**Social Sciences and Humanities Research Ethics Board**

**Review Letter**

Date: March 4, 2022

To: Md Rashidul Islam (Stephen Brooks), Computer Science

The Social Sciences & Humanities Research Ethics Board has reviewed the following submission for research involving human participants:

REB file #: 2022-6028

Title: Visualizing Uncertainty with Chromatic Aberration

The Board has found the project requires revisions and/or clarifications. When you have responded to this review, one electronic copy of the revised documents of your project must be resubmitted to Research Ethics at [ethics@dal.ca](mailto:ethics@dal.ca) in a single electronic file in MS Word or PDF format.

Your resubmission must include the following:

1. A cover letter that includes the recommended revisions/clarifications from this review letter and your responses to them. Each of the Board’s comments should be immediately followed by a precise indication of how it has been addressed, including reference to the corresponding sections and page numbers in the submission; and,
2. The revised version of the submission itself, with each change highlighted for easy identification.

Upon receipt, your revised submission will be reviewed again. You may not begin your research until you receive an approval letter from the Research Ethics Board. Board meeting deadlines do not apply to the review of these revisions. You may submit them as soon as they are complete. There are no reviews in August. If no re-submission or communication has been received by our office within 90 days, the review will expire and a new submission will be required should you wish to pursue the study.

If you have any questions, or require clarification, please contact Research Ethics at 902-494-3423 or by email at [ethics@dal.ca](mailto:ethics@dal.ca).

**RECOMMENDATION:** Revisions and/or clarifications are requested.

2.1 LAY SUMMARY

This summary is not written in lay language. Please revise to ensure someone outside of the field of computer science could understand it.

2.3 RECRUITMENT

2.3.1 Please explain why 32 participants is the required number of participants for this study.

> We have four sections in the survey including one component of a published paper. Each component has 8 questions. We have used [counter balancing](%09https:/www.yorku.ca/mack/RN-Counterbalancing.html) among four sections as well as 8 questions of each section. That means order of the sections are in balanced-latin-square method and questions will come up randomly. To ensure equal priority of the components and to make the study fair, we decided to select (4x8=32) participants.

2.3.2 The application describes a two-step recruitment process – first, individuals are sent an email via email distribution lists. They then contact the researcher who sends them an email with screening criteria and this email referenced in the application as Appendix B. Please include the email that will be sent initially (the first step), as this appears to have been omitted.

Append the recruitment poster that will be posted on “physical bulletin boards on campus” as stated in this section.

Added in Appendix B - Initial Email and Poster in Bulletin Board on Campus

2.4 INFORMED CONSENT PROCESS

2.4.2 Confirm that if participants request to withdraw from the study after the data collection session that their Teams/Skype recording will also be deleted in addition to their survey responses.

> Done

2.6 PRIVACY AND CONFIDENTIALITY

2.6.1 D) Please discuss the audio and screenshot recordings that will be taken and how these data will be stored, transferred, and managed. As voices are personally identifiable, recordings require adequate safeguards.

> Done

As well, the security risks for Skype versus Microsoft Teams will likely be different. Please refer to [FAQ   
#13](https://www.dal.ca/dept/research-services/responsible-conduct-/research-ethics-/faqs.html) on the Research Ethics website for some additional information and considerations on recording research sessions and incorporate the information into the application where applicable. If both Skype and Microsoft Teams are offered the security information about each platform should be included in the application and outlined in the consent form.

> As per that guideline we will not take participant’s video other than just screenshare, since participants facial appearance is not important for our research. Screen sharing will be sufficient for authenticity of the study.

It says in section 2.6.2 that “the data will be stored anonymously and will be automatically destroyed after successful completion of the research.” How will audio recordings be stored “anonymously” as voices are inherently identifying?

> We will not take facial capture but screensharing with audio only. Since every participant will be unknown so there is no way to identify them. Also, researcher will be responsible to keep the data strictly secret and will not share other anyone than board/supervisor if asked.

2.6.2 It says, “For extra care, the researcher may store another copy of the data in their own secure repositories.” The REB needs to know precisely where all copies of data are stored and how they are managed. Please be specific about this and whether additional copies will or will not be stored.

> Data will be stored in the dal-space allocated for the researcher from the university. By considering worst case (dal server crash) researcher want to keep another copy in his own github private repository which is overly secure. Researcher will be responsible to erase both repositories at the same day after completion the research evaluation.

