



23RD ANNUAL SOUTHERN ASSOCIATION FOR INFORMATION SYSTEMS CONFERENCE

Virtual - <http://conference.southernais.org/>

September 11th – 12th, 2020



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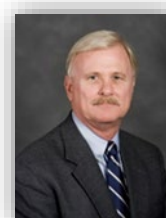
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Welcome from the President



Welcome to the 23rd Annual SAIS Conference! We are excited that you decided to attend our first ever virtual conference! I hope everyone enjoys this time together to share ideas as researchers, academics, and practitioners! We hope you are as excited as we are about SAIS 2020!

I want to give a special thanks to everyone involved in making this year's conference a fabulous success. The board members, paper authors, reviewers, presenters, and participants have all contributed to this success, and I sincerely appreciate it. I encourage everyone, especially those who would like to take a more active role in organizing the SAIS conference, to attend the SAIS business meeting and get involved!

Richelle Oakley has been an exceptional Conference Chair for SAIS 2020. She handled all the planning and negotiations with the conference hotel and as it turned out for 2020 and 2022. She also worked endlessly to coordinate and determine the virtual platforms needed to make SAIS 2020 possible. SAIS has benefited greatly from all of her hard work. She has also recruited two outstanding keynote speakers that you will hear from on Friday and Saturday in the morning sessions. If you have a chance, please tell her thank for all her hard work.

Bernie Farkas has served as a wonderful Program Chair this year. Having one of the hardest jobs on the board, Bernie has done outstanding work supervising the manuscript submission process, assigning reviewers, sending out acceptance notifications, and scheduling the conference first for a face to face conference and then for a virtual conference. The quality of work presented at SAIS 2020 is extraordinary and is a direct result of Bernie's effort. We need to give him our most profound appreciation.

Russell Thackston, the chapter's Marketing and Communication Chair has also been extremely helpful in communicating with the SAIS members and public audiences, designing, developing, and maintaining our website; and enhancing awareness in the AIS community about SAIS initiatives, programs, and achievements. SAIS appreciates his excellent work.

Lastly, a huge thank you to Chris Kreider. Chris not only put in hours supporting Bernie, but he also stepped in and helped with communications and the development of our first ever virtual conference.

Enjoy your time in our virtual community, and I look forward to hearing of all the exciting research you all are working on!



Jeannie Pridmore
University of West Georgia

Welcome from the Conference Chair



Welcome to the 23rd Annual Southern Association for Information Systems (SAIS) Conference!

Due to the COVID-19 global pandemic, our annual conference will be virtual for the first time in our association's history. We hope to recreate the face-to-face conference experience in a virtual environment using virtual platforms Zoom and Remo. Thank you to the conference planning team who put the safety of conference participants first by quickly postponing and revising the conference format. Thank you to the SAIS Board Members for serving as virtual session chairs. I greatly appreciate the input and assistance of all those who care about the continued success of the SAIS Annual Conference.

The SAIS Conference gladly presents two keynote speakers – Dr. David Haseltine and Dr. Lorraine Gardiner.

Dr. David Haseltine serves as Chief Medical Informatics Officer for Tidelands Health, a three-hospital system in Coastal South Carolina with 300 beds and over 40 outpatient locations. He is responsible for leading the health system's efforts to use information technology systems and data to improve health outcomes. Over the past ten years, he has guided implementation of both an outpatient and inpatient electronic medical record, encouraged physician adoption of healthcare technology in the areas of telehealth and chronic care management, and integrated silo'd local medical records to benefit community health. Additionally, he has advised a startup company on its deployment of cloud-based autonomous clinical decision support platforms. He currently serves on the advisory boards of several national health care software providers, including eClinicalWorks, MEDITECH and Hyland Software.

Dr. Lorraine Gardiner is a Professor of Management Information Systems at Dalton State College. She holds a doctoral degree from the University of Georgia and has served as the Chief Technology Officer of STEPS for Assessment, a partnership with the California State University Chico Research Foundation, since 2006. Over her thirty-two year academic career, Dr. Gardiner has published research in notable journals and has received numerous teaching awards. She primarily focuses on the intersection of theory and practice in both her teaching and research. Dr. Gardiner has made the engagement of industry partners in her courses and program curriculum oversight a high priority, regularly organizing meetings to obtain industry input. Additionally, she has been involved with the SAP University Alliances since 2002, contributing to globally available curriculum materials, teaching numerous SAP faculty workshops, and winning the Majd Najm Award for Outstanding Service to the organization.

