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| UIUX Assignment |
| 202208793 |

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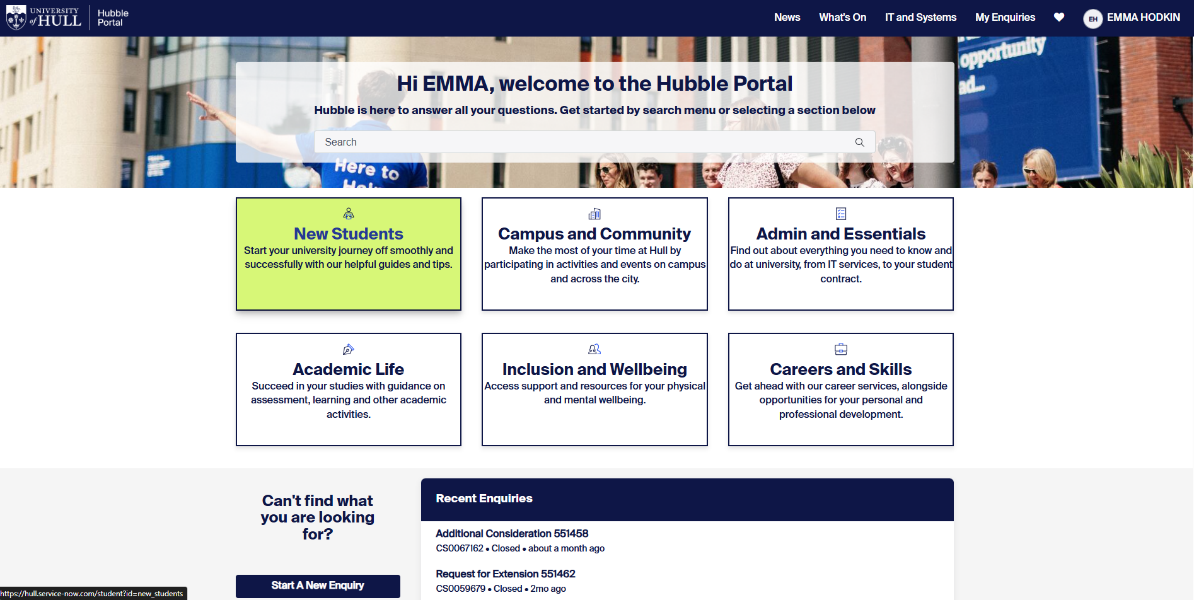
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# Part 1 – Cognitive Walkthrough

## Case Study 1 – Hubble Portal:



Very clear indication of which box is being selected. This conforms with Nielsen’s first heuristic, that of visibility of system status (Gonzalez-Holland et al., 2017)

Clearly labelling and expanding upon the box titles gives affordances to the user so they can understand each action at a glance (*Don Norman’s Principles of Interaction Design | by Sachin Rekhi | Medium*, 2017)

Figure 1 - Hubble home page

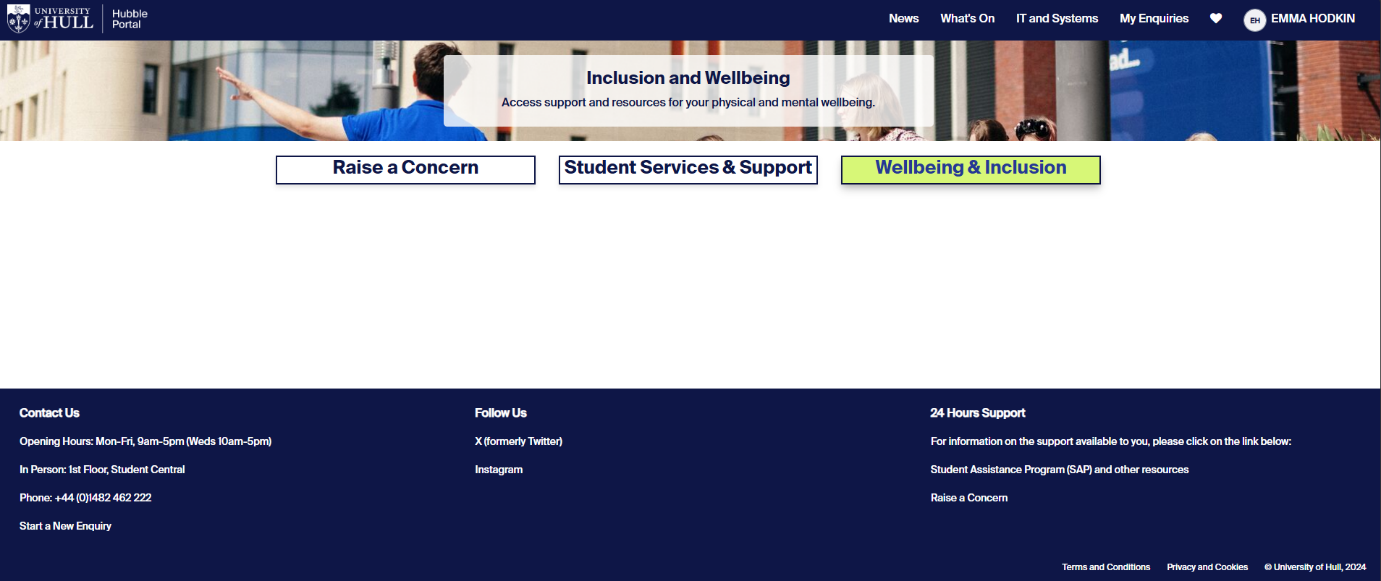
Goal: Find the Mental Health Support page.

Step 1: Access the “Inclusion and Wellbeing” page

* Q: Is the page visible?
* A: Yes, everything loaded very quickly
* Q: Would you know where to go without being told?
* A: Yes, the box is clearly labelled and has a subtitle to guide me to the right area.
* Q: Is there any visual feedback on progressing to the next page?
* A: Yes, the box changes colour when hovered over and the new page loads quickly.

