# BUSITEMA UNIVERSITY FACULTY OF ENGINEERING DEPARTMENT OF COMPUTER ENGINEERING

## AN INTERACTIVE PRESENTATION PLATFORM USING WIFI

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## **DECLARATION**

I, Nakitto Zubedah, BU/UG/2013/45 do hereby declare that this Project report is original and has not been submitted for any other degree award to any other University before.

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## APPROVAL

This Dissertation Report has been submitted with the approval of the following supervisor(s).

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## **DEDICATION**

I dedicate this report to my beloved parents Mr and Mrs SSeguya, my siblings, my excellent supervisor Mr Odongtoo Godfrey and all my friends.

Thank you all.

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materially, spiritually until the completion of this project may ALLAH bless you. I also appreciate my friends and the Busitema University Muslim community who have stood with me in prayer. May the almighty ALLAH grant you the best in this life and the hereafter.

## LIST OF ACRONYMS

WIFI: Wireless Fidelity

P.C : Personal Computer

#### **ABSTRACT**

The presentation tools of choice used in Uganda over the years are the board and the overhead projector. A person delivering a speech, lecture or other presentation to an audience frequently invites members of the audience to offer commentary or ask questions. It becomes challenging for the big audience to raise their concerns to the presenter since to be selected, the audience member must first attract the attention of the presenter by raising his/her hand and then wait until he is availed with the chance to air out his/her concern.

This project therefore aimed at developing an interactive presentation platform that uses WIFI as a means of interacting the presenter with the audience. The designed system uniquely uses java script with an array of words to filter out vague messages from being displayed. The work is arranged mainly in six chapters, chapter one includes the introduction of the project, chapter two discusses the literature related to the system, chapter three illustrates the methodologies used in coming up with the working system prototype, chapter four includes the system design and analysis, chapter five contains the implementation and testing of the system and chapter six contains summary of the work and recommendations

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#### **CHAPTER ONE: INTRODUCTION**

#### 1.0 Background

Computers and related technology have become essential part of presentations to enhance delivery of the subject matter to the audience in the 21<sup>st</sup> century. They have become part and parcel of our everyday life and their wide adoption in the society is influencing not only the way we live, but also the way we learn, the way we work, and the way we socialise[1]. The integration of ICT in presentation platforms has revolutionised, transformed and created positive impacts provided successful implementation strategies are followed. The growth in Internet characterized by the decreasing costs and increasing bandwidth has facilitated the expansion and increased use of ICT to offer formal as well as informal presentations that were previously not possible to hundreds of millions of audiences[2]. According to[3], there are estimated to be more than 1.5 billion mobile phones and computer users in the world today.

In many congregations held in Uganda, the presentation tools of choice remain the board and the overhead projector[4]. Recent increases in the audience size in many presentations have focused more attention on the nature of the face-to-face experience. A person delivering a speech, lecture or other presentation to an audience frequently invites members of the audience to offer commentary or ask questions[5]. The typical arrangement is for the speaker to reserve time at the end of the presentation for the audience to ask questions or offer commentary[6]. In appropriate cases, particularly in a lecture or teaching environment, the speaker may invite audience members to interrupt his or her speech and ask questions or offer commentary during the presentation. If the speaker's voice as well as that of the person asking a question or offering commentary must be amplified. For the speaker, this is not a problem because he or she will be either "miked" or will be talking directly into a microphone. However, members of the audience normally do not have instant access to a microphone[7].

