

Check In User Manual

Overview

Check In is an online platform for administering and processing surveys that query a student's affective response to a lab. The software's purpose is to assist instructors in quickly identifying students most at risk in a course and to encourage students to self-assess their need for extra support and communicate this to instructors.

The web application features a student-facing interface and an instructor-facing interface. This document is therefore split into two sections, the guide and the instructor guide. Both are provided in the same document to support the project's goal of transparency between stakeholders.

A video overview of the application is provided at:

https://youtu.be/SYm_O8dxNI0

Installation

Please follow the README instructions for installing and running the development version of the software.

Alternatively, configuration files are included for Symfony Cloud, which is a Platform as a Service provider for Symfony projects. See the [Symfony Cloud website](#) for deployment instructions.

Using the Evaluation Version

An evaluation version can be accessed at:

<https://qlitmnms3a-vioxgpwe4okw6.eu.s5y.io/>

The credentials to access the application are given in the tables below.

Table 1 - Student Credentials

Email	test@student.gla.ac.uk
Password	password

Table 2 - Instructor Credentials

Email	test@glasgow.ac.uk
Password	password

Student Guide

Motivation and Use Cases

As a student, the platform allows you to perform several actions. These are listed below, with a description of how they are designed to support you.

[Complete a feedback survey for a lab which you have participated in.](#)

This communicates how you feel about the lab's material to your instructors. Providing this information allows lecturers and tutors to better adapt their instruction to suit your needs and to support you if they think you could use extra assistance.

[Review your responses to previous surveys on a course and see how the system has analysed them.](#)

Reviewing your answers and seeing the parts of a course which the system has deemed as having a high 'risk factor' lets you where you may need to invest further study time.

[Signal to instructors that you need additional support for a course.](#)

Sometimes you may be unsure who to communicate with if you are struggling. Also, it may be difficult to communicate your progress on a course in a single email. Manually flagging yourself as needing 'extra support' on the platform notifies all instructors on that course. Additionally, instructors can review your progress using your previous survey responses, meaning that you do not have to repeat yourself in any communication.

[View if you have been flagged as needing extra support.](#)

Based on your survey responses, you may be automatically flagged as needing extra support. Alternatively, an instructor may manually flag you. This will be indicated to you in the application and a reason will be given. This is to help assure you that instructors are there to provide extra support.

Common Site Features

Before describing how to achieve the above tasks, this guide will quickly describe some features that are common across all parts of the application.

Logging In (see Figure 1)

For all use, you will need to login to the software (see ***Using the Evaluation Version*** above for prototype credentials):

1. Navigate to the URL your instructor has provided you
2. Enter your Glasgow University email.
3. Enter your *Check In* password.
4. Click 'Sign In'.