Step 2: Access the “Wellbeing & Inclusion” page

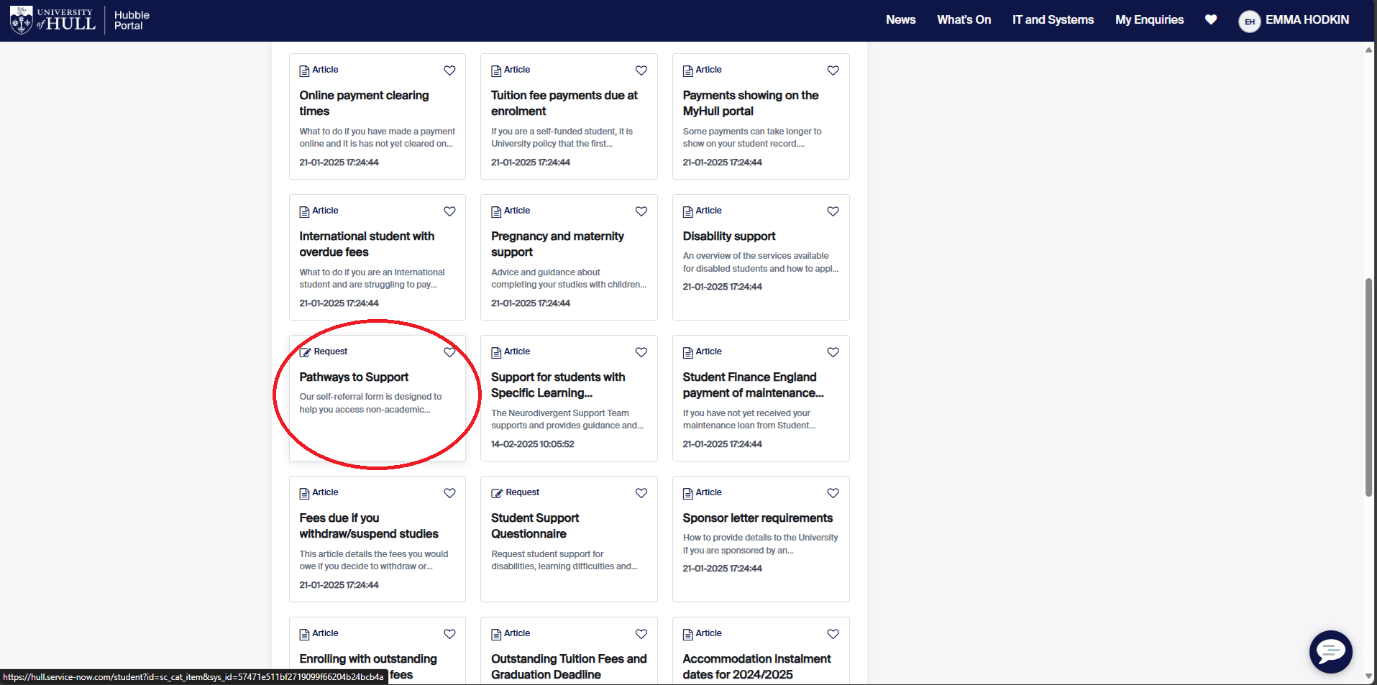
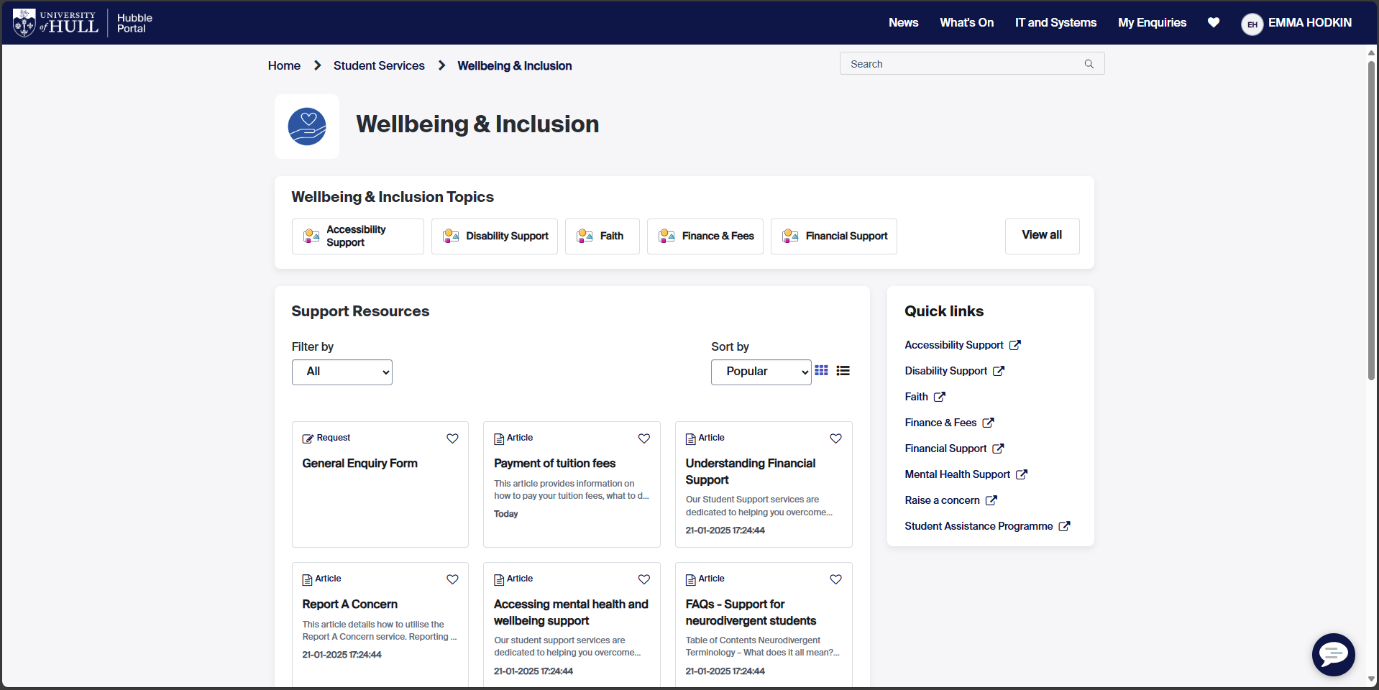
Figure 2 - Inclusion & Wellbeing page



Unlike the previous page, the design is now more minimalist, but instead of this reducing confusion, there is now so little information that we don’t know where to go. This conflicts with Nielsen’s heuristic: Aesthetic and minimalist design. (Gonzalez-Holland et al., 2017)

This page has no visible back or “exit” method, making the user feel trapped in their choices. This goes against Nielsen’s heuristic of User Control and Freedom, where the user should feel free to explore the webpage without fear of constraints. (Gonzalez-Holland et al., 2017)

* Q: Does the page load correctly?
* A: Yes, although the page has no explanations or shows what each function does.
* Q: Would you know where to go without being told?
* A: No, there are two other options I would consider as there are no signposts.
* Q: Is there any visual feedback on progressing to the next page?
* A: Yes, the box changes colour when hovered over and the new page loads quickly.