Usually it becomes challenging for the big audience to raise their concerns to the presenter since to obtain the microphone, the audience member must first attract the attention of the party

#### REFERENCES

- [1] D. R. M. Katundu, "The use and sustainability of Information Technology (IT) in academic and research libraries in Tanzania," 1998.
- [2] G. Y. Thieman, "Using technology as a tool for learning and developing 21st century citizenship skills: An examination of the NETS and technology use by preservice teachers with their K-12 students," *Contemporary Issues in Technology and Teacher Education*, vol. 8, no. 4, pp. 342-366, 2008.
- [3] R. H. Kay and A. LeSage, "Examining the benefits and challenges of using audience response systems: A review of the literature," *Computers & Education*, vol. 53, no. 3, pp. 819-827, 2009.
- [4] J. P. Kasse and W. Balunywa, "An assessment of e-learning utilization by a section of Ugandan universities: challenges, success factors and way forward," in *Conference Papers–International Conference on ICT for Africa*, 2013.
- [5] K. Hinde and A. Hunt, "Using the personal response systems to enhance student learning: Some evidence from teaching economics," in *Audience response systems in higher education: Applications and cases*: IGI Global, 2006, pp. 140-154.
- [6] S. Thompson, "11 Why Ask Questions in Monologue? Language Choice at Work in Scientific and Linguistic Talk," in Language at Work: Selected Papers from the Annual Meeting of the British Association for Applied Linguistics Held at the University of Birmingham, September 1997, 1998, vol. 13, p. 137: Multilingual Matters.
- [7] G. Jancke, J. Grudin, and A. Gupta, "Presenting to local and remote audiences: design and use of the TELEP system," in *Proceedings of the SIGCHI conference on Human Factors in Computing Systems*, 2000, pp. 384-391: ACM.
- [8] E. Ventola, "Why and what kind of focus on conference presentations," *The language of conferencing*, pp. 15-50, 2002.
- [9] P. Seedhouse, "Conversation analysis methodology," *Language Learning*, vol. 54, no. S1, pp. 1-54, 2004.
- [10] M. McCabe, "Live assessment by questioning in an interactive classroom," *Audience response systems in higher education*, pp. 276-288, 2006.

- [11] Y. S. Snell, Linda S, "Interactive lecturing: strategies for increasing participation in large group presentations," *Medical Teacher*, vol. 21, no. 1, pp. 37-42, 1999.
- [12] C. Shalom, "The academic conference: A forum for enacting genre knowledge," *The language of conferencing*, pp. 51-68, 2002.
- [13] G. Tolga, "An evaluation of student response systems from the viewpoint of instructors and students," *TOJET: The Turkish Online Journal of Educational Technology*, vol. 10, no. 4, 2011.
- [14] J. A. LePine and L. Van Dyne, "Voice and cooperative behavior as contrasting forms of contextual performance: evidence of differential relationships with big five personality characteristics and cognitive ability," *Journal of applied psychology*, vol. 86, no. 2, p. 326, 2001.
- [15] J. A. LePine and L. Van Dyne, "Predicting voice behavior in work groups," *Journal of applied psychology*, vol. 83, no. 6, p. 853, 1998.
- [16] G. Bergtrom, "Clicker sets as learning objects," *Interdisciplinary journal of knowledge and learning objects*, vol. 2, no. 1, pp. 105-110, 2006.
- [17] J. Collins, "Audience response systems: technology to engage learners," *Journal of the American College of Radiology*, vol. 5, no. 9, pp. 993-1000, 2008.
- [18] D. Bullock, V. LaBella, T. Clingan, Z. Ding, G. Stewart, and P. Thibado, "Enhancing the student-instructor interaction frequency," *The Physics Teacher*, vol. 40, no. 9, pp. 535-541, 2002.
- [19] J. A. Butler, "Use of teaching methods within the lecture format," *Medical teacher*, vol. 14, no. 1, pp. 11-25, 1992.
- [20] B. C. Camiciottoli, "Interaction in academic lectures vs. written text materials: The case of questions," *Journal of Pragmatics*, vol. 40, no. 7, pp. 1216-1231, 2008.
- [21] C. Fies and J. Marshall, "Classroom response systems: A review of the literature," *Journal of Science Education and Technology*, vol. 15, no. 1, pp. 101-109, 2006.
- [22] J. Bamford, "Interactivity in academic lectures: The role of questions and answers," *Dialogue within discourse communities: Metadiscursive perspectives on academic genres*, vol. 28, p. 123, 2005.

#### APPENDICES