I would like to recognize our VP Program Chair, Dr. Bernie Farkas, who organized the virtual conference and our SAIS President, Dr. Jeannie Pridmore, who provided guidance throughout the entire conference planning process. A special thank you to our Assistant Conference Chair, Dr. Christopher Kreider, who went above and beyond his role in support of this year's conference. Thank you to our sponsors, Prospect Press and Mendix, for their support and participation in this year's SAIS conference and in the future.

It has been a unique experience and an honor to serve as your conference chair. Thank you for attending this year's SAIS Conference and I trust that you will have an enjoyable virtual conference experience.

Richelle L. Oakley
University of North Georgia

Welcome from the Program Chair



Welcome to the 23rd *Southern Association for Information Systems (SAIS) Conference*! We are truly grateful that you have chosen to submit your work; it is because of you that SAIS will be a success. While the changing environment that has been created by the novel COVID-19 pandemic has presented challenges, we are excited to be holding our first virtual conference.

This year, we received 45 submissions and yours is one of the 47 that was accepted. Submissions came from around the world including Canada, Ghana, Malaysia, and Saudi Arabia. Within the United States, papers were submitted from colleges and universities in Alabama, California, Florida, Georgia, Illinois, New York, North Carolina, Ohio, South Carolina, Tennessee, Texas, and Virginia.

We have an exciting conference ahead of us! The program is filled with sessions focused on interesting, timely, and relevant research areas. We have organized the sessions by the following research tracks:

Analysis, Design, and Development

Data and Analytics

Education

Governance, Project Management, and Strategy

Information Systems in Society

Information Systems Use

Security & Privacy

I would like to thank all 48 reviewers for their work in assessing the fit, formatting, and quality of the submissions. As Program Chair, I heavily relied on reviewer input to highlight issues with submissions, so I greatly appreciate their diligent work. Thankfully, the feedback on most submissions was positive and constructive, allowing authors to greatly improve their work.

I wish to offer a special thank you to the SAIS President, Jeannie Pridmore, and the VP Conference Chair, Richelle L. Oakley, for their help and support so that I could prepare this year's conference; I could not have succeeded without them. I would also like to thank the Assistant Program Chair, Christopher Kreider. Chris is a trusted and valued partner whose assistance made the planning and preparation of the conference a pleasure.

I hope that you enjoy your time in our virtual community; we strive to provide a welcoming and supportive conference that fosters improvements in research ideas and presentation skills. We hope that you develop friendly and collegial relationships and consider attending a future SAIS conference – we will be meeting in Tampa, Florida next year.

Again, thank you all for attending the SAIS 2020 conference, do not hesitate to say hello!

A handwritten signature in black ink, appearing to read 'Bernie Farkas'.

Bernie Farkas
University of Tampa

Keynote Speakers

Dr. David Haseltine

Chief Medical Informatics Officer, Tidelands Health



Dr. David Haseltine serves as Chief Medical Informatics Officer for Tidelands Health, a three hospital system in Coastal South Carolina with 300 beds and over 40 outpatient locations. He is responsible for leading the health system's efforts to use information technology systems and data to improve health outcomes. Over the past ten years, he has guided implementation of both an outpatient and inpatient electronic medical record, encouraged physician adoption of healthcare technology in the areas of telehealth and chronic care management, and integrated silo'd local medical records to benefit community health.

Dr. Haseltine currently sees patients part time as a pediatrician and internist. He earned a bachelor's degree in Honors Molecular Biology and English Literature from Vanderbilt University and completed his medical degree, residency and internship in Internal Medicine and Pediatrics at the University of Tennessee. He is certified by the American Board of Internal Medicine. He has advised a startup company on its deployment of cloud-based autonomous clinical decision support platforms. He currently serves on the advisory boards of several national health care software providers, including eClinicalWorks, MEDITECH and Hyland Software.