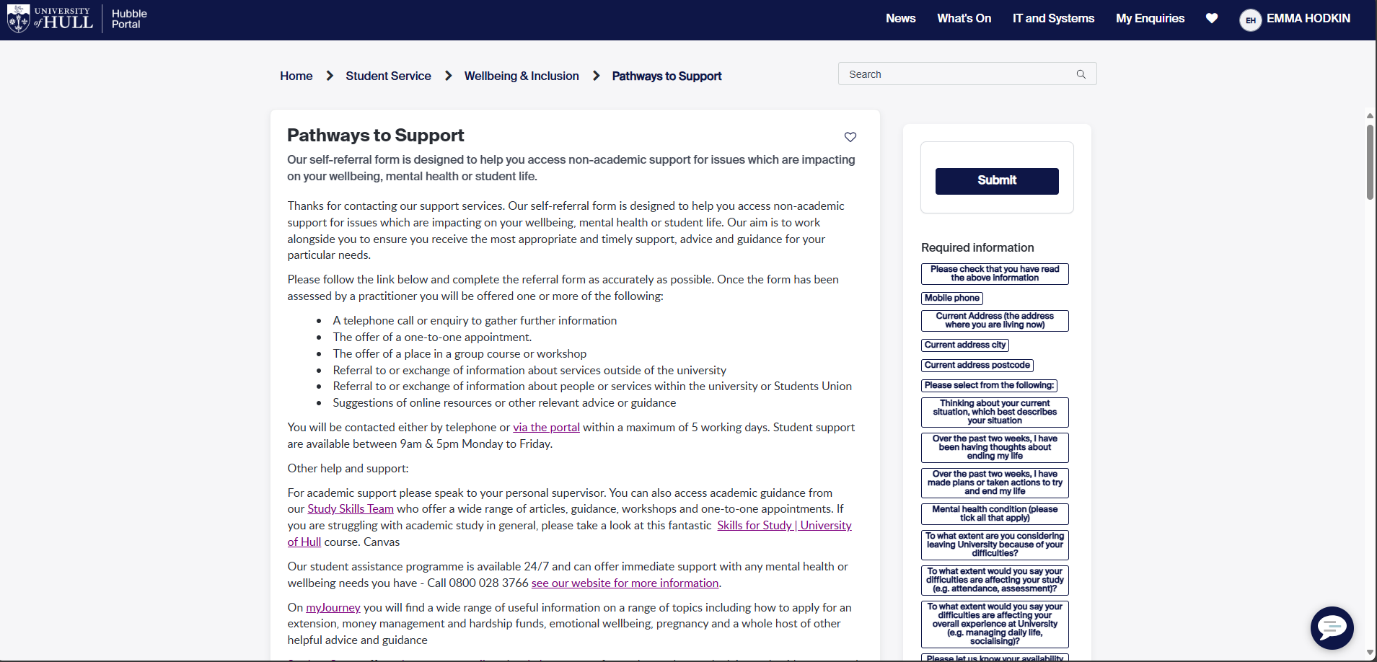
Despite the overall UI change between pages, the consistency of the box method of tabs makes the user feel like they’re still on a continuous website. This follows on from the heuristic of Consistency and Standards. (Gonzalez-Holland et al., 2017)

As all the articles are tightly packed, it makes them harder to see, this contradicts Norman and Nielsen’s ideas of Visibility and Minimalism. (*Don Norman’s Principles of Interaction Design | by Sachin Rekhi | Medium*, 2017), (Gonzalez-Holland et al., 2017)

Figure 3 - Wellbeing & Inclusion resources page

Step 3: Access the “Pathways to support” article

* Q: Is the article easy to find?
* A: Not really, the boxes are small and there are many of them.
* Q: Would you know where to go without being told?
* A: yes, but only after a lot of looking.
* Q: Is there any visual feedback on progressing to the next page?
* A: No, the box doesn’t change when hovered over.



The page uses a blog post format to match between the system and the real world. (Gonzalez-Holland et al., 2017)

On the right there are “required field” boxes which correlate to the form at the bottom of the article, but each box is a different size, which breaks the Consistency rule. (*Don Norman’s Principles of Interaction Design | by Sachin Rekhi | Medium*, 2017)

