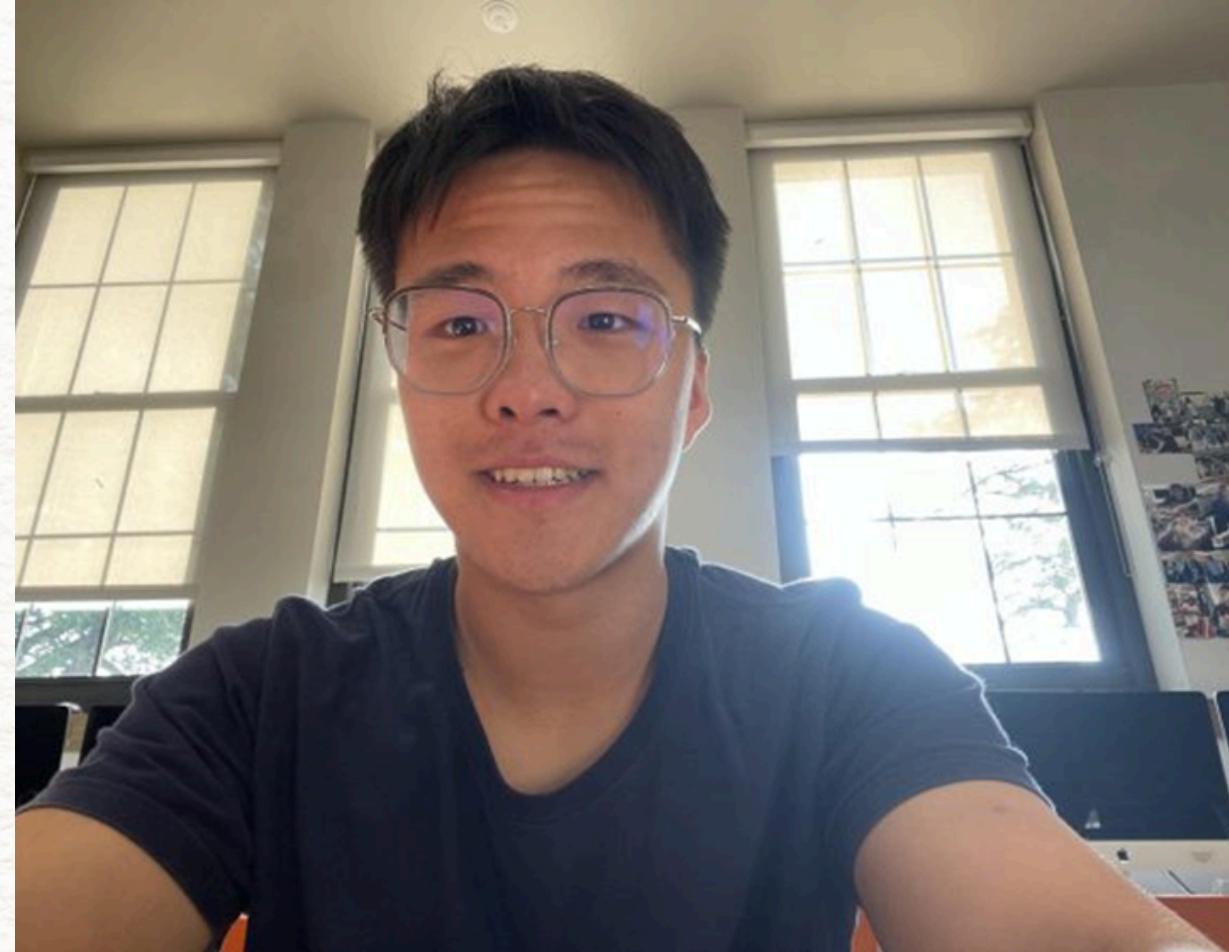


HASAN

“I tend to procrastinate when I get stuck at topic. I put off trying to understand it as it will take quite a long time to research online”