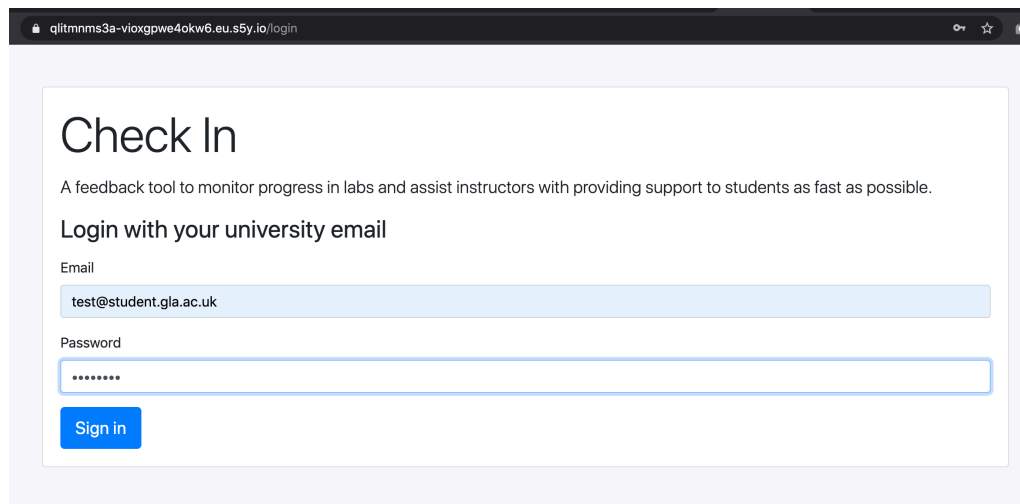


Figure 1 - Logging In

The Navbar

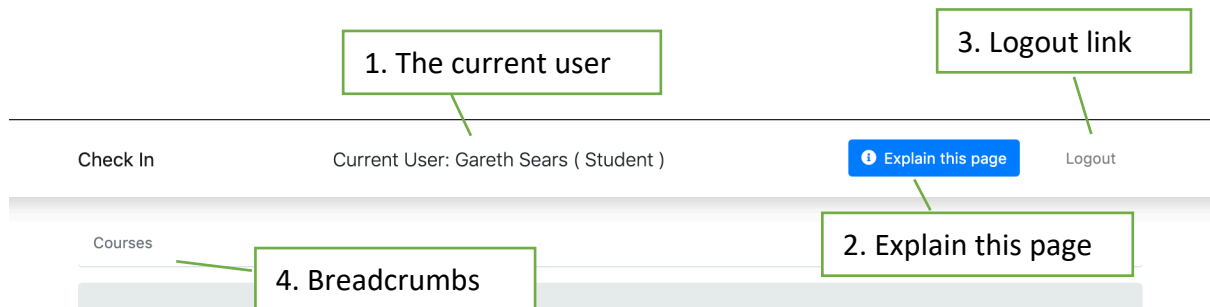


Figure 2 - The Navbar

The navbar is part of every screen.

1. The current user

This gives the user's name and their role in the application. Be sure that this matches yours and that you are logged into the correct account.

2. Explain this page button

Click this to open a tour of the various features of the page you are currently on.

This will highlight each component of a page and give a brief description (see Figure 3).

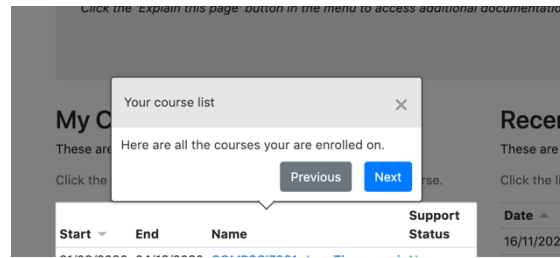


Figure 3 - Explain this page tour

Tour navigation

- Click 'next' to advance the tour. You can also press the right arrow key.
- Click 'previous' to go back a step. You can also press the left arrow key.
- To finish the tour at any time, click the 'X' in the top right of the tour description box.
- Click 'finish' at the end of the tour to close the tour and return to the top of the page.

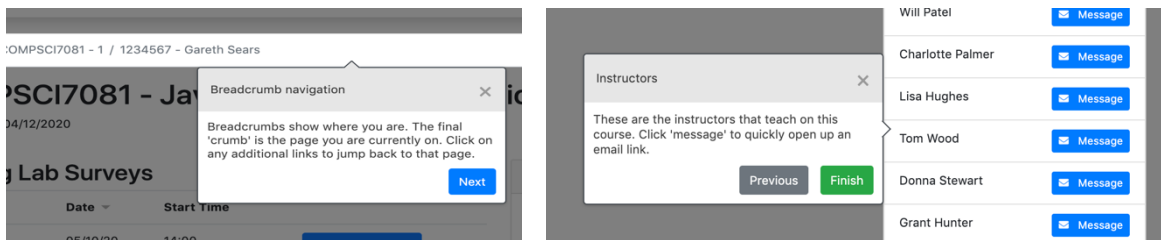


Figure 4 - Tour steps

3. Logout link

Click this to logout of the application.