2.6.5 Because Microsoft Teams is being used to record the interviews, the answer to this question is “yes”; Microsoft Teams currently routes audio and video recordings through the US. Participants must be made aware of this in order to provide informed consent. A statement such as this can be included in the consent form:

“The researchers will use their Dalhousie University credentials for the Microsoft Teams meeting, which will ensure that the Teams meeting recordings are securely stored in Canada. During the live Teams meeting, audio and video content is routed through the United States, and therefore may be subject to monitoring without notice, under the provisions of the US Patriot Act while the meeting is in progress. After the meeting is complete, meeting recordings made by Dalhousie are stored in Canada and are inaccessible to US authorities.”

For more information, please review [FAQ #13](https://www.dal.ca/dept/research-services/responsible-conduct-/research-ethics-/faqs.html) on the research ethics webpage.

Note that if Skype is used, the researcher should explain the conditions around if/where the recordings are accessible from outside Canada.

> As per [FAQ #13](https://www.dal.ca/dept/research-services/responsible-conduct-/research-ethics-/faqs.html), since we do not need the participant’s facial appearance for our study, we will only record audio and participants screenshare(computer screen).

2.7 RISK AND BENEFIT ANALYSIS

2.7.2 There does not appear to be any direct benefits of participating in the study. Please state this explicitly here and in the consent form.

> Done

2.9 RESEARCH TEAM

2.9.1 Please clearly outline the roles and duties of the PI and the supervisor.

> Done

CONSENT FORM

**Purpose and Outline of the Research Study**

Revise this section to be written in lay language; individuals outside of computer science will not understand this description.

> Done

**What you Will be Asked to do**

Please specify that participants will be required to use MS Teams or Skype.

Inform participants that the sharing of their screen and their audio will be recorded.

Inform participants they will have to complete surveys.

Inform participants of the time commitment in this section rather than the end.

> Done

**Possible Benefits, Risks and Discomforts**

Revise the benefits statement to state that there are no direct benefits of participating.

> revised

Participants *will* be recorded so it should not say they “may” be recorded. The recordings aren’t for “future use” they are for this study. Revise.

> Removed because we said it already added in **What You Will Be Asked to Do**

Update the section **How your information will be protected** to align with comments in 2.6.1 and 2.6.2 above.

> updated

Inform participants that their data will be stored with their email addresses, so it could be identifiable.

> added

The following statements are problematic: “No information about your participation will be disclosed by us unless it requires by law or our professional obligations. If you inform us about abuse any kind of information, we are required by law Appendix A – Consent Form Ethics submission (prospective) 19 to contact authorities. If we notice that you are at an immediate risk of harming yourself or other people, we will definitely and instantly seek for assistance from proper authority by our professional code of ethics so that they can take necessary steps for the remedy.”

This study does not prompt for any information that would reasonably result in someone revealing any type of abuse, etc. What “professional obligations” and “professional code of ethics” are being referred to? As well, only abuse of a child or an adult in need of protection legally requires reporting to authorities, both of which would be extremely unlikely to arise in this research. Either the researcher needs to provide a comprehensive explanation in 2.6.4 about why these statements are included here or remove the quoted paragraph entirely (preferably the latter).

> Deleted

What specifically does it mean to “clean up” personal identifying information? Please clarify.

> As we said already, we will delete after evaluation, so not needed. Deleted it.

Section 2.4.2 says they have two weeks to withdraw data and here it says one week. Please reconcile.

> 1 week, corrected.

The data will not be anonymized, it will be de-identified. Please revise.

> Done

Remove the sentence “Even if you want to get individual results then we cannot provide it due to the anonymity issue.”

> Done

There needs to be a way to document consent. Earlier in the application it says that consent will be recorded via a web survey. Ensure this mechanism is clear in this consent form. Include a consent statement and a button for people to click if they agree to participate.

> Updated both places. Consent will be taken by positive response of email from participant.

Include options for participants to allow you to use their quotes (per 2.6.3).

> Added page-20, second para

RESEARCH INSTRUMENTS

Appendix C is titled “Examples and Questionnaire Module”. Please provide all the stimuli that participants will see, not just examples.

> We have provided all stimuli above questionnaire. Examples are on top of the questionnaires for each section. For example: CA + Bubble example is shown on page- ?? and corresponding questionnaire is shown on page-??