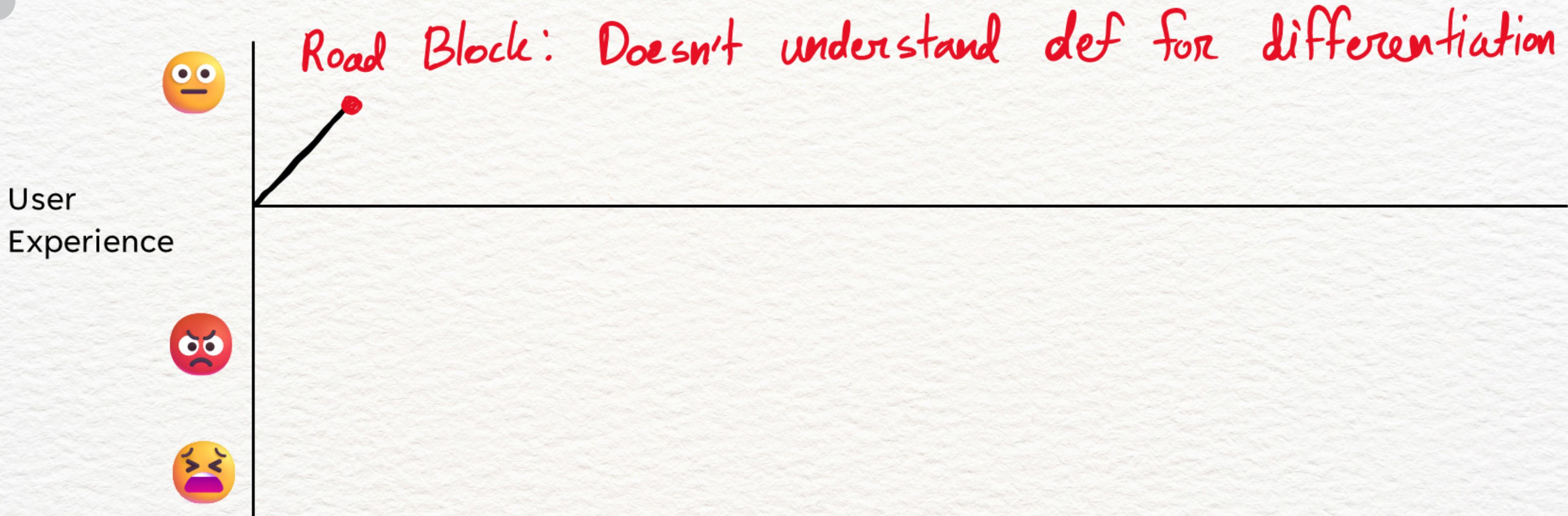


ALEX

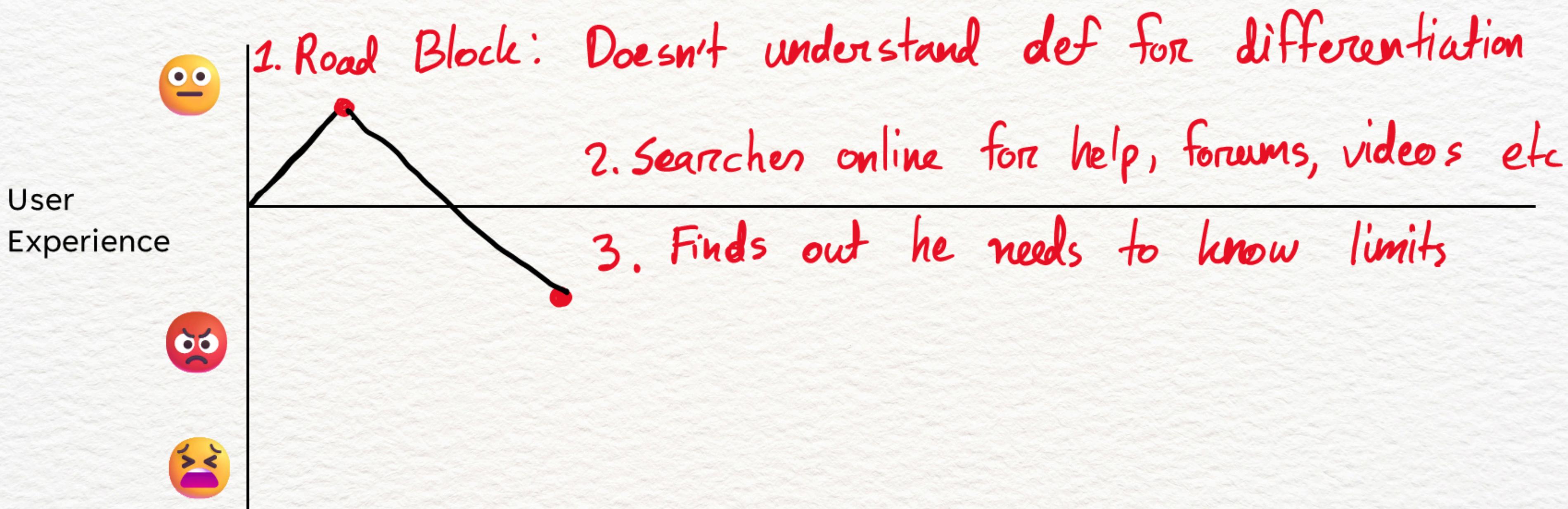


- Upcoming Imperial Maths undergraduate.
- Consistently been at the top of his classes by learning topics and preparing earlier than everyone else.
- Start learning Calculus before starting university.
- His aim is to stay ahead of his peers and achieve the best results.

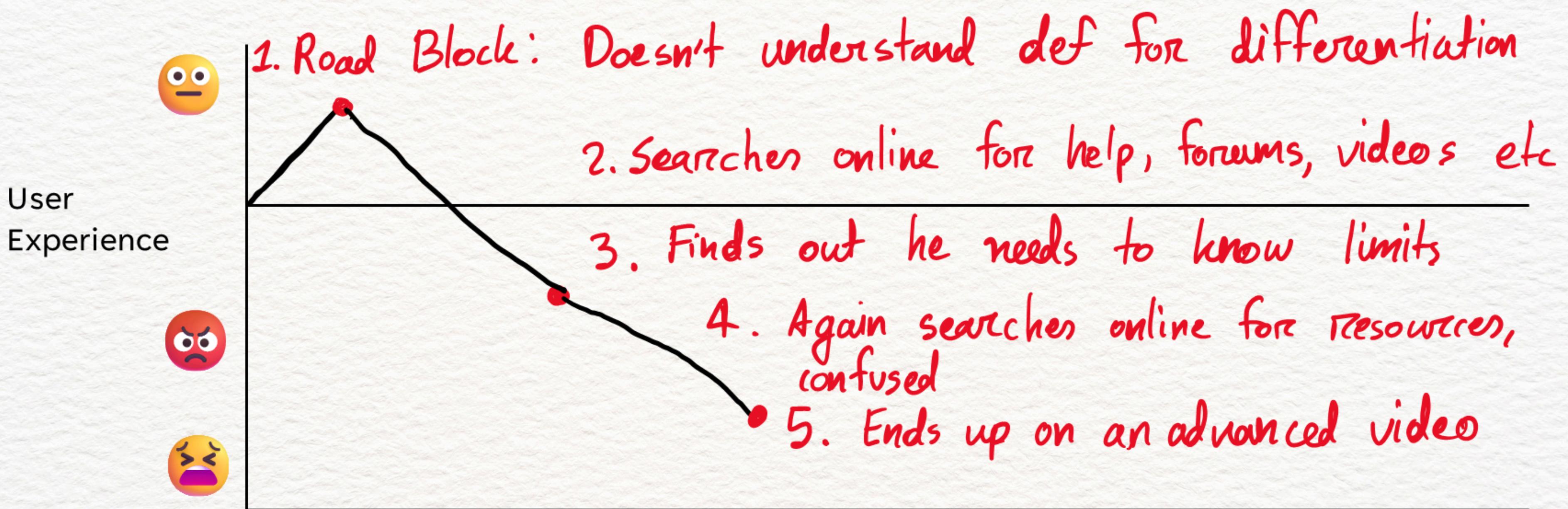
PROBLEM



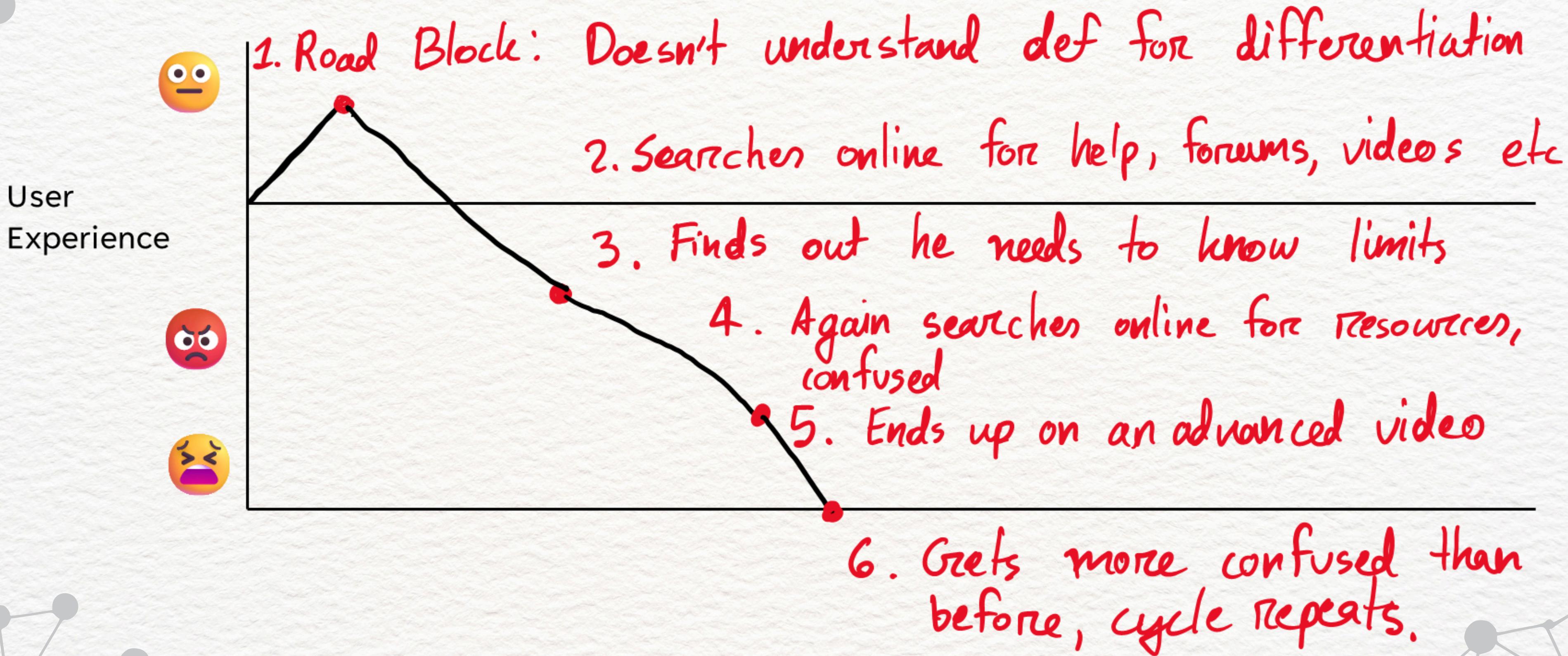
PROBLEM



PROBLEM



PROBLEM



PROBLEM

Now Hasan and Alex feel stuck, exhausted and demotivated to continue!



