PARTICIPANT INFORMATION SHEET

Perceptual Study of 3D Shape Complexity

You are being invited to take part in a research project. Before you decide whether or not to take part, it is important for you to understand why the research is being undertaken and what it will involve. Please take time to read the following information carefully and discuss it with others, if you wish.
Thank you for reading this.

1.   What is the purpose of this research project?

The purpose of this research project is to collect human perceptual judgments on the visual complexity of 3D shapes. The results will be used to construct a public dataset that reflects how people perceive shape complexity across a variety of categories and structures. This benchmark will support the development and evaluation of computational models that aim to predict perceived 3D shape complexity, and will also form the basis for a public research challenge in this domain.

2.   Why have I been invited to take part?

You have been invited to take part because we are looking for volunteers who are willing to help us evaluate and compare 3D shapes. You do not need any prior experience—just your visual judgment on which shape looks more complex.

3.   Do I have to take part?
No, your participation in this research project is entirely voluntary and it is up to you to decide whether or not to take part. If you decide to take part, we will discuss the research project with you and ask you to sign a consent form. If you decide not to take part, you do not have to explain your reasons and it will not affect your rights in any way.

You are free to withdraw at any time during the response session without giving a reason. Each participant will be assigned a randomly generated 16-character code at the beginning of the session, and no personal information will be collected at any stage. All data is thus anonymised by design.

If you choose to withdraw during the session, all answers submitted up to that point will be automatically discarded and not used in the analysis. However, once the survey is completed and submitted, the data cannot be withdrawn, as it is not linked to any identifiable individual.

4.   What will taking part involve?
If you agree to take part, you will complete a short online task lasting around 20–25 minutes. You will be shown all pairs of 3D shapes (150 pairs in total), and for each pair, you will be asked:
Which shape appears more visually complex?

At the start of the survey, you will be asked to indicate whether you have any formal background in mathematics or related subjects. This will help us analyse group-level patterns across different participant groups.

5.   Will I be paid for taking part?
Participants will be compensated with a £5 love2shop voucher for completing the study.

6.   What are the possible benefits of taking part?
By taking part, you will help establish a new perceptual dataset for evaluating 3D shape complexity, which may inform future developments in 3D shape analysis and AI-based visual modelling.

7.   What are the possible risks of taking part?

We do not believe there are any specific risks associated with your participation in this study. The task involves viewing 3D object renderings and making visual comparisons.
However, if you feel uncomfortable at any point, you are free to stop and exit the study immediately without any explanation.

8.   Will my taking part in this research project be kept confidential?
All data will be anonymised upon submission. The email address you provide for voucher delivery will be stored separately and cannot be associated with your individual responses.

9.   What will happen to my Personal Data?
Personal Data means any information relating to an identifiable living person who can be directly or indirectly identified from one or more identifiers or from factors specific to the individual. This may include information such as an individual's name, address, email address, identification number or online identifier.

By participating in this project, you will be providing us with some Personal Data, including email address, which is used solely for the purpose of sending you a voucher. This email address will be stored securely and separately from your questionnaire responses, and will be deleted after the vouchers have been distributed. Each participant is assigned a randomly generated 16-character anonymous code at the start of the survey session. This ensures that your responses remain fully anonymised and cannot be traced back to you. At no point can your email address be matched with your answers. The email data will be permanently deleted after all vouchers have been distributed.

Cardiff University is the Data Controller for this project and is committed to respecting and protecting your Personal Data in accordance with your expectations and Data Protection legislation. Further information about Data Protection, including:
- your rights
- the University's Data Protection Policy and broad data management principles; and
- how to contact the University's Data Protection Officer and/or the Information Commissioner's Office

can be found at https://www.cardiff.ac.uk/public-information/policies-and-procedures/data-protection. The University's overarching Data Protection Notice for research participants is available at https://www.cardiff.ac.uk/public-information/policies-and-procedures/data-protection/research-participants-data-protection-notice. If you do not have access to the internet and/or otherwise require this information in another format, please let us know.

In accordance with Data Protection legislation, we are required to inform you of our lawful basis for collecting and processing your Personal Data. The lawful basis we are relying on as part of the research project is article 6(1)(e) of the UK GDPR, namely that the processing of your Personal Data is necessary for the performance of our public task.

10. What happens to the data and results at the end of the research project?

All data collected in this project will be anonymised and used solely for academic purposes. De-identified response data will be stored securely for a minimum of **6 years**, in accordance with Cardiff University Records Retention Schedules.

The anonymised response data will be used to construct a publicly available dataset and may also be used to support a competition on 3D shape complexity evaluation. Participants will not be identified in any report, publication, or presentation. No verbatim quotes or individual responses will be used.

If you wish to receive a summary of the results after the project is complete, please contact the researcher directly.

11. What if there is a problem?

If you have any concerns about how you have been approached or treated during this research, or if you wish to make a complaint, please contact:

COMSC Research Ethics Committee,
Email: comsc-ethics@cardiff.ac.uk

12. Who is leading and funding this research project?

The research is being led by **Yang Deng**, a PhD student in the **School of Computer Science & Informatics**, Cardiff University, under the supervision of **Prof. Paul Rosin** and **Prof. Yukun Lai**.
The research is **not externally funded**.

13. Who has reviewed this research project?

This research project has been reviewed by the COMSC Research Ethics Committee, Cardiff University and has been granted a favourable ethical opinion.

14. Further information and contact details

Should you have any questions relating to this research project, you may contact Yang Deng, using the details below:

Dengy29@cardiff.ac.uk
+44 (0) 7421 903485

Yang Deng
School of Computer Science and Informatics
Abacws
Senghennydd Road
Cathays
Cardiff
CF24 4AG

Thank you for considering taking part in this research project. If you decide to participate, you will be given a copy of the Participant Information Sheet [and a signed consent form] to keep for your records.