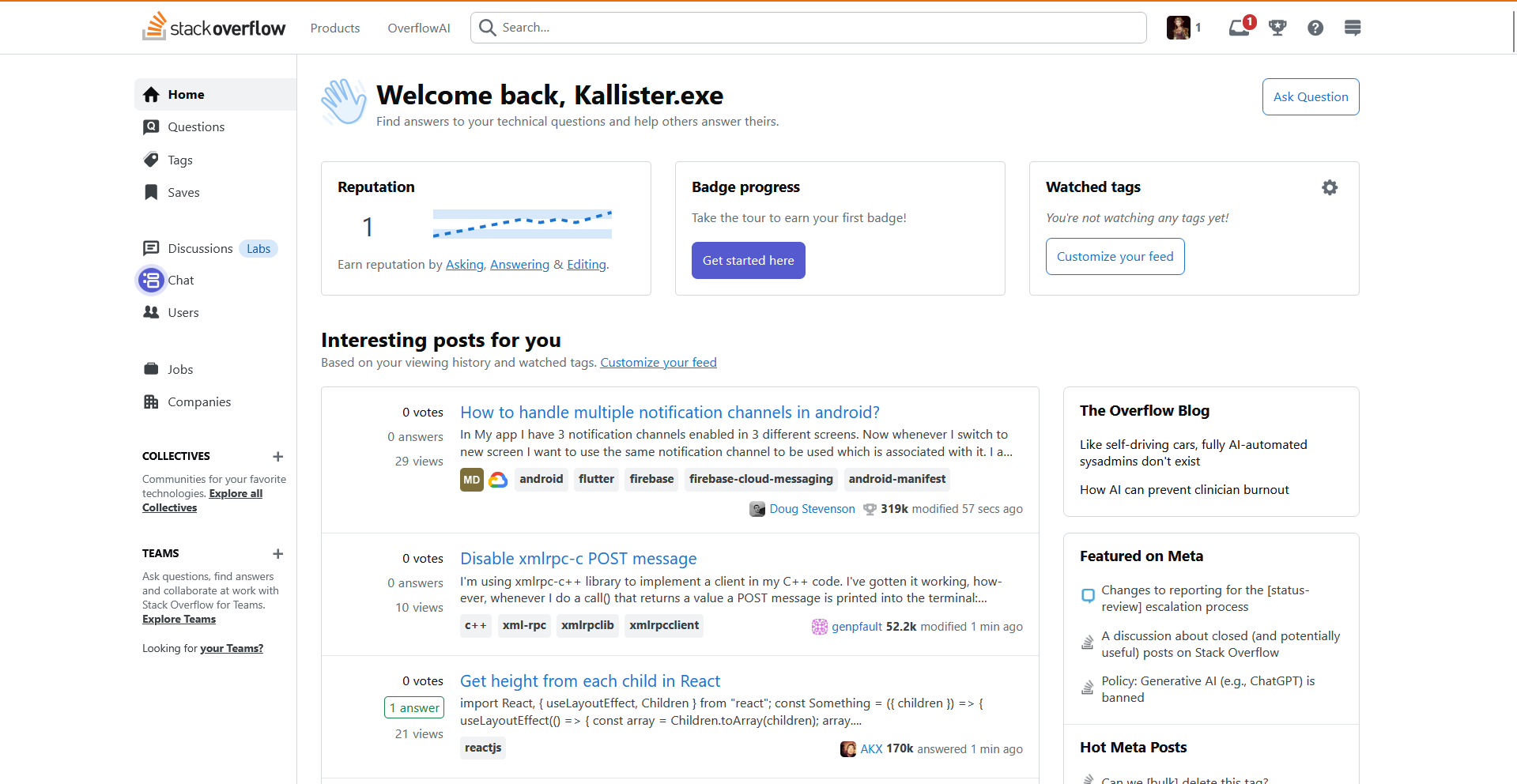
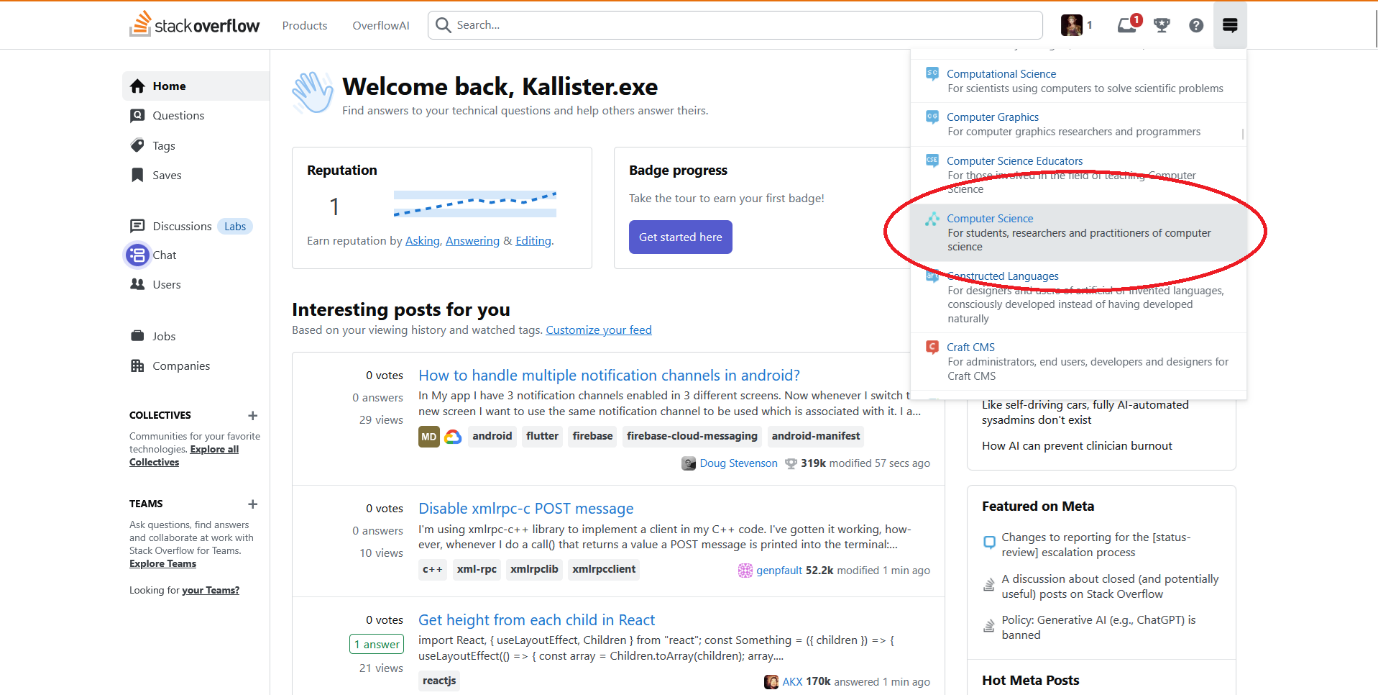
Figure 4 - Pathways to Support request page

Step 4: Discover Mental Health Support page. (End State)

* Q: Was the article easy to find?
* A: Not really, there were many unlabelled or confusing options that would have taken me a while to get around before I found this page.
* Q: Would you know where to go without being told?
* A: Yes, but only after a lot of looking.
* Q: Was there any visual feedback on progressing through these steps?
* A: Sometimes, at the start the boxes would be labelled and change colour when hovered over, but other times it wasn’t.

## Case Study 2 – Stack Overflow:

Figure 5 - Stack Overflow home page



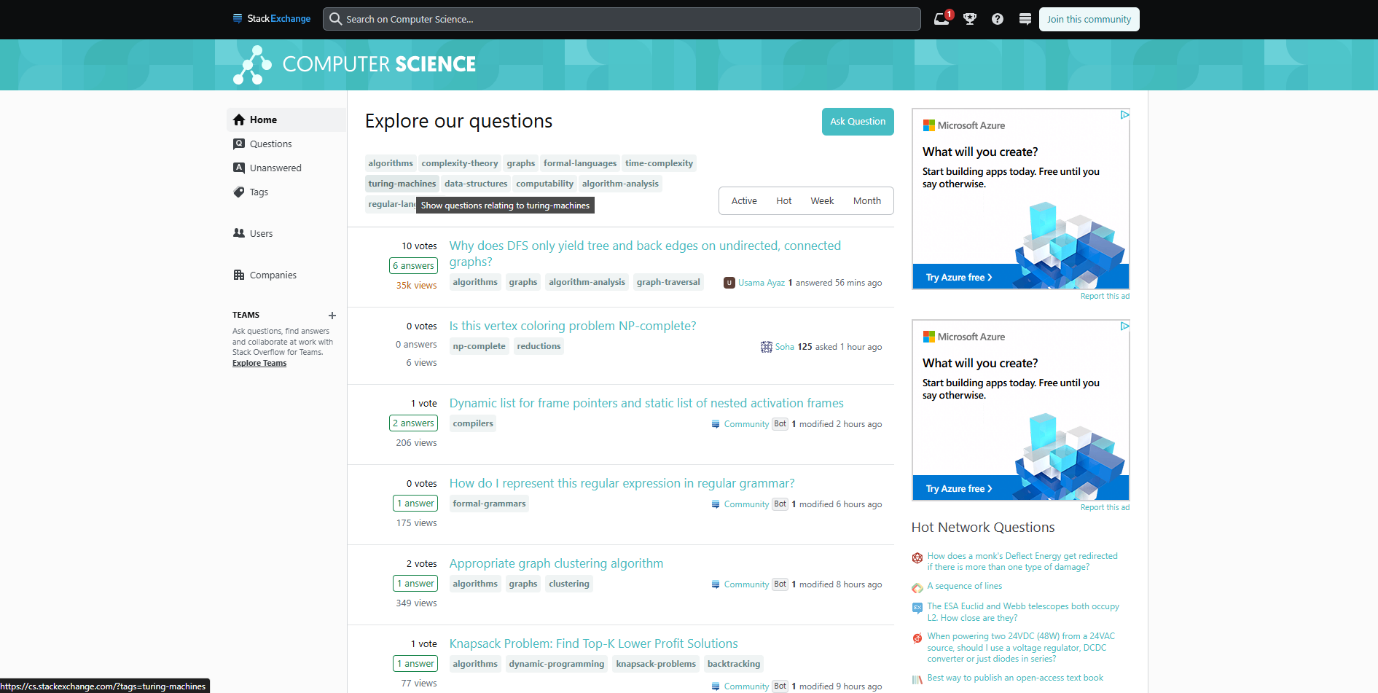
The UI of this webpage is very cluttered, with many metrics and features within view. The community tab is very small and not labelled with no discernible use. This opposes the minimalist idea put forward by both Neilsen and Norman. (Gonzalez-Holland et al., 2017), (*Don Norman’s Principles of Interaction Design | by Sachin Rekhi | Medium*, 2017)

