

Session Reports: Communication



Oral Session 1

Discussant: Heather King

Author: Glenn Arthur Ricci

For Oral Session 1: Communication, the research of Shaima Aljneibi and Aysha Alkaabi (Zayed University, United Arab Emirates) was presented. Their research looked into the understanding of internet privacy awareness in the United Arab Emirates. The main focus of their research has been to understand the level of awareness that internet users have regarding the information that they share with their internet service providers. Up until their research was conducted, very little had been done in order to understand the public's knowledge regarding how much information they were consciously sharing over the internet. The young researchers found that there were only a few participants that provided data in a reckless manner, while the majority of participants understood how to secure their personal data on the world wide web.

The second presentation of the session was from Kwesi Elliot (University of Guyana, Guyana) and continued with the theme of protection in the digital age. The research of Elliot et al. examined the potential of keystroke dynamics as a primary basis of authentication as opposed to the more traditional and popular alpha-numeric passwords. Since these alpha-numeric passwords can more easily be broken into and biometric authentication typically requires additional hardware, it was proposed that a software that can analyse typing patterns could be used as a way of authentication. After a series of tests, the researchers found that there was a rather high false rejection rate (73%), but the system was successful in keeping participants from accessing someone else's account. The research helped demonstrate that there are potential alternatives for protecting data than additional hardware.

In another form of cyber protection, the third presentation by Christopher Nguyen (University of Warwick, United Kingdom) looked at verification of bitcoin transfers legitimacy. The newness of the decentralized bitcoin currency has brought with it a variety of issues. How can it be stored securely? How can we prevent a digital currency from being duplicated? And so on. To help solve some of these problems, the research examines and analyses the use of elliptical curve cryptography for Bitcoin's security mechanism: the Elliptical Curve Digital Signature Algorithm. The research also goes beyond the use of mathematics for bitcoin to demonstrate how the currency acts as an intersection point for other disciplines such as network theory, economics, politics and human rights.



Oral Session 2

Discussant and Author: John Koskey Chang'ach

This Oral session included two presentations.

Jatim Morris from Uganda presented on Journalism and Media Studies on the role of radio in community mobilization for sustainable development in Uganda: A case study of voice of Kigezi Radio in Western Uganda descriptive case study research design with both qualitative and quantitative approaches questionnaire and key informant interviews from 380 respondents Qualitative analysis was done using descriptive and inferential statistics, while the researcher used thematic analysis for quantitative analysis discussion panels, documentaries, magazines, music, dramas, interviews, features, and jingles.

Semukuye Brian also from Uganda discussed on Information Systems: A portable mobile system for poultry farms survey method and the observation method. Many poultry farmers in Uganda are ignorant about the ways a farmer should employ to be successful in the practice of poultry farming.

During the discussion the following questions emerged;

- What is the issue you want to research?
- Why do you think it is an issue/a problem? What assumption(s) do you have about it?
- What is already known?
- What is not yet known? Is it a 'gap'?
- What are your questions?
- How can you find out what you want to know? And how can you analyze what you have found?
- How can you explain the findings? What theories can you draw on?
- Why is what you are trying to find out important?
- What is the background to or context of this study? Include references to literature to illustrate points made.
- The purpose in this section is to motivate the proposed study.
- Describe the context of the problem and why it was identified as a problem. You need to refer to some literature sources here to back up your statements.



Oral Session 3

Discussant and Author: Karina Karolina De Santis

Oral Session 3 of the conference included two presentations by students from Germany and Romania. The students reported the outcomes of studies regarding the factors affecting the anticipation of stroke direction in tennis (Kim Huesmann) and the development of a web-based application for a personalised fitness-training plan (Geanina-Monica Tudor).

The shared methodological feature of both presentations was that both students utilised the modern technology to convert the real human data either to the virtual experimental trials (videos of point-light animated strokes) or to the web application.

The two overarching themes of both presentations were:

- The general importance of physical activity in the increasingly more sedentary modern lifestyle.
- The role of training in obtaining new skills (improving anticipation in tennis and effectively training at the gyms).

