Studying students' affective state in CS1 labs using affective survey software - User Evaluation

Thank you for agreeing to participate in my study.

My name is Evie Stokes, and I am a final year undergraduate student from the University of Glasgow. I am conducting this evaluation for my application 'iFeel' developed as my final year project. The purpose of this study is to evaluate the ability of 'iFeel' to investigate students' affective state in CS1(Computer Science 1 course) labs using affective survey software.

CS1 is commonly referred to as the introductory courses for Computer Science. The content and level of CS1 courses can vary depending on the institution and program, but they are typically designed for students with little to no prior background in computer science. These courses have been known to elicit an emotional response, and this survey will be examining iFeel's ability to evaluate these responses and give valuable insights.

The software's purpose is to allow students to report their affective state and compare it with tutor's expectations of how students should find a lab, it will also allow students to compare their reported affective state with the average state of students who have answered the lab affective surveys.

This survey is pertaining to the scenario testing of the application. If you do not have access to the iFeel application, please follow this link https://forms.gle/PoUYpPS7W5NTXQjh6 **to a survey which will allow you to evaluate the application with a demo, this means the survey can be completed without the application being downloaded on your device.**

Your involvement in this study is important as it will allow me to collect data from a range of different perspectives. During the experiment, you will view complete use scenarios on the application for students and tutors. These scenario tests will portray the main characteristics of the affective survey software. It will follow that there will be questions pertaining to the application, and your opinion of it.

Your identity will be kept confidential and anonymous. Your participation is voluntary, and you are free to withdraw from the study at any time.

The survey will take less than 15 minutes to complete.

It is important to note that this is not a test of your ability in any way, and I simply want to gather your opinions and experiences.

If you have any questions or concerns about this study, please contact the researcher Evie Stokes at 2444030s@student.gla.ac.uk, otherwise you can contact the supervisor for this dissertation, Mireilla Bikanga Ada, mireilla.bikangaada@glasgow.ac.uk. If you have any concerns about your rights as a research participant, please contact the University of Glasgow's Ethics Committee at ethics@glasgow.ac.uk.

If at any point during the study you wish to withdraw your participation, you have the right to withdraw at any time without any negative consequences. If you do decide to withdraw, any data collected from you up to that point will be deleted and not included in the study. If you have any questions or concerns about withdrawing from the study, please contact the researcher.

* Required

1. I understand the above and consent to taking part in this survey *

Mark only one oval.

- ◯ Yes

Demographic Questions

2. Did you ever study Computer Science at university level?

Mark only one oval.

- ◯ Yes
- ◯ No
- ◯ Other: _____

3. What is your age?

Mark only one oval.

- ◯ Under 18
- ◯ 18-24
- ◯ 25-29
- ◯ 30-34
- ◯ 35+

Computer Science 1 Questions

Please skip these questions if you did not study computer science

4. Did you complete a computing science course geared towards novice programmers? (This will be referred to as CS1 in the following questions)

Mark only one oval.

- ◯ Yes
- ◯ No
- ◯ Other: _____

Please mark how far you agree with the following statements on a likert scale with 1 being strongly disagree and 5 being strongly agree.

5. I was unsure of how I was performing compared to other students studying CS1

Mark only one oval.

Strongly Disagree

1

2

3

4

5

Strongly Agree

6. I found it strongly affected my mood when I could not complete a computing task in a lab

Mark only one oval.

	Strongly Disagree					Strongly Agree
	1	2	3	4	5	

7. I would have liked to use an application that helped me understand how other students were finding CS1 courses

Mark only one oval.

	Strongly Disagree				Strongly Agree
	1	2	3	4	5

Affective State Definition

If the participant does not have an understanding of affective state, an affective state is a psychological term that refers to the emotional and feeling-based experiences of an individual. It encompasses a range of emotions, moods, and feelings that someone may experience at a particular time or over an extended period. These emotions can be positive or negative, and the intensity of the emotions can vary widely. Affective state is often described using a combination of emotional dimensions, such as valence (positive or negative), arousal (level of intensity), and dominance (sense of control or power).

Student Dashboard: iFeel

The following questions are scenarios for you to complete on the iFeel application.

8. Log in to the application with the following student credentials

   username: 1234567s
   password: testpassword

   Mark only one oval.

   - ◯ Completed
   - ◯ Couldn't complete
   - ◯ Other: _____

9. Navigate to messages and reply to a message

   Mark only one oval.

   - ◯ Completed
   - ◯ Couldn't complete
   - ◯ Other: _____

10. Navigate to courses, then choose course "Introduction to Computational Thinking" and go to a lab that has already been completed

    Mark only one oval.

    - ◯ Completed
    - ◯ Couldn't complete
    - ◯ Other: _____

11. Click the student feedback and view it

    Mark only one oval.

    - ◯ Completed
    - ◯ Couldn't complete
    - ◯ Other: _____

12. Click the tutor feedback and view it

Mark only one oval.

- ◯ Completed
- ◯ Couldn't complete
- ◯ Other: _____

13. If there is a help link listed for "online resources" for this survey, click the button to follow the link

Mark only one oval.

- ◯ Completed
- ◯ Couldn't complete
- ◯ Other: _____

14. Navigate to courses, choose "Introduction to Computational Thinking" and complete lab survey for "Algorithms and data Structures"

Mark only one oval.