OPPORTUNITY

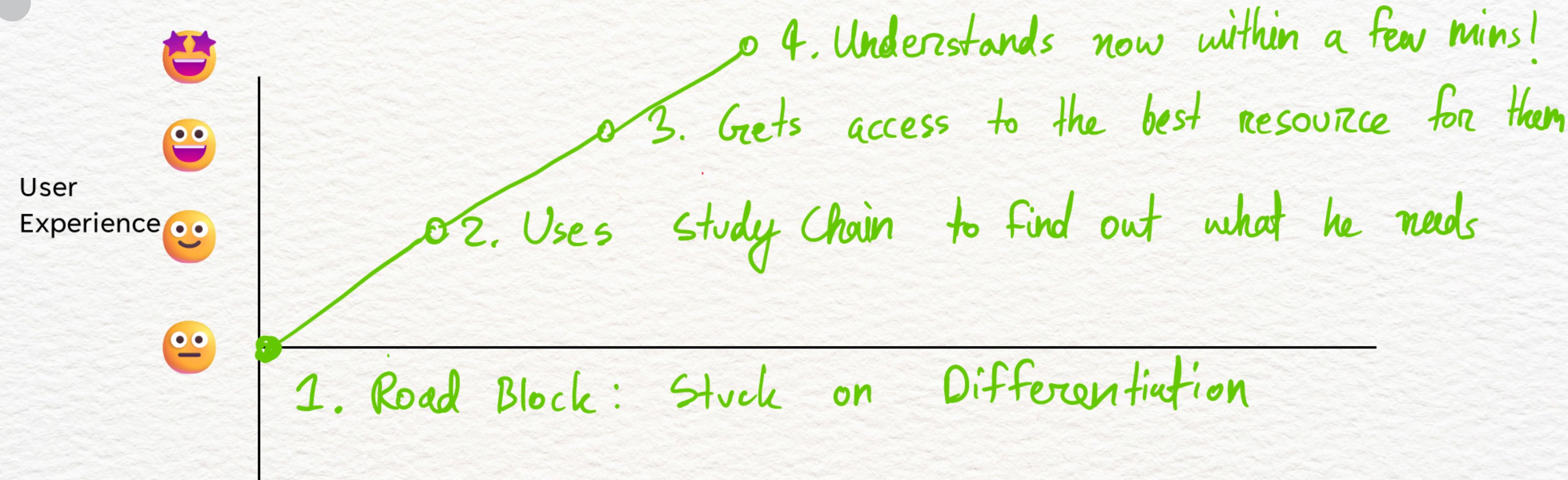
HOW CAN WE ENABLE IMPERIAL MATHEMATICS STUDENTS TO VISUALIZE AND UNDERSTAND THE CONNECTIONS BETWEEN DIFFERENT TOPICS TO IMPROVE THEIR UNDERSTANDING OF MODULES AND REDUCE THE TIME AND EFFORT NEEDED TO LEARN AND REVISE MATHS TOPICS?

SOLUTION!



Study Chain

SOLUTION!



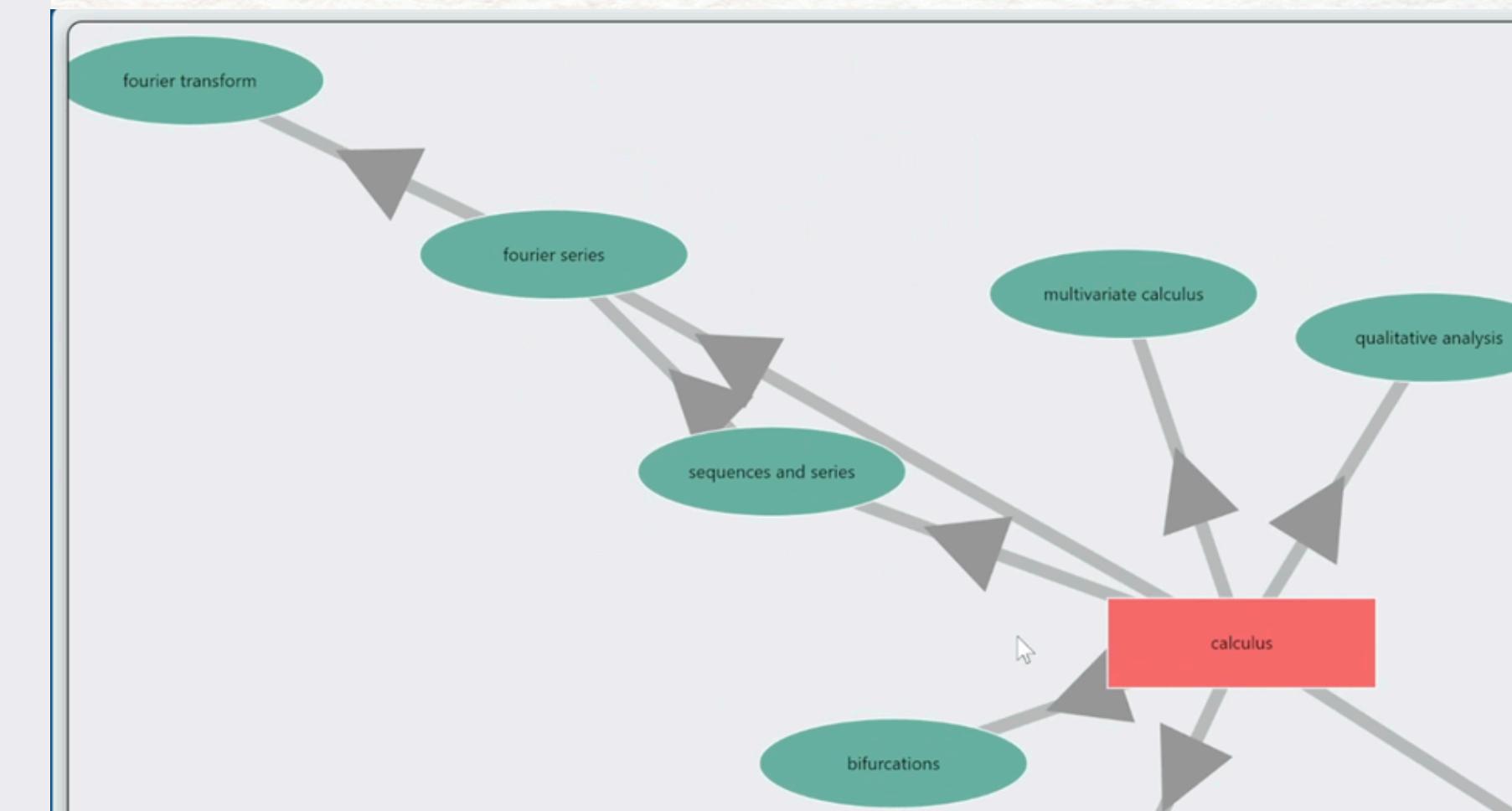
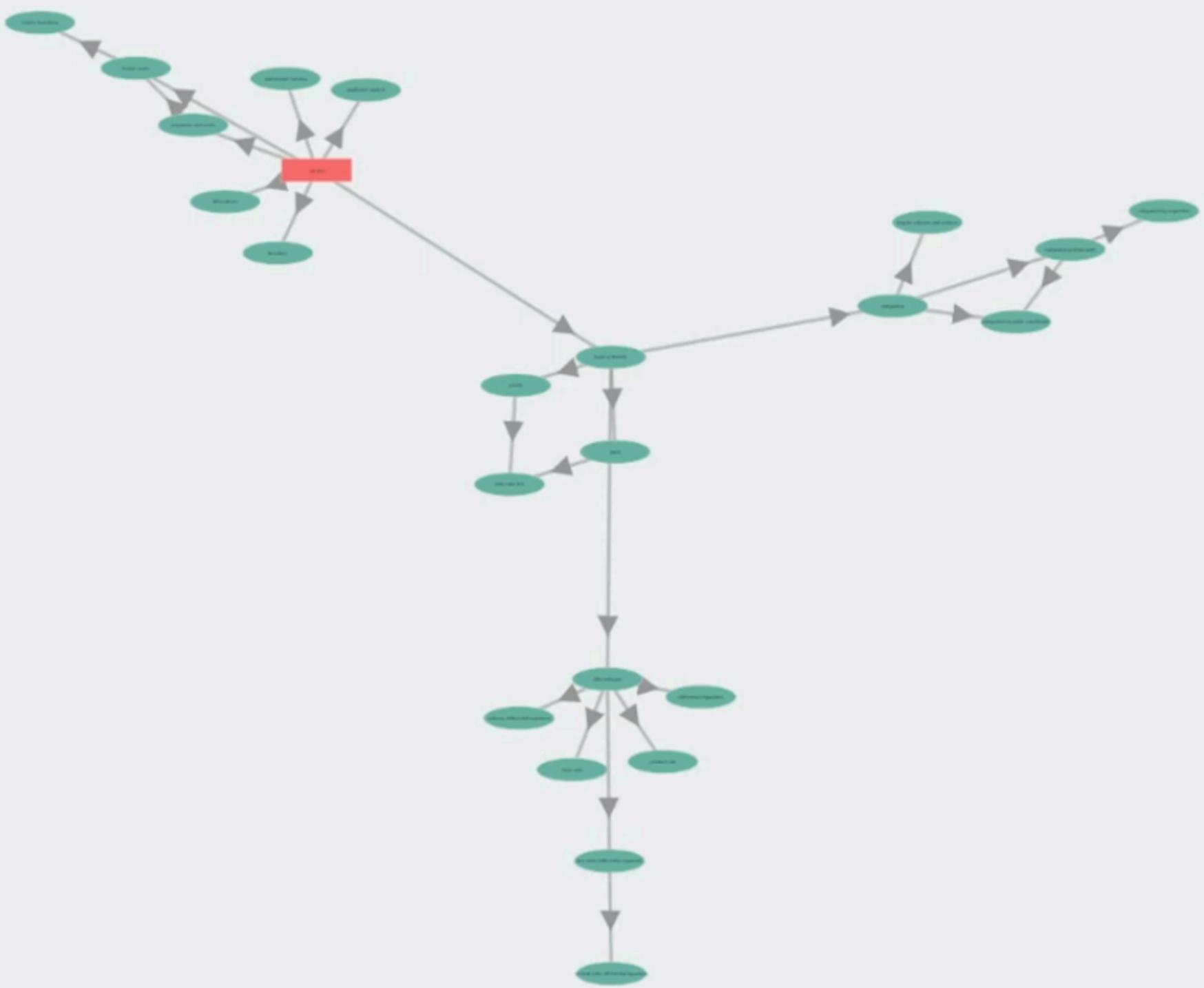
USER TESTING SETUP

