

**Participant Information Sheet/Information about the research
(Updated version 1.1: 07/04/2020)**



Title of Study: Teaching Programming By Gamification

Name of Researcher(s): Tomasz Zajac

Contact Details of the Researcher(s) are given at the end.

I'd like to invite you to take part in my research study. Joining the study is entirely up to you. Before you decide, I would like you to understand why the research is being done and what it would involve for you. I will go through this information sheet with you, to help you decide whether or not you would like to take part and answer any questions you may have. I'd suggest this should take about 5 to 10 minutes. Please feel free to talk to others about the study if you wish.

What is the purpose of the study?

The study aims to assess and evaluate the effectiveness of computer game software in supporting the process of learning programming. The research revolves around a short, proof-of-concept game level that's designed to provide a visual programming environment which the player needs to use in order to solve puzzles. Solving the puzzles allows the player to progress through the level, and each puzzle can be solved in a number of ways, utilising some common programming concepts like variables, functions, arithmetic, lists, flow control, etc.

The key points that need to be evaluated during this study is the system's usability, user experience and educational value. This is to assess the proposed system's potential success when applied either within the programming curriculum, or when simply experienced as a regular digital entertainment product.

Due to Coronavirus/COVID-19 social distancing measures & lockdown put in place by the UK government, the study will be conducted remotely, online, with the test sessions carried out on your personal computer device.

Why have I been invited?

Anybody who is enrolled on a computer science or related course is kindly being invited. Anyone else who has an interest in computer science or games, is also welcomed to participate.

Do I have to take part?

It is up to you to decide whether or not to take part. If you do decide to take part you will be given this information sheet to keep and be asked to sign a consent form. If you decide to take part you are still free to withdraw at any time and without giving a reason. This would not affect your legal rights.

What will happen to me if I take part?

This research lasts from March 16th, 2020 till April 13th, 2020. As a participant, your involvement in the study will be limited to attending a test session where I ask you to play through the demo level of the game. This would last no longer than 15-20 minutes in most cases, but this may vary for each participant.

You will only need to attend the research session once.

The information collected will consist of a survey given to you upon finishing the play session.

One part of the survey will ask you to state your level of programming knowledge and experience. This will be used as a reference point to help draw conclusions from the test results.

You will not be asked to provide any information on particularly sensitive issues.

The research does not involve any long-term monitoring, nor does it require any follow-up sessions after the test.

Expenses and payments

You will not be paid to participate in the study.

What are the possible disadvantages and risks of taking part?

Since the research focuses on evaluating a computer game software product, there is virtually no risk associated with it. The software is accessed from a regular desktop computer, so – unlike virtual reality experiences – any risk of injury or harm is extremely unlikely.

What are the possible benefits of taking part?

While there is no direct benefit to you as an individual, the research aims to propose a gamification solution for the programming curriculum in Computer Science courses. The solution aims to provide a means of visualisation that can supplement the core material in an enjoyable manner, thus (potentially) helping new students understand the topic better. Your feedback therefore allows us to assess the effectiveness of this proposed solution, identify any shortcomings and gather suggestions.

Will my taking part in the study be kept confidential?

We will follow ethical and legal practice and all information about you will be handled in confidence. **Due to the social distancing measures currently in place, I cannot carry out the data collection in person, which means you will not be asked to sign the consent form, but by taking part you express that you've read through contents of this information sheet as well as the consent form and wish to proceed.** There will be no personal or identifiable information gathered from you during the actual research.

The survey will be carried out via the GDPR-compliant Qualtrics system and your responses will be kept anonymous.

Although what you say in the interview/focus group is confidential, should you disclose anything to us which we feel puts you or anyone else at any risk, we may feel it necessary to report this to the appropriate persons.

Privacy notice

The University of Lincoln is the lead organisation for this study and will be the data controller for this study. This means that we are responsible for looking after your information and using it properly. The university's Research Participant Privacy Notice <https://ethics.lincoln.ac.uk/research-privacy-notice/> will explain how we will be using information from you in order to undertake this study.

What will happen if I don't want to carry on with the study?

Your participation is voluntary and you are free to withdraw at any time, without giving any reason, and without your legal rights being affected. As your participation is anonymous it will not be possible to withdraw your data once submitted, as I have no way of identifying you.

Where will my data be stored?

The data obtained from the study will be stored securely on the university OneDrive in a password protected file. Only the researcher will have access to it. The data from this study *may* be put in an Open Access repository. If so, any personal data (e.g. contact details) will be removed.

What will happen to the results of the research study?

This study is carried out as part of an undergraduate qualification. Data will be treated confidentially and any publication resulting from this study will report only data that does not identify individual participants (unless you have agreed to be identified). Participants' anonymised responses, however, may be shared with other researchers or made available in online data repositories.

Who is organising and funding the research?

This research is being organised by the University of Lincoln and is not being funded.

Who has reviewed the study?

All research conducted by the University of Lincoln is looked at by an independent group of people, called a Research Ethics Committee, to protect your interests.

What if there is a problem?

If you have a concern about any aspect of this study, you should ask to speak to the researcher, who will do their best to answer your questions. The researcher's contact details are given at the end of this information sheet. If you remain unhappy and wish to complain formally, you can do this by contacting ethics@lincoln.ac.uk.

If you feel that we have let you down in relation to your information rights then please contact the Information Compliance team by email on compliance@lincoln.ac.uk or by post at Information Compliance, Secretariat, University of Lincoln, Brayford Pool, Lincoln, LN6 7TS.

You can also make complaints directly to the Information Commissioner's Office (ICO). The ICO is the independent authority upholding information rights for the UK. Their website is ico.org.uk and their telephone helpline number is 0303 123 1113.

Further information and contact details

Tomasz Zajac – 15618587@students.lincoln.ac.uk