4. Breadcrumbs

These provide quick navigation based on your current location on the site. The 'crumb' furthest to the right gives your current location. Previous crumbs give information about the context of the page. These can also be links, allowing you to navigate quickly to 'parent' pages.

Previous 'crumb' links provide quick links to parent pages. This crumb links back to the student's course summary page for COMPSCI7081.

[Courses](#) / [COMPSCI7081 - 1](#) / [1234567 - Gareth Sears](#) / [Lab 9 - Question 1](#)

Figure 5 – Breadcrumbs

The furthest crumb on the right is your current page.

Tutorials

Complete a feedback survey for a lab which you have participated in.

[Navigating to a lab survey](#)

A recent lab

1. Login to the application.
2. On your *courses page*, view the *Recent Pending Lab Surveys* table.
3. Click the lab link which corresponds to the lab you have recently finished.

Courses

Check In

A feedback platform which is designed to help instructors provide support to students quickly.

This platform provides quick feedback surveys for you to complete the end of each lab in a course. Your responses are [automatically analysed to detect problematic areas](#). If the analysis indicates that you may require extra support for a course, the software will notify you and your course's instructor(s). Alternatively, you can manually signal to instructors that you need additional support using [a course's 'self-flag' feature](#).

Click the 'Explain this page' button in the navigation bar.

My Courses

These are the courses that you are enrolled on.

Click the links under 'name' to view your summary for that course.

Start	End	Name	Support Status
21/09/2020	04/12/2020	COMPSCI7081-Java Theory and Applications	None
21/09/2020	04/12/2020	COMPSCI3084-Object	None

Recent Pending Lab Surveys

These are surveys for your most recent labs

Click the links under 'lab' to complete your progress survey for that lab.

Date	Course	Lab
16/11/2020	Java Theory and Applications	Lab 9
10/11/2020	Systems Engineering	Lab 8
09/11/2020	Object Orientated Networking	Lab 8

Figure 6 - The courses page

An older lab

1. Login to the application.
2. On your *courses page*, view the *My Courses* table.
3. Click the course link which corresponds the course containing the lab.
4. On your *course summary page*, view the *Pending Lab Surveys* table.
5. Click the *complete survey* button next to the lab you wish to provide feedback for.

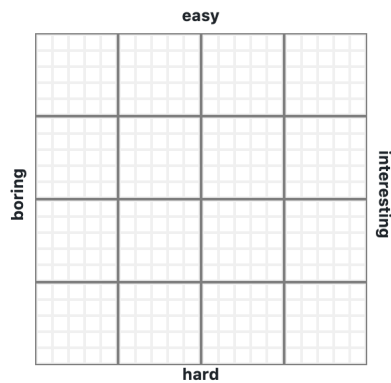
[Completing a lab survey](#)

Each lab survey consists of several question pages with common elements.

Lab 3

COMPSCI7081 Java Theory and Applications: 21/09/20 - 04/10/20

How interesting did you find the task? How difficult did you *personally* find it?



Click on the grid to select a response. The x axis represents interest. The y axis represents difficulty.

Skip Question

Next Question

You can choose to skip any question by pressing this button.

You can submit your answer for a question by pressing the 'next question' button.

If you try submitting a survey question with an invalid response, an error message will be displayed.

ERROR You must select a point on the graph.

How interesting did you find the task? How difficult did you *personally* find it?



XY Questions

These questions ask for your opinion of a lab. The two fields are related, as this conveys important information to your instructors.

For example, a 'hard' lab may not necessarily be a bad thing if you are interested and engaged with the material (as this is where learning occurs!). However, a difficult and disengaging lab is not desirable.

How interesting did you find the task? How difficult did you *personally* find it?

Click the position in the XY grid which corresponds to how you feel about the question.

In this example, the X position of your selected cell corresponds to interest in the lab. The Y position corresponds to the difficulty of the lab.

Click on the grid to select a response. The x axis represents difficulty and the y axis represents interest.