- In person interview with them using my computer
- Assume they are at a specific stage and want to accomplish their task
 1. Upcoming first year -> Know the best order to learn Calculus and start learning the next topic
 2. 2nd year -> Learn integration by polar coordinates which they need for a module they are doing
- After their session, we discussed about their experience

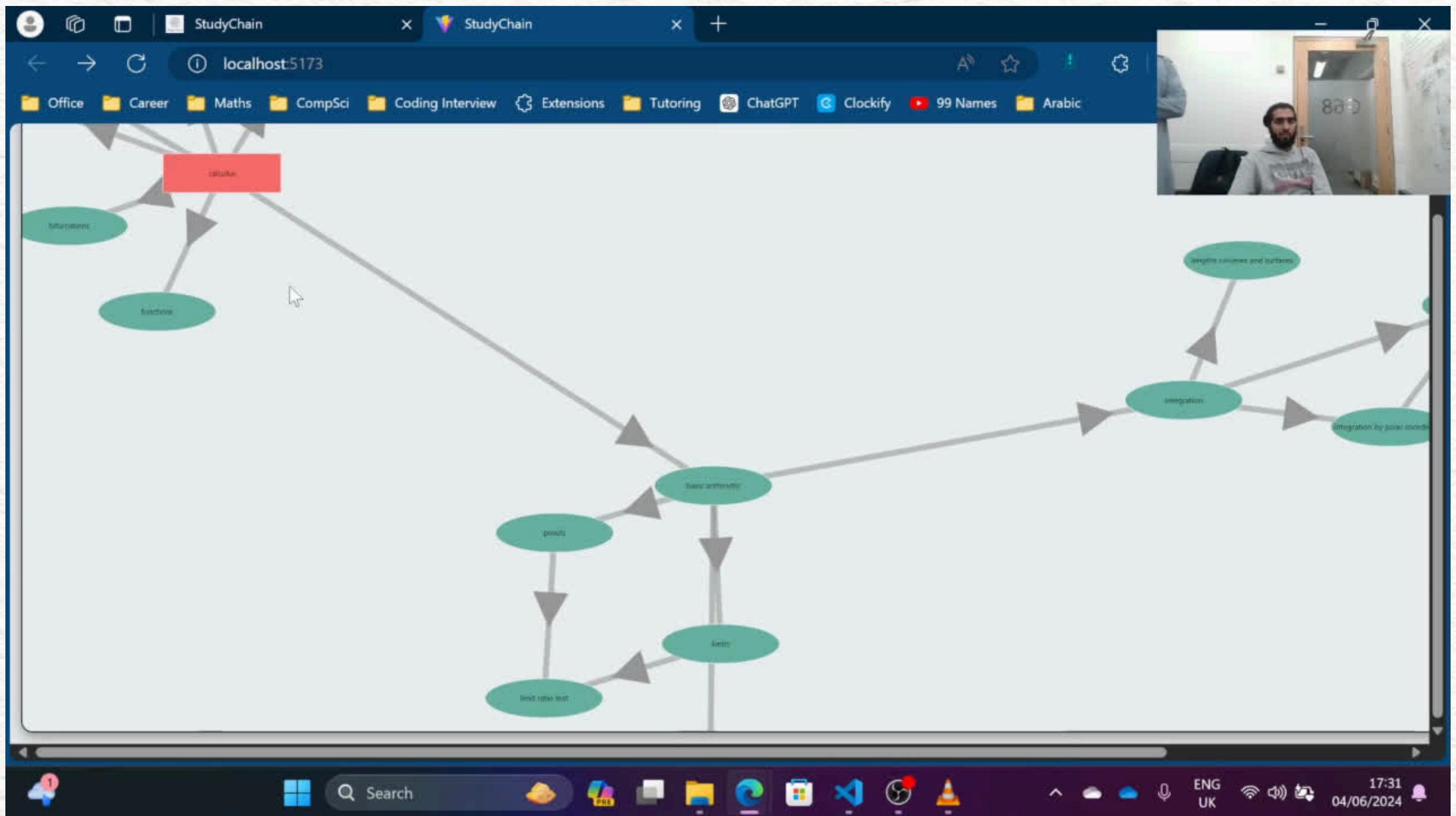
FOCUS - 1

Ease of Use

HOW IT LOOKED



HASAN



ANALYSIS

Problem:

- Felt overwhelmed and confused by the high number of nodes being displayed at once on screen
- Could not work out a clear order for learning the topics
- Hard to find specific topic they are looking for

Improvements:

- Subtree
- Path Highlight
- Search

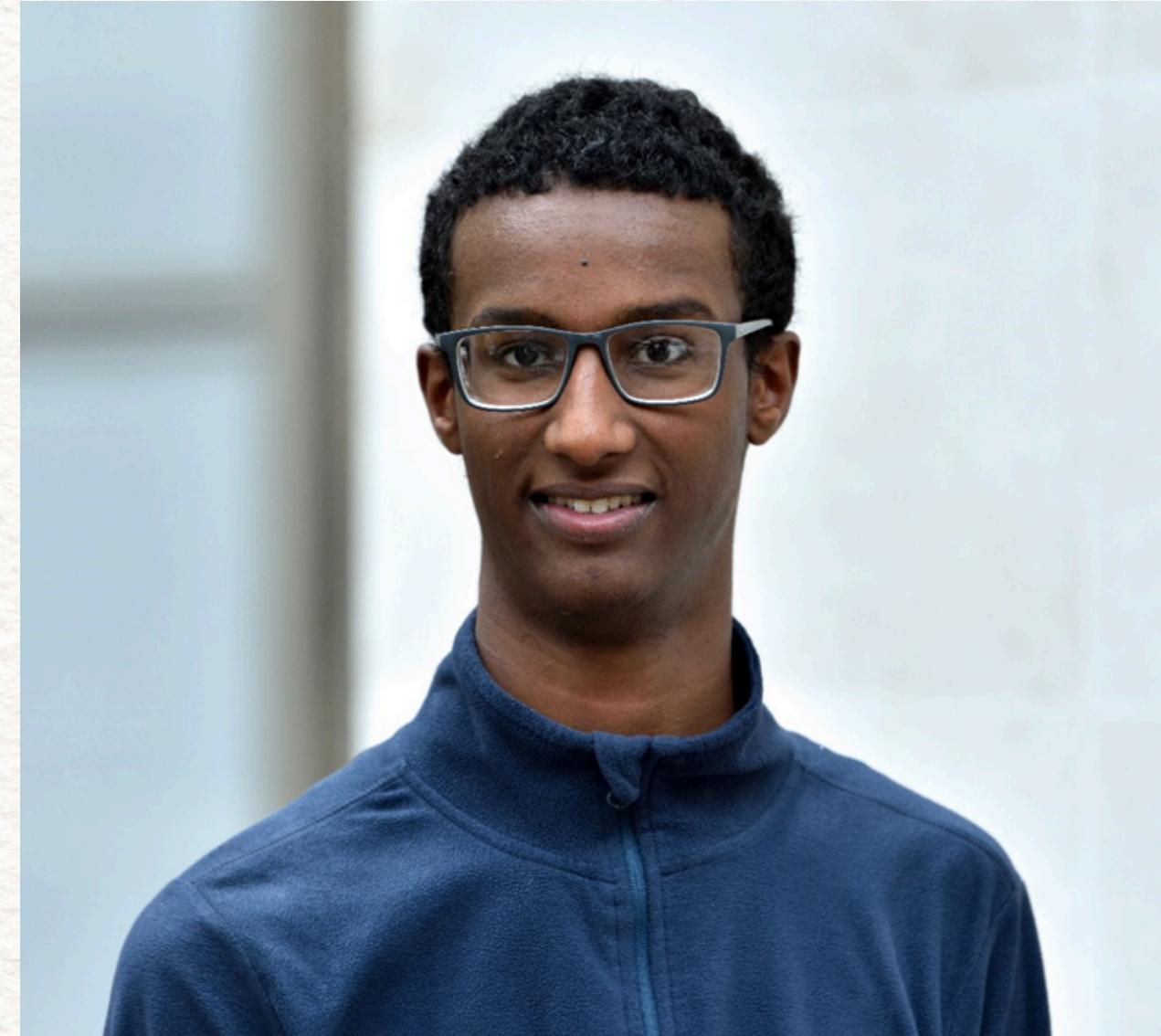
FOCUS 2

Student Engagement

PIVOT POINT

Gamification

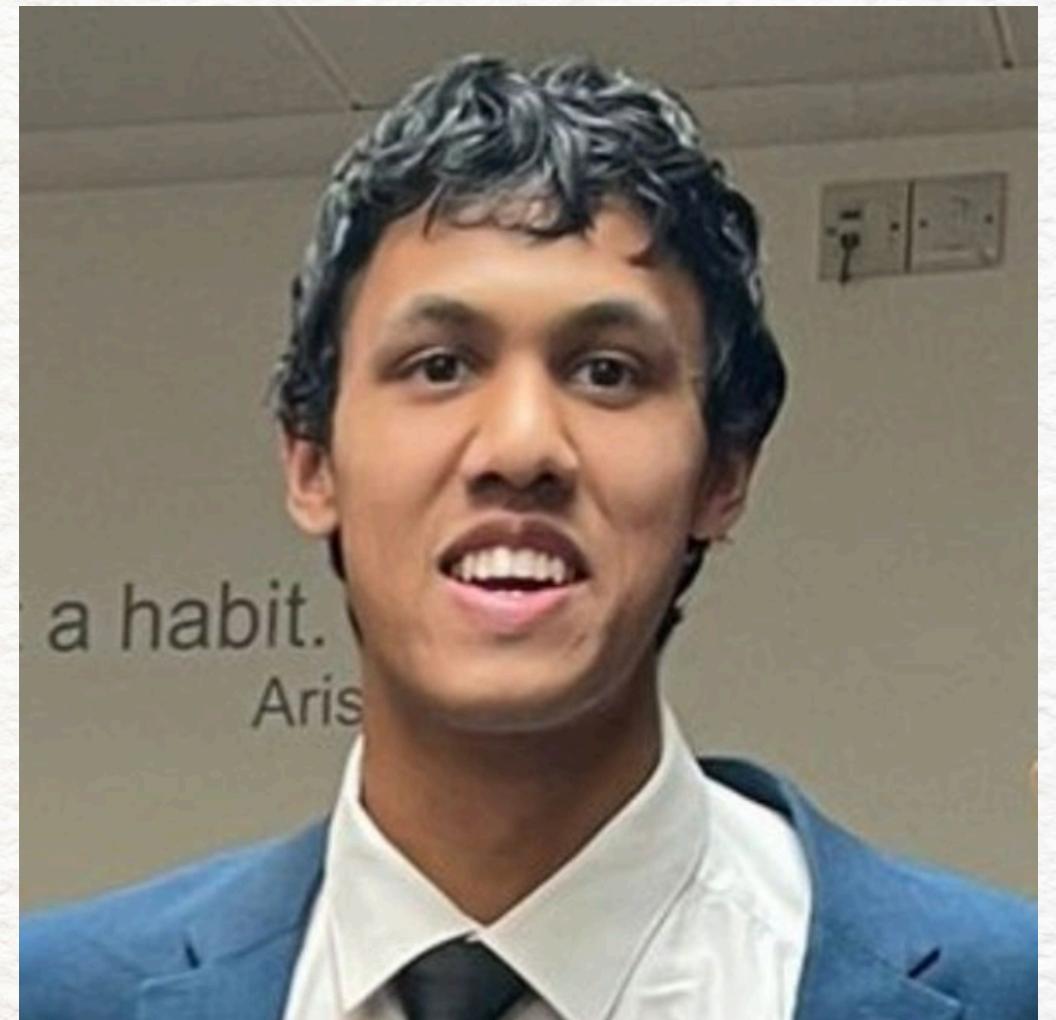
“ It loses the main focus on the website, which is to help you study. The focus then shifts to gaining points, not learning.”