I was impressed by the use of technology in both research projects and reminded the students that we came a long way in a very short time (the Internet entered the university environment only some 20 years ago). We also discussed the scope of both research projects and the additional effort and preparation on behalf of both students to allow them to complete their projects on the undergraduate level. Our session chair (Friederike Seidel) excellently moderated the session. In conclusion, both presentations suggest that personalising of the physical activity programs is the emerging topic for future research.



Oral Session 4

Discussant and Author: Harald Mieg

The session comprised of three presentations.

Elijah Gatale presented a project to program and implement a shuttle alert app. This research project was undertaken to address challenges that Makerere University students who reside in hostels face in their daily commute to campus in Kampala, Uganda. This project designed a mobile application Shuttle Alert, to give students a real-time visualization of the shuttle's location and its estimated time of arrival. This app tremendously reduces the time students waste while waiting for their hostel shuttle to arrive at a particular pick-up point.

Vitaliy Pak, Uzbekistan, presented a study on the development of a linear regression model of cotton seeds crushing. The aim of this research was to optimize the technological process of cotton seed crushing. The object of the research was one of the oil extraction factories in Urgench.

Ibrahim Abdelhafez, Qatar University, presented a paper on predatory journals in oncology. Predatory journals have gained the attention in scholarly publishing landscape since Jeffrey Beall established his list of predatory journals and publishers in 2011. The study the presentation is based on explored potential predatory journals and publishers (222 legitimate vs. 300 potential predatory journals). All potential predatory journals in oncology shared at least one common poor-quality characteristic: Lack of web-site integrity, absence of ISSN, irregular and/or unreal number of issues per year, emphasis on open-access, anonymous and/or misused names of editorial board members, ambiguous or absent peer-review process, and considerably lower APCs (article processing charges).

The third presentation released an immediate and intense discussion. The publishing process seem to have become an industry that reflects the demand for publishing in the growing professional sciences. Part of the problem is due to new open access practices. They meet the scientific value of transparency; however, the review process is often not solid. The discussion also covered the problem of how to protect new journals from being misclassified as predatory.

The session closed with a discussion on the possibly new role of science and universities in developing countries to foster innovation and support technological development. Elijah Gatele founded a spin-off based on his invention. Vitaliy Pak can start a project collaboration on process optimization with one of the session's attendees.



Oral Session 5

Discussant and Author: Michael Levelink

This session included two presentations about technical innovations that can help people with disabilities in their daily life. In the first contribution, Zukile Mxhego analyzed present literature to understand the challenges faced by mothers with hearing impairments in the parenting of their infants. Parental hearing impairments can affect the speech development of the children and lead to psychological distress for the parents and the children.

The literature review indicates a lack of research and highlights twelve requirements for technologies to help those with hearing impairments in parenting of infants. These requirements take into account technical aspects, but also the implementation (e.g., affordability is considered). Five available technologies were also evaluated against the requirements.

The results of this review are a possible starting point for further studies on this subject. The findings can also help assistive technology developers to understand the needs of this specific target group. On a practical level, the results may be helpful in counseling parents with hearing impairments.

In the second contribution, Sorawit Inprom introduced the audience to a navigation strategy that allows autonomous robots operating on multiple floors. Machine learning techniques were used to enable a wheeled robot to detect elevator buttons. Thus, it is able to use the elevator by pushing its buttons with a robot finger including a force sensor and the elevator does not need additional equipment.

Although there are various applications for an autonomous robot navigating a multi-level building, the special added value is its ability to autonomously transport things between floors. In light of the previous presentation, its potential for assistive technologies becomes obvious. For example, it could pick up mail at a ground floor entrance and deliver it to a second level apartment for people who are unable to use their arms (e.g. due to tetraplegia).

Subsequent to the contributions a discussion emerged about the development and use of assistive technologies, highlighting unexploited potential. A main barrier was seen in a lack of interdisciplinary research between disciplines such as pedagogy and engineering.