The computer science tab is clearly highlighted when hovered over, given the user direct feedback of their actions as described by Don Norman. (*Don Norman’s Principles of Interaction Design | by Sachin Rekhi | Medium*, 2017)

Goal: Find a Turing Machine problem to help with.

Step 1: Access the “Computer Science” page from the stack exchange tab

* Q: Is the tab visible?
* A: Yes, but it’s not labelled and has no explanation.
* Q: Would you know where to go without being told?
* A: No, the page is very busy, and I wouldn’t know to use a small unlabelled tab.
* Q: Is there any visual feedback on progressing to the next page?
* A: Yes, the box changes colour when hovered over and the new page loads quickly.



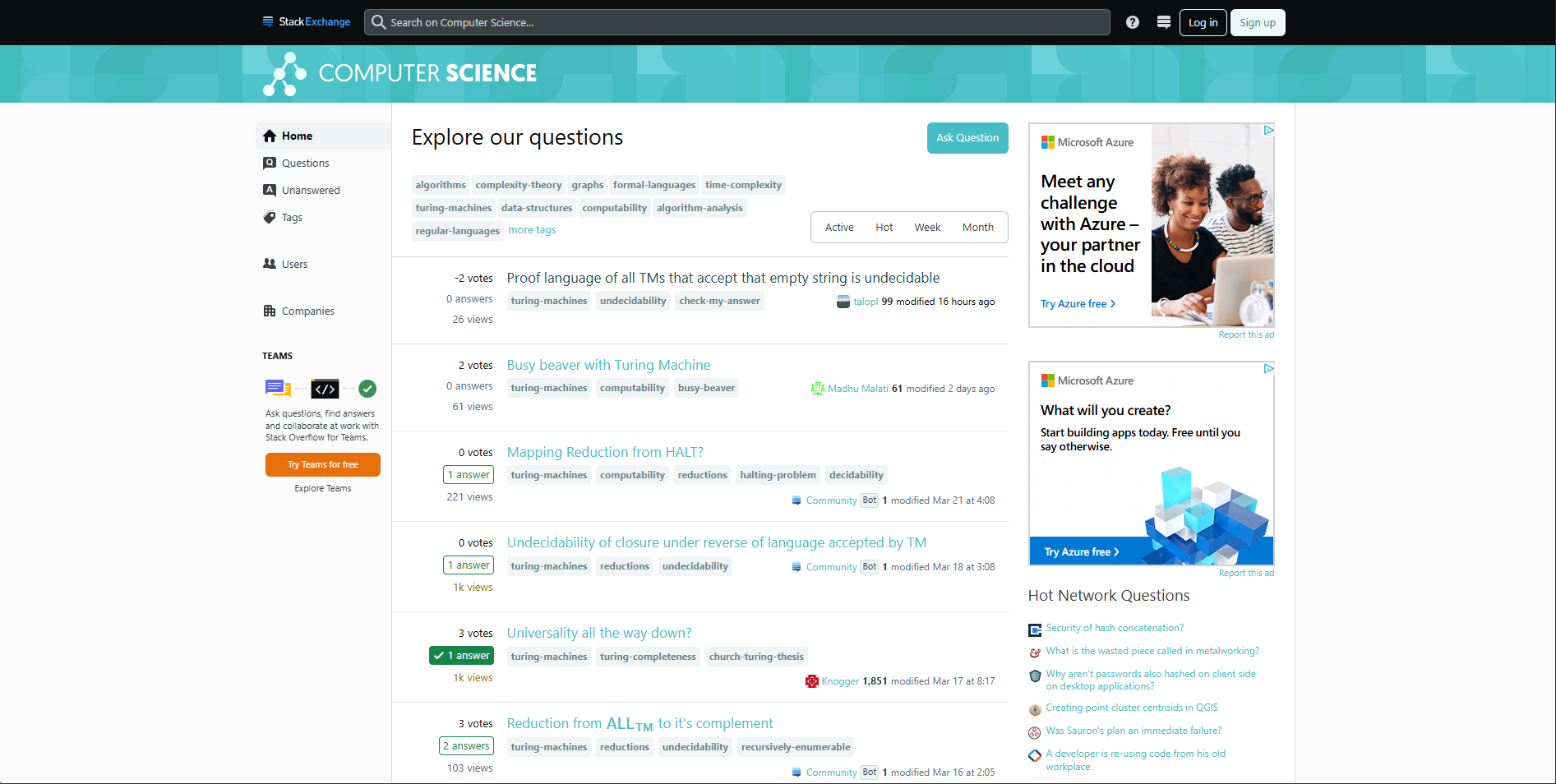
The page has a lot of options to filter a user’s search, from time to tags, the user has a lot of methods to tailor their experience. The user can also search for their question at the top, giving the user flexibility. (Gonzalez-Holland et al., 2017)

The UI is very cohesive on this page as it has a consistent colour scheme and the standard list of links for each question. (*Don Norman’s Principles of Interaction Design | by Sachin Rekhi | Medium*, 2017)

Figure 6 - Computer Science Community page

Step 2: Access the “Turing Machines” page from the questions list

* Q: Is the tab visible?
* A: Yes, but it’s not labelled and has no explanation.
* Q: Would you know where to go without being told?
* A: No, the page is very busy, and I wouldn’t know to use a small unlabelled tab.
* Q: Is there any visual feedback on progressing to the next page?
* A: Yes, the box changes colour when hovered over and the new page loads quickly.