Ahmed, 3rd Year Imperial Maths

MAHDI

“ I would feel more satisfied if there was another metric to show my progress more clearly”



Mahdi,
2nd Year JMC

HASAN

A screenshot of a web browser window displaying a course page. The title of the page is "First Order Differential Equations". The page includes a description stating: "Focuses on solving equations that involve only the first derivative of a function. These are fundamental in modeling systems with a single rate of change." It lists learning objectives such as understanding the mathematical formulation of first-order differential equations, applying methods to solve linear and separable equations, and analyzing real-world systems. Prerequisites listed are integration. Resources include a link to a graph of differential equations. The browser interface shows various tabs and system icons at the top and bottom.



ANALYSIS

Problem:

- Had to remember what topics he had already revised before knowing what topic to revise next
- Keep track of topics they want to come back to, saved on the website
- Visualise progress across the whole tree

Improvements:

- Mark as Completed
- Progress Bar
- Bookmarker

FOCUS 3

Lecturer Interaction

why we went for a website

- Accessibility for users
- Broader reach

Why not an app?

- Smaller screen
- System compatibility

Languages

HTML

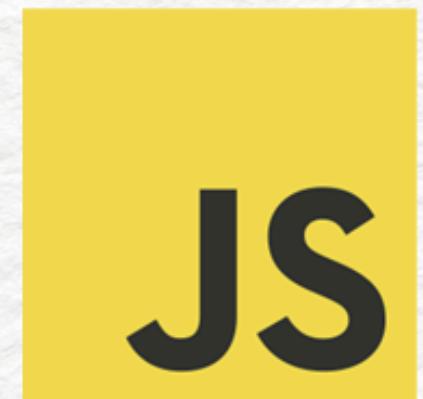


- The standard for website development
- Natively supported by all web browsers

CSS



- To separate content and presentation
- Flexibility
- Framework integration



- Interactivity and user experience
- Frameworks and libraries
- Browser compatibility

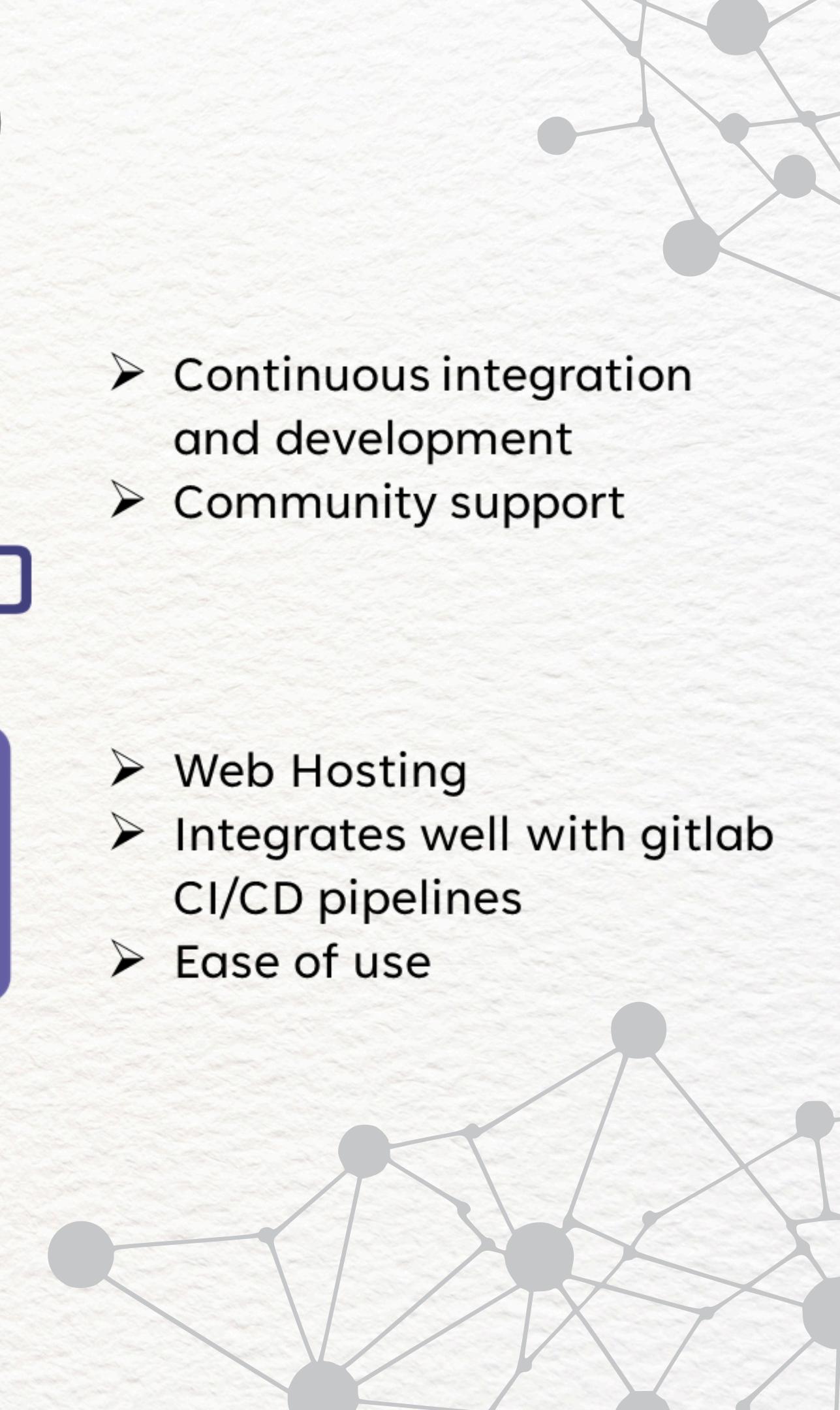
CI/CD



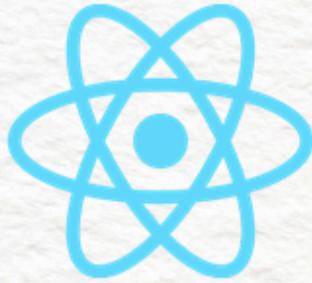
- Continuous integration and development
- Community support



- Web Hosting
- Integrates well with gitlab CI/CD pipelines
- Ease of use



Frontend



- Simplicity
- Reusability
- State management



- Clean visualisation of data
- Compatible with React
- Very customisable



- Pre-styled components
- Common in modern websites
- Allows for quick style changes

Backend



- Rich ecosystem of packages
- Integration with third party services
- Real time communications