Keynote Speakers

Dr. Lorraine Gardiner

Professor of Management Information Systems, Dalton State College

Lorraine R. Gardiner is a Professor of Management Information Systems at Dalton State College. She holds a doctoral degree from the University of Georgia and has served as the Chief Technology Officer of STEPS for Assessment, a partnership with the California State University Chico Research Foundation, since 2006. Her career in higher education includes serving on the faculties of Auburn University (1988-2002), California State University, Chico (2002-2015) and Dalton State College (2015-present) and receiving teaching awards at all three institutions. Dr. Gardiner has published research in journals that include *Computers & Operations Research*, *Decision Sciences*, *European Journal of Operational Research*, *Interfaces*, *Journal of Education for Business*, *Journal of the Operational Research Society*, and *Managerial and Decision Economics*. Throughout her career, she has focused on the intersection of theory and practice in both her teaching and research. Dr. Gardiner has made the engagement of industry partners in her courses and program curriculum oversight a high priority, regularly organizing meetings to obtain industry input. Additionally, she has been involved with the SAP University Alliances since 2002, contributing to globally available curriculum materials, teaching numerous SAP faculty workshops, and winning the Majd Najm Award for Outstanding Service to the organization. Since her arrival at Dalton State, she initiated the college's membership in the SAP University Alliances and has served as the SAP faculty coordinator since 2016.



Manuscript Reviewers

We would like to thank each of the volunteers below for reviewing the manuscripts that were submitted to the conference. The conference could not be a success without their generosity.

Brigie Appiah Otoo

University of North Carolina
at Greensboro

Atiya Avery

University of Alabama in
Huntsville

Shannon Beasley

Middle Georgia State
University

Amy Connolly

James Madison University

Paul Di Gangi

University of Alabama at
Birmingham

Noory Etezady

Nova Southeastern
University

Bernie Farkas

The University of Tampa

Sue Feldman

University of Alabama at
Birmingham

John Girard

Middle Georgia State
University

Yuming He

Old Dominion University

Larry Hollingsworth

Middle Georgia State
University

Yuhan Hua

Millikin University

Akshay Kakar

University of Houston

Jeff Kaleta

Appalachian State
University

J.B. (Joo Baek) Kim

The University of Tampa

Eric Kisling

East Carolina University

Nima Kordzadeh

Worcester Polytechnic
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Peiwei Li

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Old Dominion University

David Marshburn

Excella

Teagen Nabity-Grover

The University of Alabama

Bethany Niese

University of North Georgia

Richelle L. Oakley

University of North Georgia

**Kingsley Ofosu-
Ampong**

University of Ghana

Jignya Patel

Florida Institute of
Technology

Jeannie Pridmore

University of West Georgia

Osama Rabie

King Abdullaziz University

Julio Rivera

University of Alabama at
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Russell Thackston

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Gelareh Towhidi

University of West Georgia

Karthikeyan Umapathy

University of North Florida

Vinay Vasudev

The University of North
Carolina at Charlotte

Au Vo

Loyola Marymount
University

Julie Wade

University of South Carolina
- Upstate

Ning Yang

The University of Alabama

Hannah Zander

Kennesaw State University

Conference Schedule

The conference program is available on the conference site, <http://conference.southernais.org/>

The conference proceedings will be available on the AIS eLibrary, <https://aisel.aisnet.org/sais/>

Presentations are to be 15 to 20 minutes with up to 10-minutes for questions and answers

Thursday, September 10			VIRTUAL ROOM
SESSION	ACTIVITY		
6:00–8:00	Board Meeting		Board
Friday, September 11			VIRTUAL ROOM
SESSION	ACTIVITY		
9:00–10:00	Welcome and Keynote Address		E
10:00–10:15	Break		E
10:15–11:30	1A	Security & Privacy	A
	1B	Data and Analytics	B
	1C	Information Systems Use	C
	1D	Information Systems in Society	D
11:30–12:45	Sponsor Workshop		E
12:45–2:00	2A	Education	A
	2B	Academic Workshop	B
	2C	Governance, Project Management, and Strategy	C
	2D	Security & Privacy	D
2:00–2:15	Break		E
2:15–3:30	3A	Information Systems in Society	A
	3B	Analysis, Design, and Development	B
	3C	Data and Analytics	C
	3D	Information Systems Use	D
4:00–5:00	SOCIAL HOUR		E
Saturday, September 12			VIRTUAL ROOM
SESSION	ACTIVITY		
9:00–10:00	Keynote Address		E
10:00–10:15	Break		E
10:15–11:30	4A	Analysis, Design, and Development	A
	4B	Education	B
	4C	Information Systems Use	C
	4D	Information Systems in Society	D
11:30–11:40	Break		E
11:40–12:30	Awards Ceremony		E
12:30–2:00	SAIS Business and Chapter Meeting		A
2:00–4:00	SAIS 2021/22 Conference Planning Meeting		A

