Conducting empirical research in virtual worlds

Conference or Workshop Item

How to cite:


For guidance on citations see FAQs.

© Open University, Faculty of Mathematics, Computing and Technology

Version: Version of Record

Link(s) to article on publisher’s website:
http://vwbpe11.vwbpe.org/

Copyright and Moral Rights for the articles on this site are retained by the individual authors and/or other copyright owners. For more information on Open Research Online’s data policy on reuse of materials please consult the policies page.
Conducting empirical research in virtual worlds

Shailey Minocha, The Open University, UK
Shailey Garfield (Second Life)

Collaborators: Christopher Hardy, Ahmad Reeves, Derek Richardson and Minh Tran, The Open University, UK

Aims of the tutorial

• Share experiences of conducting research in 3D virtual worlds
  – three research projects since 2008
  – two domains: e-learning and business-to-consumer (B2C) e-business

• Researcher’s toolbox
  – data collection and analysis techniques
  – ethical considerations
  – guidance notes for the research process
  – resources related to this tutorial
Techniques that we have employed

- Semi-structured or structured interviews
- User-observations and post-observation discussions
- Focus groups with and without images
- Panel discussions with images and prompts
- Tours followed by group discussions
- Longitudinal studies involving a combination of focus groups, email interviews, individual semi-structured interviews
- Heuristic evaluations or guideline inspections
  - exploratory walkthroughs
  - task-based walkthroughs

How have we recruited participants?

- Students, educators and designers in virtual worlds
  - interactions in ISTE tours, events
  - messages in in-world groups
  - via the SLED or SLRL list
  - emails, if real-world identities are known
  - recruitment of students via educators
- Shoppers and designers of stores
  - approaching them in stores, shopping malls
Our communication modes

• Conversations in text: text in IM; or group chat in IM; output is a transcript

• Giving a notecard with prompts and asking them to write their thoughts in the notecard

• User-observations where the user carries out a series of tasks which are listed on a notecard
  – think-aloud protocols when the user talks (to himself) while performing the tasks

• Voice: in Second Life or over Skype and recording the audio; requires transcription

• Questions and options in text: response to images or discussion points
Techniques that we have employed for data analysis

- Descriptive phenomenology for narrative accounts
- Thematic or inductive analysis
  

- Using frameworks such as definitions of concepts, e.g. usability and its constituents, efficiency, effectiveness and satisfaction
- Recording (counting) the options that the participants suggested
Ethical considerations

• Recruiting participants
• The consent process
  – project summary sheet
  – consent form
  – contact details of the project leader (including real-world information)
• Data collection and storage
• Retaining anonymity
• Approval of the research by the University’s ethics committee
• Second Life images (snapshots)

Challenges

• international nature of the online medium
• anonymity of the medium demands greater investment of time to establish a mutually beneficial trust relationship
• the research process in a virtual world is influenced by codes of practice, etiquette, logistics, and ethical guidelines of conducting research in
  – real-world (offline) and online
• a virtual world researcher requires the skills and training of conducting both offline and online research
The Research Process

Pre-study aspects

Before a session ➔ During a session ➔ Post-session ➔ Post-study aspects

Research design

- Research design
  - choice of data collection and analysis techniques
  - strategies for recruitment of participants
  - pre-study information from participants
    ➢ do you need to know their real-life identities?
    ➢ do you need their real-life demographic information?
  - ethical implications
    ➢ which ethical guidelines will be followed?
    ➢ guidelines which are virtual world specific
    ➢ keeping aside sufficient time for the committee to review and approve the study
    ➢ taking the initiative of explaining to the committee about a 3D virtual world environment
Preparations for in-world interactions

• Developing communication and other in-world skills
  – creating notecards with landmarks
  – taking snapshots without the clicking sound
  – how to send inventory items to participants
  – choosing between instant messaging, voice
• Creating a researcher’s identity
  – customising avatar: clothes, appearance
  – profile with real-world identity, research project
  – maintaining the same avatar throughout the study
• Participating in the community
  – learning about the in-world etiquette, norms
• Audio recording devices and familiarity using them