Skip Question

Next Question

Figure 7 - An XY Question

Sentiment Questions

These questions ask for a written response to a question. This response is then analysed for the sentiment behind the text to highlight the dissatisfied responses to help instructors quickly identify students needing support. Doing this manually would be extremely time consuming!

This indicator will fill and turn green when you have written a sufficiently long response for effective analysis.

Lab 3

COMPSCI7081 Java Theory and Applications: 21/09/20 - 04/12/20

Reflect on the course so far. Think about Course Materials, Workload, Time Management, anything else you want to communicate.

I am feeling very good about the lab. I can see the usefulness of the algorithms and

Write your response here.

Skip and Submit

Submit

A 'Submit' button indicates the last question in a survey. Pressing this will register your response on the system.

Figure 8 - A sentiment question

When you complete a survey, you are automatically redirected to your *Course Summary* for that lab's course.

Courses / COMPSCI7081 - 1 / 1234567 - Gareth Sears

COMPSCI7081 - Java Theory and A

21/09/2020 - 04/12/2020

Pending Lab Surveys

Lab Name	Date	Start Time	
Lab 8	09/11/20	14:00	Complete Survey
Lab 9	16/11/20		Complete Survey

Completed Lab Surveys

Response Key: 🚩 - XY Question 💬 - Sentiment Question

Lab Name	Date	Start Time	Responses	Risk Factor
Lab 1	21/09/20	14:00	🚩 1 🚩 2 🚩 3	33%
Lab 2	28/09/20	14:00	🚩 1 🚩 2 🚩 3 💬 4	25%
Lab 4	12/10/20	14:00	🚩 1 🚩 2 💬 4	

Support Status

Do you need extra support in this course?

Add an optional description

Flag for support

Instructors

Click the links to quickly email an instructor. **DO NOT SEND MESSAGES TO THESE ADDRESSES IN THE PROTOTYPE!** For evaluation purposes, more instructors than usual may be assigned to this course.

Melissa Reynolds	Message
Dan Rogers	Message
Joel Griffiths	Message
Isabella Butler	Message

You can request additional support here (see **Signal to instructors...**)

To complete a pending survey, press the 'Complete Survey'

Your course instructors are listed here. Press 'Message' to send them an email.

The 'Completed Lab Surveys' table is where you can review your previous answers (see **Reviewing your previous...**).

Reviewing your previous responses

Completed Lab Surveys

Each survey you complete is assigned a Risk Factor (see **Risk Factor**).

Response Key: 🚦 - XY Question 💬 - Sentiment Question

Lab Name	Date ▾	Start Time	Responses	Risk Factor
Lab 1	21/09/20	14:00	🚦 1 🚦 2 🚦 3	33%
Lab 2	28/09/20	14:00	🚦 1 🚦 2 🚦 3 💬 4	

Click the links to q
**NOT SEND MESSA
THE PROTOTYPE!
instructors than us
course.**

Melissa Reynold

Question 4 **Risk Weight: 3**

journal

Reflect on the course so far. Think about
Course Materials, Workload, Time
Management, Communication with Faculty,
Coursework, Lectures and anything else you
want to communicate.

Response

I think I'm falling behind. It's really hard and I
get errors that I don't understand. The
lectures are not useful at all.

Analysis

- Classification: Negative
- Confidence: 99.8%

Your question responses are displayed as 'traffic lights'. A red response indicates a 'danger' risk value has been assigned to the response, a yellow response indicates a 'warning' risk value. These help instructors to identify students who may need extra support based on negative lab feedback.

Click / hover over a response to reveal extra details about the question and review your response.

Risk Factors

Every survey you complete is assigned a 'Risk Factor'.

Prior to the survey, instructors define 'danger zones' for responses. These may be certain regions of the XY grid for XY questions or certain classifications for sentiment analysis. When a question response falls within these regions, it is assigned a 'risk weight'. Danger zones have a risk weight of 3. Warning zones have a risk weight of 1.

Your risk factor is the total risk weights of your responses divided by the total risk possible in a survey expressed as a percentage.