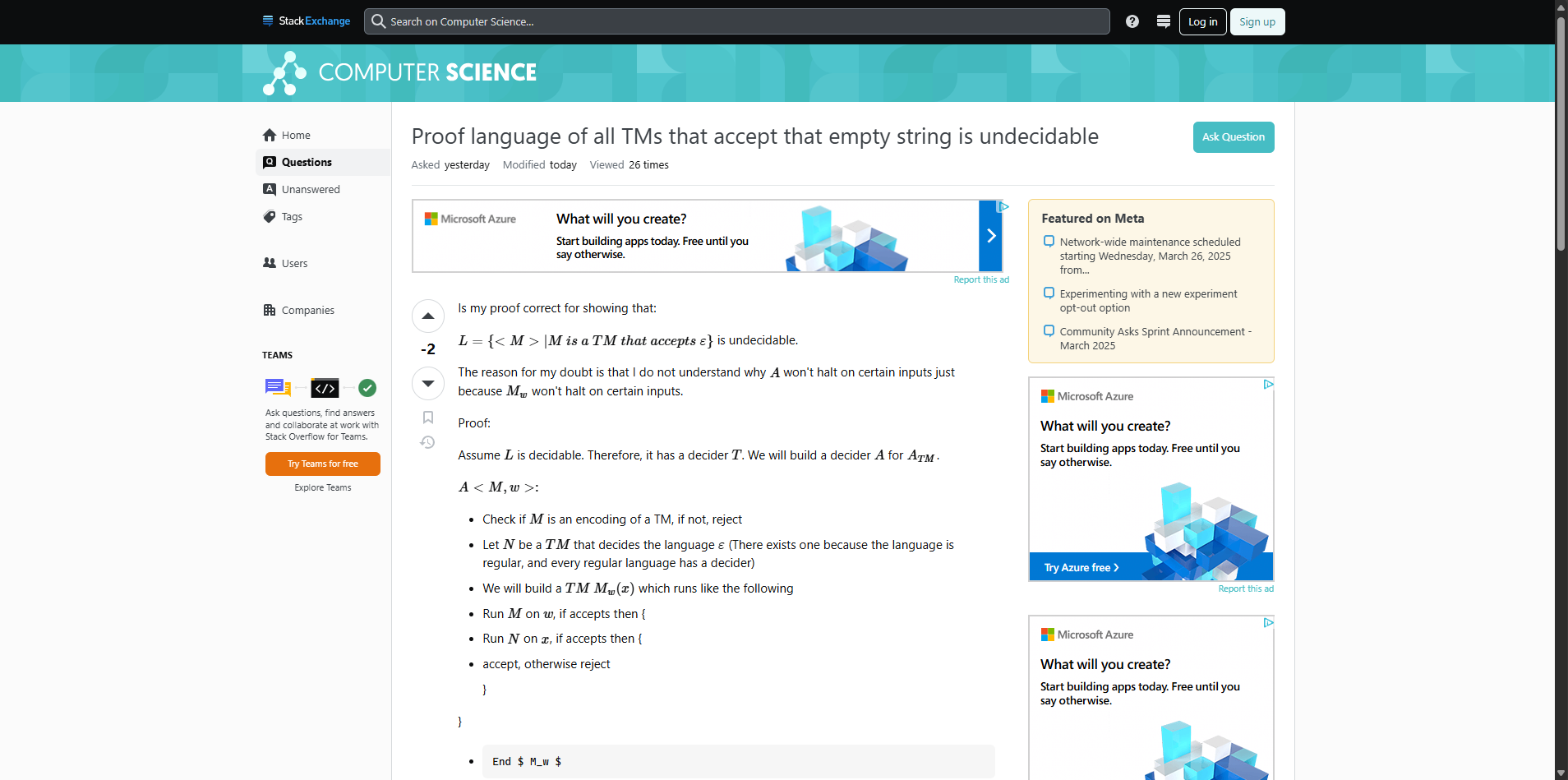
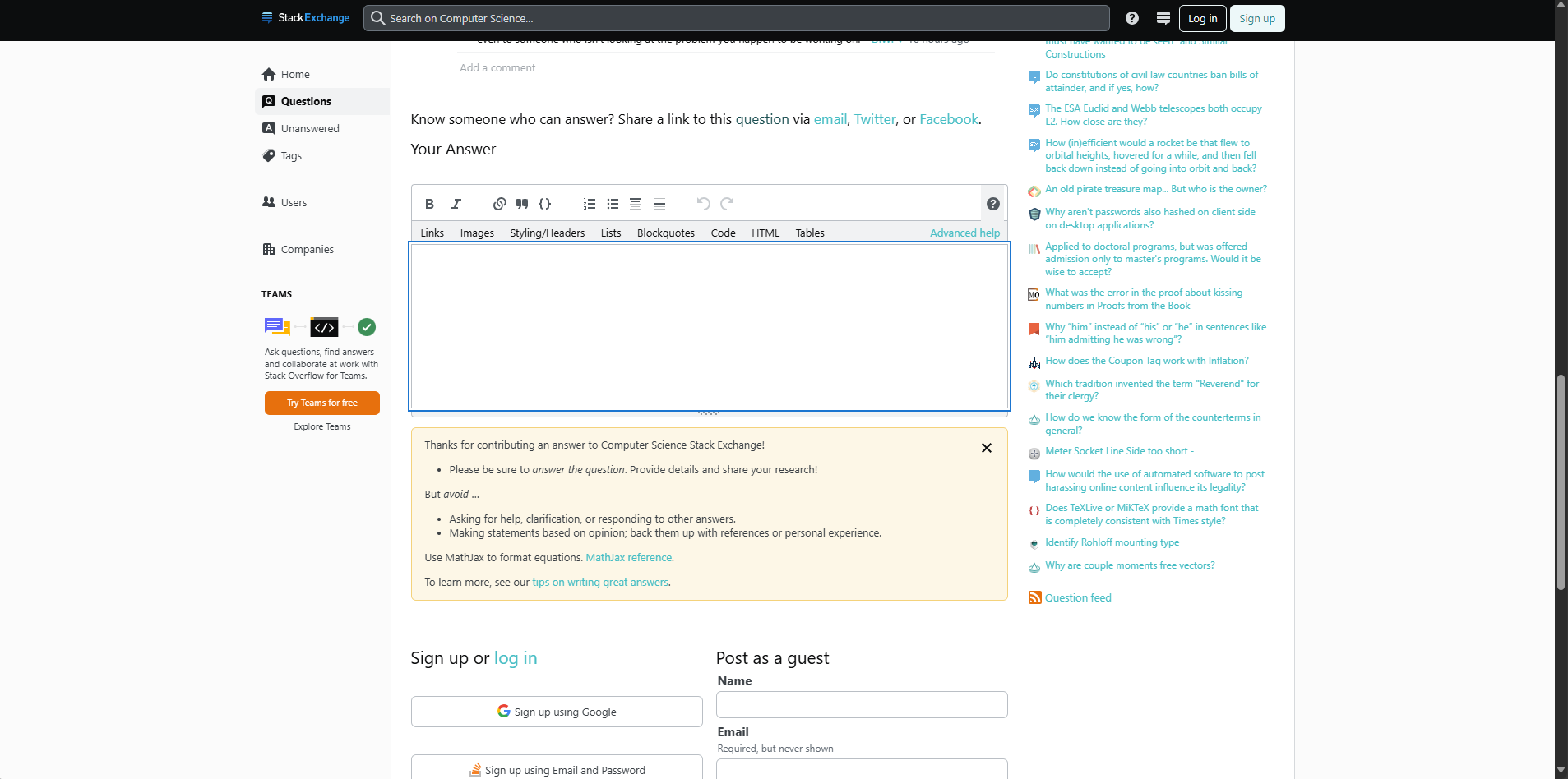
The link colour has changed after being clicked on, allowing the user to quickly identify which questions they have already viewed. This visual feedback removes the need to remember which questions have been seen, as described by Nielsen. (Gonzalez-Holland et al., 2017), (*Don Norman’s Principles of Interaction Design | by Sachin Rekhi | Medium*, 2017)