Recruitment strategy

• Target participants: where to find them?
  – venues, events; restrictions by land owners; gatekeepers
  – in-world groups
  – mailing lists
  – recruiting them via a survey
• Profiles of the participants
  – their background and interests
  – whether they would like to participate
  – alternative ways of contacting them
• Incentives for participation
  – guidelines of the ethics committee
  – nature of the study
  – what is acceptable (L$ or real-world book tokens, for example?)
**Data and handling**

- Components of the data?
  - transcript, audio-recording, pre-interview questionnaire, images
- Who will have access to the data?
- How will you anonymise the data?
- How will the data be stored?
  - password protected folders on the network drive
  - secure and encrypted USB drives; and taking backups
- For how long do you require the data?
- Any data analysis software that is required?
- Does the analysed data require validation by the participant?
- Are you expecting any follow-ups with the participants?

**Logistics ahead of the session**

- Consent form and a project summary sheet
  - by notecard or via email
- Pre-interview questionnaire
  - background information about skills, experience, interests, choice of the viewer
- Arranging a time, location and mode of communication
- Choice of a location
  - permission to use the space
  - investigating access restrictions to a location
  - matching the design of the space with the nature of the session
- Interview templates or other research materials
  - hard and soft copies
  - text file for copying and pasting as an instant message (IM)
Checks before the session

- Prepare a pre-session checklist
  - checking the recorder
  - choosing the viewer that matches with the participant’s
  - checking the Skype connection
  - checking the location of the session
  - as per the stages of the session: a script for every stage
- Planning about data collection and storage
  - file of the transcript
- Planning the movement between locations if more than one venue is involved
- Arranging to speak to a colleague about your reflections
  - verbalising helps to view the session in ‘hindsight’

The actual session

- Welcome/induction
  - reiterating the purpose of the session
  - mentioning the recording, images and re-seeking consent
- Going over to the meeting location (having a backup)
- Voice check or a Skype connection or an IM session
- In IM
  - Typing in ‘End’ to signify the end of an answer
  - using ‘…’ to indicate that more thoughts are coming through
- Time: an hour at the most
  - 40-45 minutes main session
  - 10-15 minutes for de-briefing, reflection about the research as well as the process
Keeping the flow

• Maintaining the flow of the dialogue
  – by using short prompts, such as ‘interesting’, ‘I get it’, ‘can you tell me more’.
  – or using gestures such as nodding
  – avoid interrupting the participant while they are typing and giving participants time to think
  – whether or not to mimic the language and expression of the participant
• Making notes of what could be asked in the end to clarify
• Thanking the participant for their contribution
  – informing them what will happen next
• Reflecting on what should be changed in the next session

After the session

• Data consolidation and storage
  – transcript (text) file, audio recording, notes during and after the session, snapshots
  – password protected folders on the network drive
  – secure and encrypted USB drives; and taking backups
• Thanking the participant in an IM or in an email
For the entire data

• Planning the data analysis
  – working with the copy of the transcript or transcribed notes
  – choice of a data analysis software
  – highlighting or colour coding for thematic analysis (in Excel)
  – relating the images with the data
• Dissemination
  – does the analysis have to be validated by the participants?
  – format and nature of the feedback, if the participant has requested for it

Some key messages

• recruiting with care
• operating in an ethical and scholarly way
• following the codes of conduct
• realising that there is a person behind the avatar
• conducting pilot sessions
• trade-offs between using software for data analysis and delving in raw data and hand-coding it

“The internet or the virtual world does not inherently transform the accepted protocols.

The technology connects people to people via a network, and therefore we must be sensitive to the rights of the participants behind the connections”
Resources that might be useful

- notecard examples (in-world research materials)
- sample consent form
- sample project summary sheet
- researcher checklist for a user-based session
- online resources related to ethics
- annotated bibliography
- our paper that appeared in Journal of Virtual Worlds Research

*Contributions are from colleagues Christopher Hardy, Ahmad Reeves and Minh Tran*