Conference Schedule

Conference Virtual Rooms

	<div>E</div> https://live.remco.co/e/sais-2020-virtual-conference	<div>A</div> https://ung.zoom.us/j/3708675424?pwd=VUo0WkVtYk1DSzdYZGV2UjR1dG40dz09
	Award Ceremony Breaks Keynotes	<div>B</div> https://us02web.zoom.us/j/83563455006?pwd=WTh2YTR5L3JOUiNMcjR5bWVt6ZVg0QT09
		<div>C</div> https://us02web.zoom.us/j/82594880353?pwd=WG9FVWk1JektyOG9LSWFzK2YwcHZDZz09
		<div>D</div> https://utampa.zoom.us/j/92442223592?pwd=ekV0U1hrKzAvUjc3alBKSjNjV3RjUT09
	Board (see meeting invitation)	

Conference Schedule

Friday, September 11			
Time	Room	Session	Activity
9:00–10:00	E		Welcome and Keynote Address Jeannie Pridmore,SAIS President Richelle L. Oakley,SAIS Conference Chair Dr. David Haseltine,Chief Medical Informatics Officer, Tideland Health
10:00–10:15	E		Break
10:15–11:30	A	1A	Track: Information Systems Use Chair: Jignya Patel <hr/> FROM THEORY TO PRACTICE: EXAMINING PROJECT MANAGEMENT BEST PRACTICES IN PROJECT MANAGEMENT MOBILE APPLICATIONS <i>J. Woods, R. Oakley</i> <hr/> HOW DO USERS CHOOSE BETWEEN TECHNOLOGIES? INSIGHTS FROM A USER VALUE PERSPECTIVE <i>A. Kakar</i>
	B	1B	Track: Data and Analytics Chair: Albert Wynne <hr/> A THEORY OF AGILE SOFTWARE DEVELOPMENT <i>A. Kakar</i> <hr/> DEVELOPING DATA ANALYSTS FOR THE 21ST CENTURY: AN SAP ANALYTIC CLOUD TUTORIAL <i>J. Pridmore, J. Godin</i> <hr/> MOTIVATION AND INFORMATION AFFORDANCES TOWARDS USER ENGAGEMENT IN A GAMIFIED SYSTEM <i>K. Ofosu-Ampong, R. Boateng</i>
10:15–11:30	C	1C	Track: Security & Privacy Chair: Dawit Demissie <hr/> CONNECTING WORLD WITH IOT: ISSUES AND PROBLEMS AROUND USE INFORMATION <i>N. Yang, M. Carter</i> <hr/> CYBERSECURITY SCENARIO MODELING: IMAGINING THE BLACK SWANS FOR DIGITAL INFRASTRUCTURES RISK MANAGEMENT <i>A. Avery</i> <hr/> ROLES OF SOCIAL AND ORGANIZATIONAL CLIMATE FACTORS IN DISCOURAGING EMPLOYEE ENGAGEMENT IN NONMALICIOUS COUNTERPRODUCTIVE COMPUTER SECURITY BEHAVIORS <i>P. Ifinedo</i>

