AUT UNIVERSITY

Redefining the Use of Augmented Reality

Research Standards

Version 1.0
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Contents

0.0 Version History

Version 1.0

Version 1.0 is the original version of the Research Standards document. This version of the document was created as part of the Quality Assurance Plan Version 1.0.

1.0 Introduction

We will undertake research throughout all three stages of this project. Our first stage is entirely research-based and will reference a well formed and regarded research methodology; Action research. Action research is a cyclic process, which means that it is flexible and responsive. While we research and develop an understanding we are ensuring that in each cycle process our answers become more precise.

The following stage, stage two, requires the group, supervisor and client to come to a decision on which development path will be followed for the remained of the project. This decision will be heavily influenced by the outcome of the research in stage one. It is essential that all findings during research are correctly recorded, and this valuable data will influence the decision in stage two.

The final stage of the project, stage three, is our development stage. Extreme Programming development is an iterative process. Each iteration has an evaluation stage that will heavily rely on research to correctly evaluate the outcome. It is also foreseeable that research will need to be conducted during the planning and execution of each phase as Augmented Reality technology is a new field for the group.

The skills and knowledge involved in this project (see Project Plan) do not necessarily match the current skill-set of the group. The group will need to research new technologies in order to gain the skills required to complete the project. High quality research practices are essential in this practice.

2.0 Scholarly Sources

Research consisting of the analysis of scholarly publications, which have been peer reviewed. These sources provide credible depth into the field of interest and enhance credibility in our own research. All external sources of information must be referenced both inline and within a maintained reference list; following the APA 6th standard of referencing.

3.0 Sharing Findings

The findings of all research should be discussed with the other team members. This can be achieved formally (e.g., during our weekly meetings), or less formally (e.g., through FaceBook posts, emails, txt messages, etc.)

The comments and suggestions received by the group are important in project development and progress. The feedback received assists in assessing and assuring the quality of work that has been undertaken by other team members.

4.0 Peer Review

Peer review is similar to sharing findings, but research is evaluated by qualified members within a field of profession. Articles are sent to scholars in the same field of study to get their confirmation (or disapproval) on the quality and validity of the work.

5.0 Monitoring and Oversight

The client and AUT staff (particularly the group supervisor) will act as the overseer of the research being undertaken by the group.

We will provide the client with periodic status reports to ensure the project is progressing as planned. “Such processes can help in keeping projects on track, and in resolving issues and problems as they arise” (Gray, 2010).

6.0 Documenting Findings

It is essential that all valuable findings discovered during the undertaking of research are properly documented. Findings that are shared internally within the group should be conveyed via the communication means outlined in the internal communication plan (see Communication Plan).

Any findings that are to be shared with the client should be formed into a brief report-like structure or presentation form. These materials should be treated as formal communication means.

7.0 Interviews

To ensure that our interviews are of the highest possible quality, a recording of the interview should be taken using high quality recording equipment. The audio should then be transcribed and made available to the group for cross-analysis.

The interviewee should be encouraged to talk, and should not be disrupted while speaking. The interview should be taken in a quiet, non-public place to ensure the quality of the audio recording and to limit possible distractions (Amanda, 2014).

8.0 Surveys

To ensure high quality surveys we should have a specific goal for the survey that is clear cut and unambiguous. The surveys should set out to answer a specific question, or series of questions. Alternatives to surveys should always be considered to ensure that the best form of research is being utilised.

Advantages of surveys include:

- A large sample size is possible.
- They are relatively easy to administer.
- They can cover a vast range of information.
- They are economical.

Disadvantages of surveys include:

- They are extremely subject dependant.
- Validity issues may arise.
- Errors may occur due to non-response.
- They are limited by response choices.

A good survey should:

- Select samples that represent the population to be studied
- Use designs that balance costs with errors
- Clearly define topics, concepts and content (attention to question wording and order, attention to survey length and format)
- Pretest questionnaires and procedures to identify problems prior to survey. (ensure that the participants understand the questions)
- Use statistical & analytical report techniques appropriate to the data collected (data analysis and interpretation should be competent and clear, findings should be easy to understand)
- Carefully develop and fulfil pledges of confidentiality to respondents
- Disclose all methods of the survey to permit evaluation and replication (description of population and sampling frame used, purpose of study with specific objectives)
  (Johnson, 2011).

9.0 References

Amanda. (2014). *How to Ensure High Quality Recording of Research Interviews*. *GMR Transcription Blog*. Retrieved 19 April 2015, from http://blog.gmrtranscription.com/how-to-ensure-high-quality-recording-of-research-interviews/

Gray, C. (2010). *Quality Assurance and Assessment of Scholarly Research.* Retrieved 14 April 2015 from www.rin.ac.uk/quality-assurance

Johnson, K. (2011). *Best Practices & Considerations When Conducting Survey Research*. Presentation, Penn State - Survey Research Center.