Like the previous case study, the website itself has no means of backtracking or exit functions, leaving the user locked into their choices. (Gonzalez-Holland et al., 2017)

Figure 7 - Computer Science Community page (filtered for Turing-machine questions)

Step 3: Access a question from the list

* Q: Is the question button visible?
* A: Yes, each question has a hyperlink and is coloured differently.
* Q: Would you know where to go without being told?
* A: Yes, once you have selected a question type, they are the only ones listed.
* Q: Is there any visual feedback on progressing to the next page?
* A: Yes, the hyperlink changes colour when hovered over and the new page loads quickly. The link also stays a new colour once clicked so if you navigate back, you know which questions you have viewed.



While the text box for answers is clearly visibly, the user has to scroll down past a warning and a request to log in before they see the submit button, which removes the easy mapping of the button and may confuse the user, antithetical to the mapping guidance given by Don Norman. (*Don Norman’s Principles of Interaction Design | by Sachin Rekhi | Medium*, 2017)

Figure 8 - Turing machine question

Step 4: View and answer the question (End State)

* Q: Is the submit answer button visible?
* A: Yes, each question has a hyperlink and is coloured differently.
* Q: Would you know where to go without being told?
* A: Not really, the answer sections is at the bottom of the question but the submit button is hidden under the sign-up/log-in section, so you’d have to scroll down to click it.
* Q: Is there any visual feedback on progressing to the next page?
* A: Yes, the submit button changes when hovered and gets smaller to mimic a real button press.

# Part 2 – Iterative Prototype Design

## Case Study 1 – Student Mental Health Check-In

### User Goals

Users:

* The Student
* The Personal Supervisor (PS)

User Goals:

* That a Student must be able to report any issues to the webapp easily.
* That a Student should be offered links and videos on improving mental health in the webapp.
* That a PS must be able to see all of the student reports allocated to that PS.
* That a PS should be able to arrange meetings with a Student either on-campus or via Teams.

Expansion:

Students may find it difficult to discuss mental health issues with their PS’s face-to-face as they may not yet have a good rapport with them. Allowing students a way to self-report any issues without direct contact would provide a way of expressing their needs less stressfully. Students also have busy schedules, with their university timetable, social commitments, and potentially a work rota, it is difficult to allocate time for PS meetings. The webapp could allow students to connect with their PS’s more effectively and arrange meetings around their busy schedules.

Personal Supervisors share many of the same issues as students, both with difficulty communicating and hectic diaries. As a PS, they can only work off of information they have, so being able to access all their allocated students’ submissions and overall health check-ins, they can at a glance know if one of their students is in need of extra help. PS’s also have busy schedules, between teaching hours and adult lives, many lecturers may not have a free hour in the day. By using the webapp to communicate between themselves and the student, they can better find a time to discuss any issues with synced calendars and the option for online or offline meetings.

### General

A screenshot of a color palette

AI-generated content may be incorrect.

Figure 9 - Colour Scheme for the Student Mental Health App

The colour scheme was chosen due to the associations of blue and the medical industry, especially the NHS as the app is oriented towards mental health. The colour blue is also known to have a calming effect which would be beneficial to students using the app (*How the Color Blue Impacts Moods, Feelings, and Behaviors*, 2024). The desaturated red is the contrast colour and will be used to highlight certain areas and as an accessibility aid for those with colour-blindness or other visual impairments.

### Student submits a report to the app

#### Low Fidelity

A close-up of a login form

AI-generated content may be incorrect.

Figure 10 - Log In Page

Step 1: Log into the app

The log in page contains the app logo, the app name, user inputs for the username and password, and the log-in button. Keeping the log in page simple and streamlining the log in process for new users maintains the heuristic of error prevention (Gonzalez-Holland et al., 2017).

Once the user logs in they are directed to the menu page.

A close-up of a check-in form

AI-generated content may be incorrect.

Figure 11 - Student Menu Page

Step 2: Access the Submit a Check-In page

Once the user has logged in as a student, the user can access the check-in page through a large tile button. The menu is simple and provides instant recognition for users due to the clear labelling. There are 3 tiles as well as a notification hub in the top right corner. The mail icon used was chosen to signify the notifications as a real-world connection of receiving information (Gonzalez-Holland et al., 2017) .

Once the user has clicked on the “Submit a Check-In” button they are sent to the Check-In page.

A drawing of a diagram

AI-generated content may be incorrect.

Figure 12 - Check-In Page

Step 3: Submit a Check-In (End State)

There are some initial designs of how the student will input their check-in, one example is a Likert scale in which a user can rate their current mood or agreement to a statement about their wellbeing. Another is allowing the user to input their own comments with question headers as a guide. The student could also be given the opportunity to mark if they need a meeting within the check-in. There is a back arrow in the top left to allow the user to leave the page without submitting, giving the user freedom to come back to a check-in later or if they entered the page incorrectly (Gonzalez-Holland et al., 2017).

#### High Fidelity

A screen shot of a student check-in

AI-generated content may be incorrect.

Figure 13 - Login Page for Mental Health App

Step 1: Open the App

Upon opening the app the user is greeted with the login page. Each user flow will begin with the login page, which has been kept simple. The student requires a university email and password to log in as the app is directed towards students. The app logo uses the darkest blue #111136 as contrast to the app background and has a two-toned brain as the icon. This use of imagery is in line with Nielson’s Heuristic of matching real-world imagery with design (Gonzalez-Holland et al., 2017). Once the user has entered their credentials, they will click the login button to navigate to the home page.

A screenshot of a cell phone

AI-generated content may be incorrect.

Figure 14 - Student Menu Page

Step 2: Access the ‘Submit a Check-In’ Page

The main menu page has several large buttons, each with different natural motifs. Upon hovering over the buttons, the background becomes a solid colour (#D9F0FF) for accessibility with those of lower vision, and to provide users with feedback of their actions as given in Don Norman’s Heuristics (*Don Norman’s Principles of Interaction Design | by Sachin Rekhi | Medium*, 2017). There are also buttons to log out and to check notifications. The background is the darkest shade and the header uses the login page’s background. There is also a button at the bottom right to switch between student and staff views, this is for demonstrative purposes and will not be included in the finished product. The user must click on the ‘Submit a Check-In’ to access the check-in page.