If your risk factor is high enough for enough consecutive labs, you may be automatically flagged as needing support to your instructors (see **View if you have been flagged...**).

Signal to instructors that you need additional support for a course.

1. Login to the application.
2. On your *courses page*, view the *My Courses* table.
3. Click the course link which corresponds the course which you need additional support for.
4. View the *Support Status* section.

5. (Optional) Write a description of why you need extra support in the text box.
6. Click *Flag for Support*.

The diagram illustrates the process of flagging for support. On the left, a form titled 'Support Status' asks 'Do you need extra support in this course?'. It includes a text box for an optional description, which contains the text 'I am really struggling with the assignment.' Below the text box is a red button labeled 'Flag for support'. A large blue arrow points from this form to the right, where a confirmation page titled 'Support Status' with a warning icon is shown. This page indicates the user is 'Self flagged' at '28/09/20 02:13'. It states: 'Your instructors have been notified that you may require extra support for this course.' It also shows the 'Reason:' as 'I am really struggling with the assignment.' and a red button labeled 'Remove support flag'.

When you flag yourself for support, you will see information about your Support Status has been updated.

Removing a Support Flag

If you decide that you no longer need additional support, you can remove the support flag.

1. Login to the application.
2. On your *courses page*, view the *My Courses* table.
3. Click the course link which corresponds the course which you need additional support for.
4. View the *Support Status* section.
5. Click *Remove support flag*.

NOTE: You cannot remove a support flag given by an instructor or the system.

View if you have been flagged as needing extra support.

1. Login to the application.
2. On your *courses page*, view the *My Courses* table.
3. View the *Support status* column. Any flags will be shown here.
4. For additional information, click the course link and view the *Support Status* section on the *Course Summary* page.

The 'Support Status' page shows a warning icon and the title 'Support Status'. It indicates the user is 'Flagged by Instructor' at '25/09/20 11:24'. The message states: 'This student may require extra support.' The 'Reason:' is listed as 'No reason given.'

Instructor Section

Please review the **Student Section** prior to viewing this section for a detailed overview of the features below. Any differences between the student view and your view are described under the feature.

- [Common Site Features](#)

- [Lab Surveys](#)

These are not accessible by instructors.

- [Question Types](#)

- [The Courses Page](#)

Pending Lab Surveys is replaced with *Recent Labs*. These links redirect you to **Lab Summary** pages (see below).

My Courses links redirect you to **Course Summary** pages (see below), rather than a **Student Course Summary** page.

- [The Student Course Summary Pages](#)

Complete Lab Survey buttons are not present.

- [Manually flagging students](#)

Instructors can remove any flag which has been created.

All other functionality is identical.

Motivation and Use Cases

As an instructor, the platform allows you to perform several actions. These are listed below, with a description of how they are designed to support you.

[View which students are in need of support on your courses.](#)

Each course has a list of students which have been flagged as needing support. These quickly show you which students should be targets for interventions.

[Review class feedback for a particular lab.](#)

All student feedback for a lab survey is displayed so you can see an overview of the general reception of the lab material. Additionally, you can see which students are most 'at risk' for an individual lab, as well as in the course overall.

[Review individual student lab survey responses for a particular course](#)

Review all lab survey responses a student has given for a particular course to get insights into their affective response to the material and how these responses change during the course.

[Adjust the automatic student flagging parameters for a course.](#)

Each student survey is assigned a *risk factor* (see ***Risk Factor in Student Section***). Students can be flagged automatically when their risk factor surpasses a particular threshold for a certain number of their latest labs. These settings are configurable by instructors.

Automatic flagging occurs at regular intervals. Adjusting between these intervals allows previewing any possible changes without notifying students, meaning you can 'hone in' on optimal settings for your course.

[Adjust the danger zone parameters for lab questions.](#)

Danger Zones for questions (see ***Risk Factor in Student Section***) can be adjusted. This allows you to adapt risk assignment to different stages of your course. For example, not being familiar with material may be more of a risk indicator at latter stages of the course, whereas it is expected at early stages.

