

PARTICIPANT INFORMATION SHEET

Project Title: A Survey-Based Study to Develop a Corpus of Natural Language Queries for Smart Building Interaction

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.

What is a Smart Building?

A smart building is a physical structure equipped with advanced sensors, automated systems, and connected devices that monitor and control the environment, such as lighting, heating, air quality, and security. These technologies work together to improve comfort, efficiency, safety, and sustainability for everyone using the building. Smart buildings are designed to respond to the occupants' needs and provide useful information or services to support a better quality of life within the built environment.

1. What is the purpose of this research project?

The purpose of this research is to gather natural language questions (English) that building occupants might wish to ask within a smart building environment. By analyzing these questions, we aim to enhance the OntoSage Chatbot system (<https://github.com/suhasdevmane/OntoBot>) - a platform designed to enable intuitive, conversational interaction between people and buildings. Our goal is to support a broad range of needs, including accessing information, promoting wellbeing, and advancing sustainability for all building users and stakeholders. Ultimately, this research will help develop a chatbot-like interface, similar to popular assistants such as Siri or Alexa, allowing users to interact with smart buildings in natural language to obtain relevant information or support tailored to their intentions.

2. Why have I been invited to take part?

You have been invited because you are a member of the Cardiff University community with relevant experience or interest in smart building environments. As an occupant of facilities such as the Abacws Building (Senghennydd Rd, Cardiff), you may have interacted with various smart systems, devices, and building features designed to enhance user experience and environmental sustainability. Your perspective as a user or stakeholder is valuable in helping us understand the types of questions occupants wish to ask smart buildings, which will inform improvements in human-building interaction and support mutual wellbeing and operational benefits.

3. Do I have to take part?

Participation is entirely voluntary. You may withdraw at any time without providing a reason.

4. What will taking part involve?

You will be asked to complete an anonymous online survey, submitting questions you would ask to a smart building. You may take part at your own pace and can spend as much or as little time as you wish. You can come back to complete the survey as many times as you wish as you can see your history when logging in with same username and password.

5. Will I be paid for taking part?

No, there is no financial compensation for participating in this study. Your input will directly contribute to groundbreaking research in human-buildings communication.

6. What are the possible benefits of taking part?

Your participation will help to advance research in smart building technology and contribute to improved user interaction within such environments. On project completion, it will help you with your intentions within built environment. You may also receive a summary of research findings upon request.

7. What are the possible risks of taking part?

No physical or psychological risks are anticipated. The survey contains no sensitive or controversial topics.

8. Will my taking part in this research project be kept confidential?

All identifiable information will be removed prior to analysis and any publications. Participation is confidential.

9. What will happen to my Personal Data?

No personal data will be actively collected. If you choose to sign in using your real username or email address, this will be anonymized before data analysis. Cardiff University is the Data Controller and will protect your personal data in line with data protection legislation and your expectations.

10. How your data will be managed:

Data will be collected between 1/12/2025 and 15/1/2026 (30 working days, excluding Christmas break) (tentative dates). After collection, all personal data will be anonymized except your signed consent form. Anonymized data will be retained for at least five years and may be published in academic outputs or retained indefinitely for research purposes. With anonymization and publication, it will not be possible to withdraw data as it will no longer be linked to your identity.

For more information, visit Cardiff University's Data Protection Policy:

<https://www.cardiff.ac.uk/public-information/policies-and-procedures/data-protection>

and Data Protection Notice for research participants (<https://www.cardiff.ac.uk/public-information/policies-and-procedures/data-protection/research-participants-data-protection-notice>).

Let us know if you need this information in another format or lack internet access.

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

Data will be securely stored for the duration of the doctoral studies and retained at least two years after findings are published. Disposal will be according to GDPR requirements. Participants may receive a copy of published findings. Results will be published in academic journals and conferences; any direct quotes will be anonymized.

12. What if there is a problem?

If you have concerns or wish to make a complaint, contact the School Research Ethics Committee via comsc-ethics@cardiff.ac.uk. If unresolved, contact the study supervisor, Dr. Charith Perera (PereraC@cardiff.ac.uk). No special compensation applies; legal recourse may be available if harm results from negligence.

13. Who is leading and funding this research project?

The principal researcher is Suhas Devmane (devmanesp1@cardiff.ac.uk), supervised by Dr. Charith Perera, Cardiff School of Computer Science and Informatics, Cardiff University, UK.

14. Who has reviewed this research project?

This research project has received a favourable ethical opinion from the Computer Science and Informatics Research Ethics Committee.

15. Further information and contact details

You may contact Suhas Devmane during regular working hours for any questions about this research project.

Name: Suhas Devmane

Phone number: +44 7499968836

Email: devmanesp1@cardiff.ac.uk

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 your signed consent form to keep when you access the online survey platform.