**Experiment report**

Title

Introduction

**Research question:** Best practices?

**Expected results:**

* Students will use the manual for debugging
* Students will find the manual generally useful, and appreciate the approach of using a manual to explain debugging concepts
* Most of them to fit in with our definition of novice programmers (0-1 years of experience)

**Aim**: to allow students to solve OOP debugging problems using the prototype debugging manual

**Materials**

**Manual:** a debugging manual of 5-7 pages that contains 6 distinct sections of main debugging strategies. Exemplars in C++, C and Java are shown with an appendix showing common compiler errors and their meanings

Where did we get these sections from? Be clear, use lit review

What is the manual exercising? Why would they need the manual for this assignment?

**Survey**: a questionnaire of mixed qualitative and quantitative questions asking students to detail their previous debugging experiences and their experiences using the manual during their debugging process

What is the survey based on? Need to do additional research on existing surveys

Document EVERYTHING on how we came up with this survey with evidence to support

**Methods**

**Survey**: the survey will be up from the 10 minutes before the first OOP workshop session in Week 9 (Tuesday 11am) and it will close at 10 mins after the last workshop session (Thursday 2:10pm) because memory or lack thereof may hinder results (week 7 recording mentions this – reduce limitations)

Provide reasons for why 10 mins before first workshop and 10 mins after last workshop – be clear

Do we need to mention Monday week 9 public holiday in report?

**Participants**: to mirror what students are already doing in workshops, students will be asked to complete the problem in groups of 2-3 and share the manual amongst themselves. This is because mirroring what students are already doing in workshops allows them to complete the problem in an environment that they are already used to. This may reduce any pressured factors of them completing the problem or using the manual if done in an unfamiliar environment

How many groups do we want? As we want to gain a solid amount of survey participants as possible, the more groups the better. However, given that experiments involving surveys with students generally gain low numbers (reference), we decided that getting 20% of survey numbers may be enough to analyse results. From a course of roughly 300-400 students, that is around 60-80 survey numbers we’re looking at. This means that we want roughly 12-16 students to participate in the survey in all 5 in-person workshops. This means that we want **at least** 6-8 groups in each workshop to reach that number.

Online workshop – is it in groups? We can omit this

Groups can be a mix of female and/or male students as debugging performance based on gender is beyond the scope of this project

Again, groups can be a mix of domestic and/or international students as performance based on language is beyond the scope of this project. We will need to acknowledge that language may be a potential hinderance for using the manual or solving the problem – limitation. Hence, by creating groups of 2-3 students, this may alleviate the issue of language barriers or misunderstandings for ESL students.

Results

Discussion

Conclusion

Key questions about experiment