[Manually flag students as needing support.](#)

Sometimes you may become aware of issues that are not correlated to lab feedback surveys. Manually flagging students allows you to notify all instructors on a course quickly and easily.

Tutorials

[View which students are in need of support on your courses.](#)

1. Login to the application.
2. On your *courses page*, view the *My Courses* table.
3. Click the course link whose 'at risk' students you wish to see.
4. View the *Students* table.
5. Ensure the *Show only student at risk* box is checked.

The Course Summary Page

Courses / COMPSCI7081 - 1

Click here to toggle between the full student list and only students needing support.

Applications

Students

☒ Show only students

Click the student name

Click the link to view the student's course summary.

Student	Flag	When
1234567 - Gareth Sears	Self flagged	28/09/2020 14:13
3569817 - Anthony Young	Flagged by Instructor	25/09/2020 11:24

Labs

☐ Show only open labs

Click the lab name to view

The agent who flagged the student is given here, as well as the time of the flagging.

Lab	Date	Time	Status
Lab 1	21/09/20	02:00	Open
Lab 2			Open
Lab 3			Open
Lab 4			Open
Lab 5	19/10/20	02:00	Open
Lab 6	26/10/20	02:00	Open

Click the link to view the lab summary.

Click to hide inactive labs.

Labs which have started are marked as *open*. Labs which haven't are *inactive*.

Risk Settings

Students at risk at the threshold % for

Changing these settings will apply to previously unflagged students. This allows experimentation without notifying students. Scheduled flags will be applied every 5 minutes (in this prototype!), notifying those students.

Set risk threshold %

70

For how many consecutive labs?

2

Submit

Adjust automatic flagging thresholds here (see below).

Review individual student lab survey responses for a particular course

1. Login to the application.
2. On your *courses page*, view the *My Courses* table.
3. Click the course in which the student is enrolled.
4. View the *Students* table.
5. Ensure the *Show only student at risk* box is unchecked.
6. Click the student's name.

See **Course Summary Page** in **Student Section** for more information.

Adjust the automatic student flagging parameters for a course.

Risk Factors

Every survey question has 'danger zones'. These are bounds which indicate risk if a student's response falls within them. For example, they may be bounds between two X coordinates

on an XY question, or a certain classification on a sentiment analysis question (these can be adjusted for certain questions, see **Adjust danger zone parameters...**).

When a question response falls within these regions, it is assigned a 'risk weight'. Danger zones have a risk weight of 3. Warning zones have a risk weight of 1.

Every survey a student completes is assigned a 'Risk Factor'. This risk factor is the total risk weights of the student responses divided by the total risk possible in a survey expressed as a percentage.

How automatic flagging works

At a regular interval, a script is run which flags students on a course who have had a risk factor above the **risk threshold** for the course for a certain number of **consecutive labs** up to today's date.

For example:

- John has a risk factor of 57% in the latest lab, and of 70% in the lab before that.
- The course threshold is 70% for the latest 2 consecutive labs.
- **John will NOT be automatically flagged this week.**
- Jane has a risk factor of 74% in the latest lab, and of 70% in the lab before that.
- **Jane will be automatically flagged.**

Adjusting thresholds

1. Login to the application.
2. On your *courses page*, view the *My Courses* table.
3. Click the course whose parameters you wish to adjust.
4. Alter the values in the risk settings form.
5. Click 'submit'

RISK SETTINGS: This allows for instructor experimentation without notifying students.
Scheduled flags will be applied every 5 minutes (in this prototype!), notifying those students.

Set risk threshold %

55

For how many consecutive labs?

1

Submit

Pending Flags

To avoid notifying all students that they have been flagged while an instructor is experimenting with risk thresholds, flags are only applied at a scheduled interval (this is described in the Risk Settings form on the Course Summary Page). This results in a 'pending' flag on the students at risk table until the scheduled flagging job begins.

This allows the instructor to experiment with thresholds without unduly notifying students.