- ◯ Completed
- ◯ Couldn't complete
- ◯ Other: _____

15. If any risks are noted, Help options will show. One of these options will be "Message Tutor". Message your tutor for this lab.

Mark only one oval.

- ◯ Completed
- ◯ Couldn't complete
- ◯ Other: _____

16. Navigate to profile and log out

Mark only one oval.

- ◯ Completed
- ◯ Couldn't complete
- ◯ Other: _____

Tutor Dashboard: iFeel

17. Log in to the application with the following student credentials

username: 1234567t
password: testpassword

Mark only one oval.

- ◯ Completed
- ◯ Couldn't complete
- ◯ Other: _____

18. Navigate to messages and view the message you just sent from the student account

Mark only one oval.

- ◯ Completed
- ◯ Couldn't complete
- ◯ Other: _____

19. Navigate to courses, then choose course "Introduction to Computational Thinking" and go to "Algorithms and Data Structures". If you reported a risk here your name will show with other risks

Mark only one oval.

- ◯ Completed
- ◯ Couldn't complete
- ◯ Other: _____

20. Chose your student and the risk/ warning you reported. Unflag this student.

Mark only one oval.

- ◯ Completed
- ◯ Couldn't complete
- ◯ Other: _____

21. Navigate to courses, then choose course "Introduction to Computational Thinking" and go to "Algorithms and Data Structures". Chose the risk you reported and flag the student. Send a message with this student.

Mark only one oval.

- ◯ Completed
- ◯ Couldn't complete
- ◯ Other: _____

22. Navigate to courses, then choose course "Introduction to Computational Thinking" and go to "Web Development" and chose to make changes to the survey. Select default affective questions.

Mark only one oval.

- ◯ Completed
- ◯ Couldn't complete
- ◯ Other: _____

23. Navigate to courses, then choose course "Introduction to Computational Thinking" and go to "Web Development" and chose to make changes to the survey. Select one of the questions and edit an axis.

Mark only one oval.

- ◯ Completed
- ◯ Couldn't complete
- ◯ Other: _____

24. Navigate to courses, then choose course "Introduction to Computational Thinking" and go to "Web Development" and chose to make changes to the survey. Chose a question and view a demo of this question.

Mark only one oval.

- ◯ Completed
- ◯ Couldn't complete
- ◯ Other: _____

25. Navigate to profile, press iFeel help and then navigate back to the app and log out

Mark only one oval.

- ◯ Completed
- ◯ Couldn't complete
- ◯ Other: _____

Questions about the demos

Using the videos depicting the main parts of this application, the next part of the survey will use *SUS - A quick and dirty usability scale* (Brooke, J. (1996)) to examine your thoughts on the usability of the application.

26. I think that I would like to use this system frequently.

Mark only one oval.

	Strongly Disagree					Strongly Agree
	1	2	3	4	5	

27. I found the system unnecessarily complex.

Mark only one oval.

Strongly Disagree

1

2

3

4

5

Strongly Agree

28. I thought the system easy to use.

Mark only one oval.

Strongly Disagree

1

2

3

4

5

Strongly Agree

29. I think that I would need the support of a technical person to be able to use this system.

Mark only one oval.

Strongly Disagree

1 ◯

2 ◯

3 ◯

4 ◯

5 ◯

Strongly Agree

30. I found the various functions in this system were well integrated.

Mark only one oval.

Strongly Disagree

1

2

3

4

5

Strongly Agree

31. I thought there was too much inconsistency in this system.

Mark only one oval.

Strongly Disagree

1

2

3

4

5

Strongly Agree

32. I would imagine that most people would learn to use this system very quickly.

Mark only one oval.

Strongly Disagree

1 ◯

2 ◯

3 ◯

4 ◯

5 ◯

Strongly Agree

33. I felt very confident using the system.

Mark only one oval.

Strongly Disagree

1 ◯

2 ◯

3 ◯

4 ◯

5 ◯

Strongly Agree

34. The system appears very cumbersome to use.

Mark only one oval.

Strongly Disagree

1 ◯

2 ◯

3 ◯

4 ◯

5 ◯

Strongly Agree

35. I needed to learn a lot of things before I could get going with this system.

Mark only one oval.

Strongly Disagree

1 ◯

2 ◯

3 ◯

4 ◯

5 ◯

Strongly Agree

36. I found the survey method and feedback provided an effective method of determining my affective state regarding a lab

Mark only one oval.

	Strongly Disagree				Strongly Agree
	1	2	3	4	5

Final Questions

37. What did you like about the application?

38. What didn't you like about the application?

39. Do you have any other comments on the application?

Debrief

Thank you for participating in this study, which aimed to investigate students' affective state in CS1 labs using affective survey software. The study was conducted by Evie Stokes, studying at the University of Glasgow.

During the study, you were asked to complete a survey regarding software evaluating CS1 students' affective states. The purpose of the study was to gain a better understanding of the ability of the software to be useful when evaluating a student's affective state.

I would like to assure you that all data collected from you during the study will be kept confidential and will only be used for the purpose of the research. Your participation in the study was completely voluntary, and you were free to withdraw at any time.

If you have any questions or concerns about the study, please do not hesitate to contact the researcher, Evie Stokes, at 2444030s@student.gla.ac.uk.

Thank you again for your participation in this study.

40. Please leave any other feedback here