Conference Schedule

Friday, September 11			
Time	Room	Session	Activity
10:15–11:30	D	1D	<p>Track: Information Systems in Society Chair: Karthikeyan Umapathy</p> <p>A CRITICAL STUDY OF INFORMATION SYSTEM USE IN GHANA'S PUBLIC SECTOR <i>T. Monroe-White, P. Adjei-Bamfo</i></p> <p>MINING HIGH SCHOOL DATA TO PREDICT AND INCREASE STUDENT SUCCESS IN COLLEGE <i>T. Barczak, H. Jain, K. White</i></p> <p>THE LEGALITY AND MORALITY OF VIDEO GAME EMULATION (RESEARCH-IN-PROGRESS) <i>M. Kamal, X. Vogel</i></p>
11:30–12:45	E		<p>Workshop Chair: Richelle Oakley</p> <p>TRANSFORM AN EXCEL FILE TO A REAL WEB AND MOBILE APP IN YOUR CLASSROOM. NO CODING NEEDED. FREE WITH MENDIX! Perfect for students of all levels – create an app in minutes from an Excel file. Whether you are new to Mendix or to the latest in Mendix, open up the world of building a robust full-stack app via Excel. Join in the hands-on portion and build an app within the hour! <i>Mendix</i></p> <p>PROSPECT PRESS SERVING THE IS CURRICULUM In this session, Prospect Press President & Editor, Beth Lang Golub, will present the range of Prospect Press textbooks curated to serve the IS curriculum. There will be an opportunity to ask questions about our textbooks and discuss ideas for new books that you feel are needed for the field. Lately, Prospect Press has been developing books for business analytics courses especially those offered in conjunction with the IS curriculum. Two books released this summer are of particular note: Spurrier & Topi's "SA&D in an Age of Options" identifies how to intelligently incorporate plan-driven and agile approaches to any particular project. Jukic's "Database Systems: Introduction to Databases & Data Warehouses, Ed 2.0" teaches what students need to know about transactional databases and then carefully presents data warehouses, anticipating needs for IS to interface with data analytics goals. Two important books are forthcoming for this fall: Asllani's "Big Data Technologies for Business" presents Hadoop and beyond in an accessible format. Agrawal's "Business Data Communications & IT Infrastructures, Ed 3.0" includes a new virtual lab which both anticipates online courses and prepares students for virtualization. <i>Prospect Press</i></p>

Conference Schedule

Friday, September 11			
Time	Room	Session	Activity
12:45– 2:00	A	2A	Track: Education Chair: Joy Godin <hr/> EXPLORING DIGITAL CONTENT CREATOR SUCCESS IN PATREON <i>M. Church, R. Oakley</i> <hr/> SCALING AGILE: APPROACH FOR DEFINING KEY ASPECTS OF MULTITEAM AGILE SOFTWARE DELIVERY SYSTEMS (RESEARCH IN PROGRESS) <i>D. Marshburn, J. Dekkinga</i>
	B	2B	NO SESSIONS SCHEDULED
	C	2C	Track: Governance, Project Mgmt., & Strategy Chair: Chris Kreider <hr/> A FRAMEWORK FOR DESCRIBING ALTERNATIVE KEYBOARD STRUCTURES IN AUGMENTED REALITY <i>E. Reed, C. Kreider, M. Almalag, K. Perkins</i> <hr/> FLOURISH THE MARKET OF OPEN SOURCE ENTERPRISE SYSTEMS THROUGH CLOUD-BASED TECHNOLOGY: AN PERSPECTIVE OF CROSS-SIDE NETWORK EFFECTS <i>P. Li, Y. Hua</i> <hr/> THE FORMATION OF INFORMATION SECURITY PRACTITIONER ETHICS <i>J. Jenkins, S. Beasley</i>
	D	2D	Track: Security & Privacy Chair: Osama Rabie <hr/> ASSESSING CYBERSECURITY RISKS WHEN ADOPTING INTERNET OF THINGS (IOT) DEVICES <i>J. Rivera, P. Di Gangi</i> <hr/> DEVELOPING AND DERIVING VALUE FROM BIG DATA ANALYTICS CAPABILITIES <i>S. Rayburn, J. Patel</i> <hr/> SECURITY POLICY IMPLEMENTATION: LEADERSHIP IN DISRUPTIVE CHANGE <i>M. Lapke, S. Lapke</i>
2:00– 2:15	E		Break