Example of Pending Flags

Settings adjusted at 11:11:

Students

☒ Show only students needing support

Click the student name to view a course summary for that student.

Student	Flag	When ▲
1234567 - Student Test	⚙ Will Be Flagged Automatically	Scheduled

▪ - - -

Flag applied at 11:15 (the scheduled interval):

Students

☒ Show only students needing support

Click the student name to view a course summary for that student.

Student	Flag	When ▲
1234567 - Student Test	⚙ Flagged Automatically	30/09/2020 11:15

▪ .

[Manually flag students as needing support.](#)

This is done the same way as a student manually flags themselves, via the Student Course Summary page (see **Signal to instructors...** in the **Student Section**).

The main difference is that as an instructor, you may remove ANY flag which has been applied.

[Review class feedback for a particular lab.](#)

[A recent lab](#)

1. Login to the application.
2. On your *courses page*, view the *Recent Labs* table.
3. Click the lab link which corresponds to the lab you wish to review.

[An older lab](#)

1. Login to the application.
2. On your *courses page*, view the *My Courses* table.
3. Click the course link which corresponds the course containing the lab.

4. On the *course summary page*, view the *Labs* table.
5. Click the lab link which corresponds to the lab you wish to review.

The Lab Summary Page

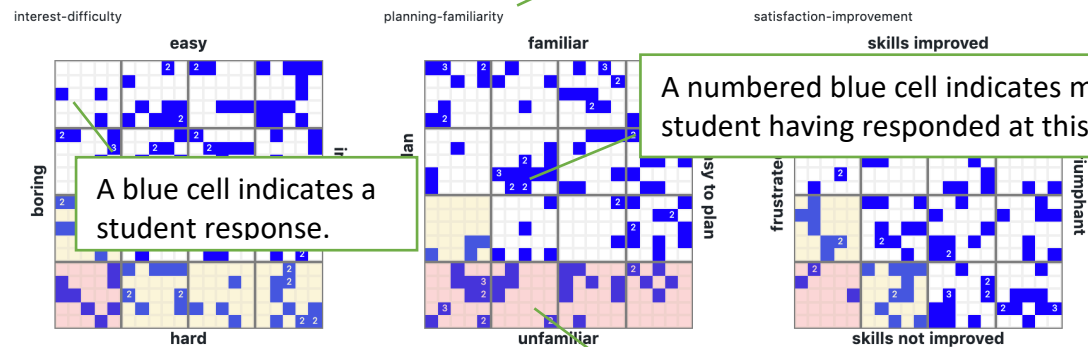
This page gives a summary of all student responses to a particular lab survey. You can also adjust the 'danger zones' of XY Questions here.

Lab 9

COMPSCI5344 Safety Critical Cloud Storage: 21/09/20 - 04/12/20

XY Question Responses

Click a region to cycle through danger zones, then click update to set.



Update Danger Zones

Student Responses

Click the student name to view a course summary for that student.

Response Key: 🚩 - XY Question 🗨️ - Sentiment Question

Student	Responses	Risk factor ▲
5125650 - Sofia Bell	🚩 1 🚩 2 🚩 3 🗨️ 4	75%
7407408 - Natasha Scott	🚩 1 🚩 3 🗨️ 4	75%
9198628 - Elliott Stevens	🚩 1 🚩 2 🚩 3 🗨️ 4	58%

Student course summaries can be accessed via these links.

Red indicates a 'danger' risk weight. Yellow indicates a 'warning' risk weight.

Adjust the danger zone parameters for lab XY questions.

1. Login to the application.
2. On your *courses page*, view the *My Courses* table.

3. Click the course link which corresponds the course containing the lab.
 4. On the *course summary page*, view the *Labs* table.
 5. Click the lab link which corresponds to the lab you wish to review.
 6. Repeatedly clicking a region on the XY grid will cycle through the available danger zones. This can be done for any region.
 7. Click 'Update danger zones' to update the zones (and the students' risk weights as a result).
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This concludes the user guide.

For further questions, please contact 2493194s@student.gla.ac.uk .