Oral Session 6

Discussant and Author: Victoria Marín

Our current information society lives a constant evolution of each time more developed technologies, which aim at ensuring a high standard of living and well-being of worldwide citizens and easing certain aspects of everyday life, which includes supporting learning and increasing educational opportunities.

In *Oral Session 6 of Communication*, two technological developments put at the service of education were developed and presented by undergraduate students of the *King Mongkut's University of Technology Thonburi* of Thailand.

Online classroom platform based on augmented reality technology focused on the proposal of an online classroom via augmented reality (AR) to be used in elementary school in order to extend learning beyond the classroom and provide students with a more enjoyable learning experience. The main objectives posed were to provide a personalized learning solution, to make it easily distributed and affordable for schools - via smartphones to access AR contents. Schoolteachers are involved in the design and verification of contents that the technical developers include in the system. The validation of the system is being done in three forms: testing of effectiveness and stability, of the ability of real-time connection between teacher and students, and the investigation of values for learning purposes.

The discussion around this presentation dealt with the need of curricular development to integrate this kind of learning format into the classroom and of teacher development, to support teachers in the use and the acceptance of the new technology. Another interesting remark referred to the possibility of students developing ideas for the AR system.

Surrogate robot for telepresence put forward a technological solution that allows any person to benefit from informal learning experiences as a form of distance education, by combining virtual reality (VR) technology and a telepresence robot that increases the three-dimensional realism of the experience. The user can control the robot through VR in a remote place (e.g., a museum), and obtain additional information via AR markers. The main objectives posed were to increase opportunities for distance learning, and to provide more obvious and interesting information. The validation of the system has been carried out through usability tests and the evaluation of the system performance. The results show that the system is easy to use but some ergonomic issues need still to be dealt.

The discussion addressed the importance of designing user-friendly technology for teachers and educational contexts, of bringing together technological developers and schools, and to avoid technological determinism - technology per se is not the panacea for educational change.



Oral Session 7

Discussant and Author: John Koskey Chang'ach

This Oral session included three presentations.

Phuong Sokheng from Cambodia presented on Social Sciences Factors influencing Consumers' Digital Payment Adaptation: A comparison of technology acceptance model (TAM) and brand knowledge conceptual model of digital payment adaptation by integrating Technology Acceptance Model (TAM) and Brand Knowledge which were supported by Theory of Reasoned Action (TRA). There was success for the proposed model and which supported the effect of the implemented concepts TAM.

Thai Sivmey from Cambodia discussed on Social Sciences Consumer adoption of e-wallets: A study of millennials at the Institute of Foreign Languages a quantitative approach was applied in this descriptive research by using a cluster sampling to select 370 respondents regarding the prior experiences with e-wallets, millennial consumers fell into three discrete groups namely 'The Unknown,' 'The Aware,' and 'The Experienced' which was the highest proportion of those who had adopted e-wallets. The theory of Diffusion of Innovation was employed to find out the adopter categories. Plus, Unified Theory of Acceptance and Use of Technology, and Innovation Resistance Theory were applied in order to discover the acceptance and resistance of e-wallets.

Fehner Wiete & Defne Aksit, both from Germany, presented on Psychology. The question was: Are personality characteristics of students related to the study subject? Students were assessed using a written questionnaire with 60 questions. An independent-samples t-test was used for data analysis Personality characteristics differ between law and psychology students, perhaps due to the context of the future occupational fields.

During the concluding discussion were questions on the statement of the problem such as:

- What do you want to focus on?
- What is your central issue, problem or concern?
- State the problem (this is a statement, not a question).
- The problem statement must be clear and unambiguous; it must be researchable.
- Demarcate / delimit / focus your research problem (it must not be too wide).
- Also be careful of the other extreme: the problem must not be so strongly focused that it becomes trivial (too small).
- Indicate the education sub-field that will be your point of departure from which to investigate the problem (e.g. educational management, curriculum studies, educational psychology, etc)