A screenshot of a social media post

AI-generated content may be incorrect.

Figure 15 - Check-In page

Step 3: Submit a check-in (End State)

The Check-In page has some Likert scales which allow the user to rate their moods and stress. The student also has the opportunity to add their own comments in a text box. The scales use #D9F0FF instead of white to keep within the app’s colour scheme, but the text box is white for ease of reading. There is a simple submit button at the bottom of the page, and a back button to leave the page without submitting to allow for user freedom (Gonzalez-Holland et al., 2017).

### Student requests a meeting with their PS

#### Low Fidelity

A close-up of a form

AI-generated content may be incorrect.

Figure 16 - Meeting Request page

Step 3: The student submits a meeting request (End State).

Above are some initial ideas of what the user may need to submit to their PS for a meeting, such as possible dates for an appointment, a reason for the appointment, and a possibility of selecting another academic advisor to be cc’d in. This would allow the student to also notify a lecturer if any issues occurred. Once again a back arrow is included as well as button labelling and a page title, giving the user clear feedback of their actions taking them to this page.

#### High Fidelity

A screenshot of a check-in

AI-generated content may be incorrect.

Figure 17 - Student Meeting Request page

Step 3: Submitting a meeting request (End State)

As shown in the previous user flow, the user will have logged in and clicked the “Meeting Request” button as shown on the student menu page (fig 11). The user is greeted with a text box allowing the student to give context for their meeting request and to alert the personal supervisor of any additional considerations which weren’t covered in the check-ins. The student also has the option to include their last check-in with the meeting request to provide additional information. The page has a calendar button which with implementation would allow the student to choose up to 3 dates on which they are free for a meeting. After this design I would now also include a way to specify if the user wanted an online or in-person meeting. The text on the page uses the lightest colour #111136, however the text box remains white for visibility. Once the user has filled in the specified fields, the user can submit the request using the large button at the bottom. The student can still leave the page without submitting via the back button in the top left. This main bar will be the same across each page in accordance with the Consistency principle (*Don Norman’s Principles of Interaction Design | by Sachin Rekhi | Medium*, 2017).

### PS reviews a report from a Student

#### Low Fidelity

A close-up of a piece of paper

AI-generated content may be incorrect.

Figure 18 - Staff Menu page

Step 2: Accessing the report review page

This is the PS version of the main menu, giving staff additional features to help students and organise their schedules. The staff have the ability to request meeting with students as well as accept requests from students, as a PS may decide a conversation is needed after a check-in submission or for any academic intervention. The PS has the option to log out at any time giving them the freedom to leave the page without leaving the application.

Once the staff member has selected the “Review Report” tile, they are directed to the report review page.

A close-up of a test

AI-generated content may be incorrect.A close-up of a test

AI-generated content may be incorrect.

Figure 19 - Student Check-In Review page

Figure 20 - Popup for Student Check-In Review page

Step 3: Reviewing a student check-in (End State)

The PS is shown a list of unreviewed student check-ins which have been submitted. Once the PS selects a student check in a popup is shown with the basic information of the check-in. The user can expand this popup to show the whole review if need be, giving the user flexibility in how they review the check-in (Gonzalez-Holland et al., 2017). The popup also has a back option that takes the PS to the original Report Review page.

#### High Fidelity

A screenshot of a cell phone

AI-generated content may be incorrect.

Figure 21 - Staff Menu Page

Step 3: Accessing the Staff Menu

Once the staff member has logged in with their credentials, the PS would be immediately taken to this menu as it has special features reserved for staff. Though in the final version this menu will appear first, for ease of demonstration the user first must access the staff menu via the change button at the bottom right of the page. As with the student menu the user has three main features, all of which change upon hovering for ease of reading.

A screenshot of a phone

AI-generated content may be incorrect.A screenshot of a phone

AI-generated content may be incorrect.

Figure 22.2 - Check-In Review page

Figure .1 - Staff Menu page (onHover)

Step 4: Accessing the Check-In Review page (End State)

Upon clicking the Review Check-Ins button, the user is taken to the Check-In Review page. The page displays all of the most recent student check-ins and changes colour depending on how the student has responded to the check-in, with green for those who have responded positively, and a light red for those who have raised concerns. This allows the personal supervisor to check on the overall condition of their student body at a glance. The use of green and red in this instance is another version of mapping, as most people associate green with good and red with warnings. (*Don Norman’s Principles of Interaction Design | by Sachin Rekhi | Medium*, 2017). Each check-in has the recorded date, name, and student ID of each student so the PS can easily check up on them.

### PS responds to a meeting request with their Student

#### Low Fidelity

A close-up of a paper

AI-generated content may be incorrect.A close-up of a paper

AI-generated content may be incorrect.

Figure 23 - Meeting Request Review page

Figure 24 – Popup for Meeting Request Review page

Step 3: The PS reviews a student meeting request (End State)

The user is greeted with another list of student meeting requests, which they can review and select a date/time which is free for them. Once again the user can expand the popup with the given information or leave the page. The PS can also send a response if they cannot make the student’s specified dates/times or request that the meeting be in-person or on teams.

#### High Fidelity

A screenshot of a cell phone

AI-generated content may be incorrect.

Figure 25 - Student Meeting Request page

Step 4: Access the Meeting Request page (End State)

From the staff menu the PS can select the “See Meeting Requests” page and be sent to an overview of each student’s request. Once again the requests are colour coded depending on whether the student has included their last check-in. Each student sends up to three available dates, which the PS can choose from depending on their schedule. If the PS has not availability on those days they will contact the student directly via Teams to find a time.

## Case Study 2 – Home Automation app

### User Goals

Users:

* Homeowner

User Goals:

* The Homeowner can toggle their lights, heating, and A/C using the app
* The Homeowner can track their usage of each feature
* The Homeowner should be able to set routines for their peripherals, prompted by the app.
* The Homeowner could be provided methods of reducing unnecessary wastage.

Expansion:

As the user goes through their week, the app could monitor usage of lights/heating and at what times to create a pattern or “Routine” for the user, which over time could reduce emissions and create better behaviours for the homeowner regarding their light pollution and energy efficiency.

### The Homeowner toggles lighting/heating

#### Low Fidelity

#### High Fidelity

### The Homeowner can see their overall usage over a given period

#### Low Fidelity

#### High Fidelity

### The Homeowner can use a recommended routine or set one of their own

#### Low Fidelity

#### High Fidelity

### The Homeowner can be notified of opportunities to reduce emissions

#### Low Fidelity

#### High Fidelity

# Part 3 – User Flow Mock-Ups