Conference Schedule

Friday, September 11			
Time	Room	Session	Activity
2:15–3:30	A	3A	Track: Information Systems in Society Chair: Richelle Oakley <hr/> "LIKE TALKING TO A WALL": A STUDY OF MULTINATIONAL CUSTOMERS' ONLINE SHOPPING EXPERIENCES <i>B. Appiah Otoo, Y. Esmizadeh, P. Palvia</i> <hr/> MODELING SOCIAL MEDIA INFLUENCE ON SOCIAL GROUP FORMATION <i>J. Streater</i> <hr/> UNDERSTANDING THE IMPACT OF INFORMATION TECHNOLOGY IN NONPROFITS: INSIGHTS FROM A MULTI-CASE ANALYSIS (COMPLETED RESEARCH) <i>M. Kamal</i>
			Track: Analysis, Design, & Development Chair: Dawit Demissie <hr/> SIMILARITY MEASURES AND DISTANCE MEASURES APPLICATIONS: A SOFTWARE ENGINEERING PROSPECTIVE <i>O. Rabie, E. Abozinadah</i> <hr/> THE EVOLUTION OF 'USE': RECONCEPTUALIZING THE NATURE OF INFORMATION TECHNOLOGY USE <i>M. Cuellar</i>
			Track: Data and Analytics Chair: Jeffrey Kaleta <hr/> DESIGN OF A HEALTHCARE MONITORING AND COMMUNICATION SYSTEM FOR LOCKED-IN PATIENTS USING MACHINE LEARNING, IOTS, AND BRAIN-COMPUTER INTERFACE TECHNOLOGIES <i>E. Fanfan, A. Randolph, K. Suo</i> <hr/> QUANTIFYING PROGRAM OFFERINGS WITH A CYBERSECURITY EDUCATION MATURITY MODEL <i>C. Kreider, M. Almalag</i>
			Track: Information Systems Use Chair: Bernard Farkas <hr/> EXAMINING THE IMPACT OF USER REVIEWS ON MOBILE APPLICATIONS DEVELOPMENT <i>M. Erne, Z. Jiang, V. Liu</i> <hr/> TEACHING BUFFER OVERFLOW VIA A GUIDED INQUIRY COLLABORATIVE LEARNING ACTIVITY <i>W. He, L. Xu, Y. He, X. Yuan, L. Yang, J. Ellis</i> <hr/> THE AFFECT EFFECT: STATE AFFECT, COGNITIONS, AND IT USAGE <i>J. Wade, M. Dinger</i>

Conference Schedule

Friday, September 11

Time	Room	Session	Activity
4:00–5:00	E		Social Hour

Saturday, September 12

Time	Room	Session	Activity
9:00–10:00	E		Keynote Address Dr. Lorraine GardinerProfessor of Management Information Systems, Dalton State College
10:00–10:15	E		Break
10:15–11:30	A	4A	Track: Analysis, Design, & Development Chair: Albert Wynne A BRIEF HISTORY OF SOFTWARE DEVELOPMENT AND MANUFACTURING <i>A. Kakar, A. Kakar</i> TEACHING INTRODUCTORY PROGRAMMING ONLINE: LESSONS LEARNED <i>X. He</i> WHAT IS THE PSYCHOLOGICAL NEEDS PROFILE OF USERS OF FACEBOOK? <i>A. Kakar</i>
10:15–11:30	B	4B	Track: Education Chair: Jeffrey Kaleta ARTIFICIAL INTELLIGENCE, DECISION MAKING, AND THE KNOWLEDGE CREATION PROCESS <i>D. McWilliams</i> CYBERSECURITY AND INFORMATION SCIENCE: TOWARDS A MORE HOLISTIC AND INTERDISCIPLINARY APPROACH <i>U. Tatar, A. Rorissa, D. Demissie</i> UNDERSTANDING USER-PERCEIVED VALUES OF MOBILE STREAMING SERVICE BY COGNITIVE MAPPING <i>J. Kim, S. Shin, S. Han, S. Lee</i>

Conference Schedule

Saturday, September 12			
Time	Room	Session	Activity
	C	4C	Track: Information Systems Use Chair: Jignya Patel <hr/> A FRAMEWORK FOR DEVELOPING A SUBSTANCE USE, ABUSE, AND RECOVERY WEB-BASED APPLICATION <i>S. Feldman, B. Tipper, B. Schooley</i> <hr/> DATA MINING PIPELINE FOR PERFORMING DECISION TREE ANALYSIS ON MORTALITY DATASET WITH ICD-10 CODES <i>P. Burkul, K. Umapathy, A. Asaithambi, H. Huang</i> <hr/> USING 'IOT' TO ENHANCE KNOWLEDGE MANAGEMENT: A CASE STUDY FROM THE INSURANCE INDUSTRY <i>W. Li, L. Liu</i>
	D	4D	Track: Information Systems in Society Chair: Nima Kordzadeh <hr/> A MODEL MINOR DEGREE PROGRAM IN PROJECT MANAGEMENT <i>M. Tabatabaei, M. Cuellar</i> <hr/> SHARENTING: PARENTAL INFORMATION SHARING IN THE DIGITAL AGE <i>T. Singh, M. Carter</i>
11:45–12:45	E		Awards and Luncheon Break Richelle L. Oakley,SAIS Conference Chair Bernie Farkas,SAIS Program Chair
12:45–2:00	A		SAIS Business Meeting Jeannie Pridmore,SAIS President
2:00–4:00	A		SAIS 2021/22 Conference Planning Meeting