Database



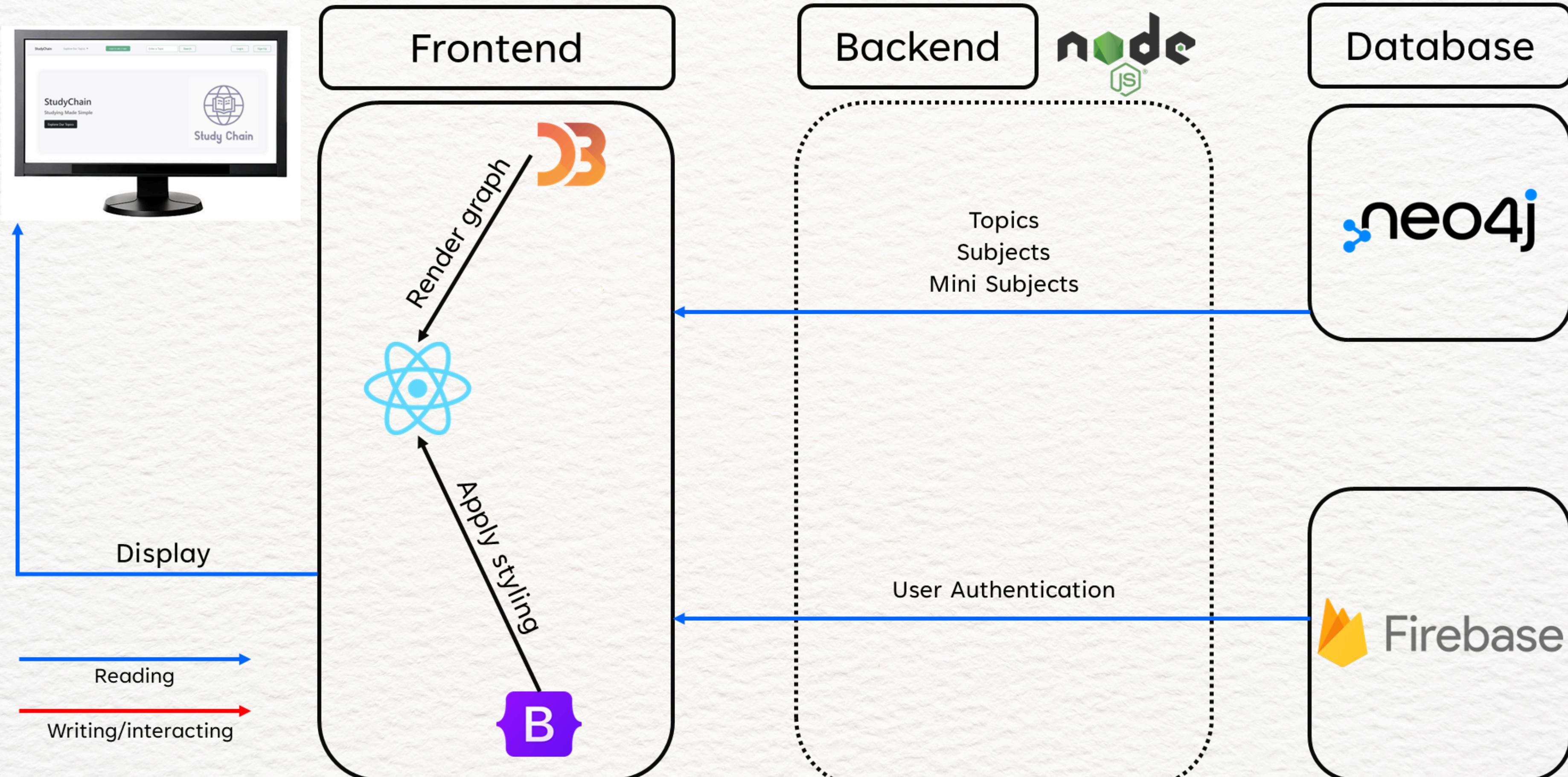
- Rich ecosystem of packages
- Integration with third party services
- Real time communications



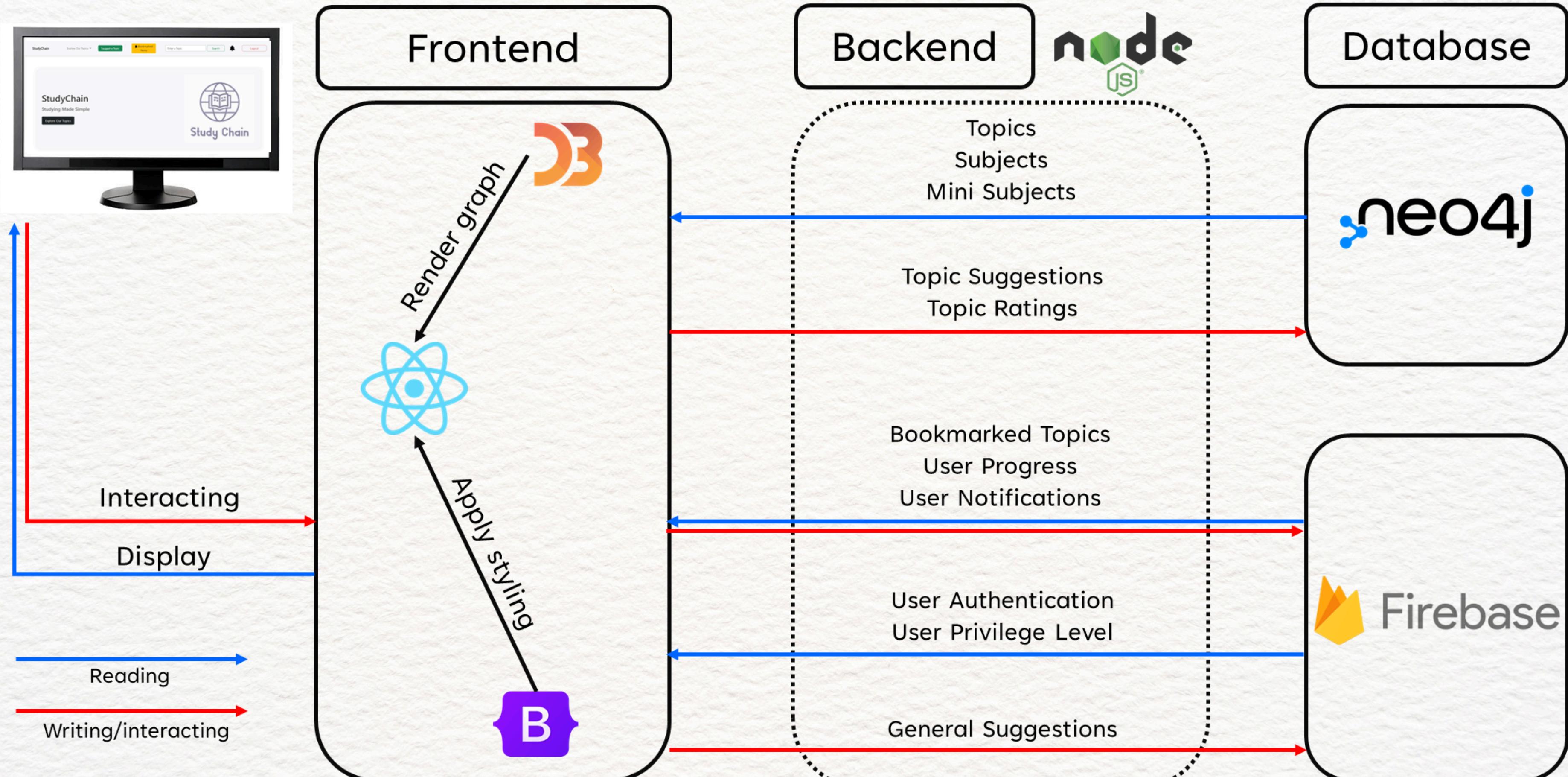
- Security
- Reliability
- Realtime updates



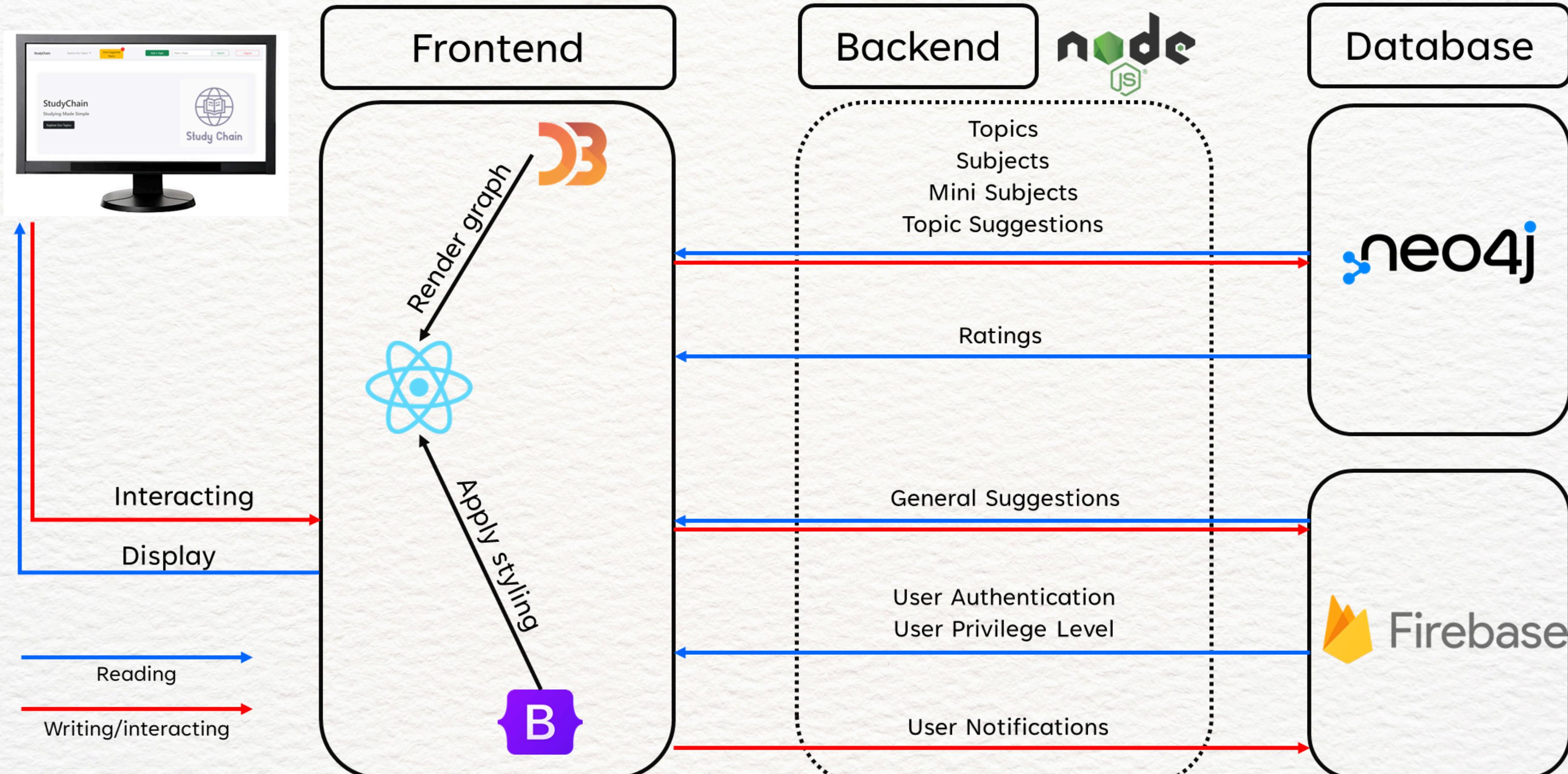
System Architecture (Guest)



System Architecture (Member)



System Architecture (Moderator)



IMPACT

Few months later

IMPACT



WIDER IMPACT AND ASSETS

STUDENTS

Excellent academics

Better mental health

Spend better time with friends

LECTURER

Understand student needs better

Improved material organisation



EMPLOYERS

Hire productive and motivated graduates

UNIVERSITIES

Higher maths rankings

Attract top talent

FRIENDS/FAMILY

Better relationships



STUDYCHAIN

STUDYING MADE SIMPLE



Study Chain

Imperial maths performance boosted thanks to StudyChain



Dimitri: "I wasted less time mindlessly searching online thanks to StudyChain!"



Adi: "I can now spend more time with friends and less time revising!"



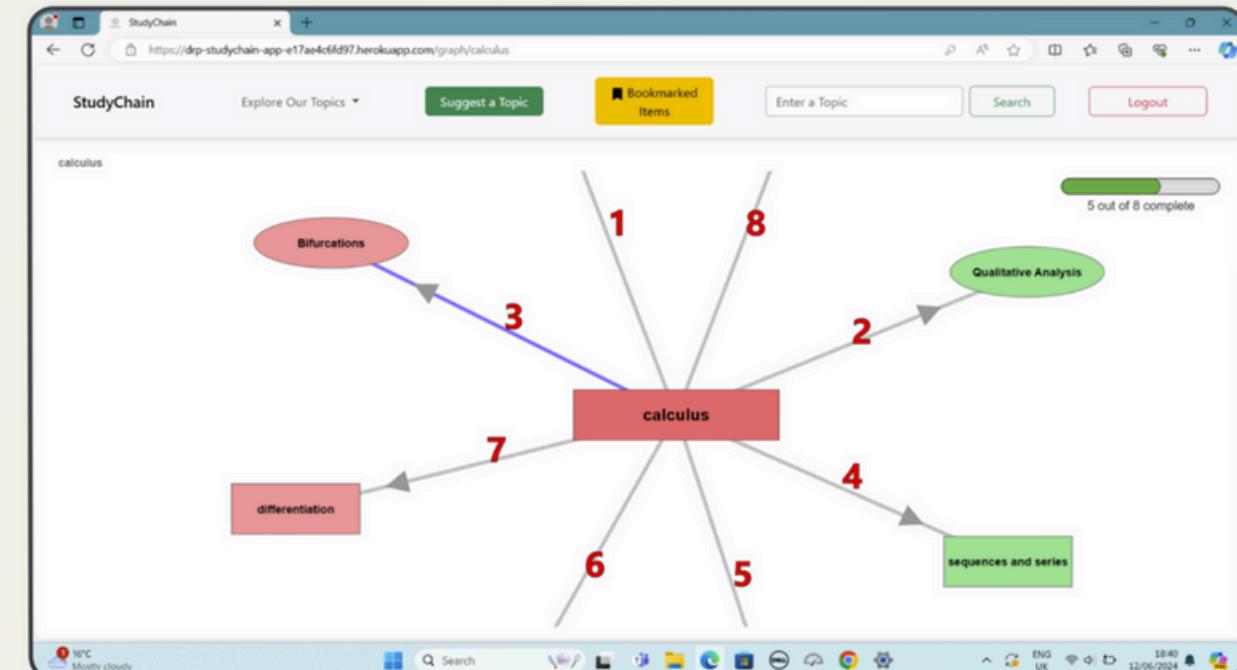
Davita: "My family was pleased when my results came out!"

68%

of students have trouble revising

**Don't know where to start?
Struggling to find resources?
Need a helping hand?**

Let StudyChain guide you



Visit the new website taking the Imperial maths department by storm!

Enjoy more
time at clubs
and societies

Meet
scholarship
requirements

Impress other
students

WHAT WENT WELL

OUR PRODUCT

**SOLIDLY DEVELOPED AN
INTERACTION RICH WEBSITE,
CLOSE TO FINAL TOUCHPOINT**

TECHNICAL

**RAPIDLY ACQUIRED KNOWLEDGE
AND DEVELOPED SKILLS,
BATTLING LACK OF EXPERIENCE.**

PROJECT MANAGEMENT

**SPLIT CODING AND USER
TESTING TO MAKE WORK
EASIER.**

EVOLVING WITH USERS

**FOCUSED ON BECOMING MORE
USER-CENTRIC WITH EACH
ITERATION.**

EVEN BETTER IF...

**DEVELOP LECTURER UI
ALONGSIDE STUDENT UI**

FRONTEND WAS SKEWED INITIALLY

ITERATE MORE!

FUTURE WORK

DEVELOP A MOBILE UI

**EXPAND WEBSITE TO
SUPPORT MORE DISCIPLINES
(PHYSICS, ENGINEERING,
PROGRAMMING)**

EXPAND TO OTHER UNIVERSITIES

THANK YOU

**DOES ANYONE HAVE ANY
QUESTIONS?**