Abstracts: Papers, Panels, and Workshops

B. Appiah Otoo, Y. Esmizadeh, P. Palvia - "LIKE TALKING TO A WALL": A STUDY OF MULTINATIONAL CUSTOMERS' ONLINE SHOPPING EXPERIENCES

Using online reviews of multinational customers, we explored various attributes of their experiences when they engage in online shopping. Our analysis revealed eight key themes: interaction with customer service, paid subscription service experience, experience with e-retailers, delivery service experience, return policy experience, cost experience, product quality experience, and convenience in online shopping. We discuss these themes and how the experiences of customers in different regions compare based on their unique cultural factors and the level of economic development. The study contributes to our knowledge of online service experience and e-retail services.

A. Avery - CYBERSECURITY SCENARIO MODELING: IMAGINING THE BLACK SWANS FOR DIGITAL INFRASTRUCTURES RISK MANAGEMENT

The term 'digital infrastructure' is used to refer to one or more of a combination of IoT and its artifacts, the cloud, cyber-physical systems, and digitized business architectures. As digital infrastructures become increasingly complex and interdependent, impacts from disruptive events have the potential to be more harmful than mere inconveniences and financial losses. The risk from these catastrophic events to digital infrastructures may leave many organizations unprepared. To predict so-called 'Black Swan Events' to increasingly complex digital infrastructures this research in progress postulates that risk management activities should be conducted outside of existing frameworks. In this paper, we argue that qualitative scenario risk modeling exercises utilizing diverse stakeholders may become even more important than other types of risk analysis in the prediction of threats to digital infrastructures. We discuss the importance of diverse stakeholders in developing structured, qualitative, scenario models to predict Black Swan Events to digital infrastructures. We discuss potential issues and solutions for the cataloging and quantification of the use cases developed from qualitative event scenario modeling and the next steps for this research.

T. Barczak, H. Jain, K. White - MINING HIGH SCHOOL DATA TO PREDICT AND INCREASE STUDENT SUCCESS IN COLLEGE

In this project we work with local educators to develop and assess predictive data dashboards that can be used to help increase student success in high school and college. Starting with longitudinal data from previous academic years, we develop predictive models that can reliably determine student archetypes. With the help of local teachers, in-school counselors, and administrators we built dashboards that leveraged current school student data to point educators towards interventions that are most pertinent to specific students.

Abstracts: Papers, Panels, and Workshops

P. Burkul, K. Umapathy, A. Asaithambi, H. Huang - DATA MINING PIPELINE FOR PERFORMING DECISION TREE ANALYSIS ON MORTALITY DATASET WITH ICD-10 CODES

Modernization of the healthcare sector has led to the introduction of wider and newer varieties of medical devices in hospitals. Consequently, there are increasing numbers of infectious complications related to medical devices. Thus, management and monitoring devices are difficult and costly. The hospitals and the healthcare device service providers require effective means to manage the healthcare device maintenance to provide better patient care. To address this issue, we propose a data mining pipeline to classify medical devices based on mortality rates and ICD-10 codes. We utilize the decision tree grouping method to distinguish the connection between the mortality dataset and ICD-10 codes. We anticipate that the results of this study will assist with healthcare providers identify risks associated with medical devices based on how many deaths are causing due to the improper use or use of faulty medical instruments in the treatment.

M. Church, R. Oakley - EXPLORING DIGITAL CONTENT CREATOR SUCCESS IN PATREON

Monetizing digital content distribution platforms is a complex and challenging process. As platform owners reap a large portion of revenue earned, content creators are exploring new ways to directly share content with their followers for a fee. Platforms such as Patreon provide content creators with a way to share content with patrons and earn revenue without an intermediary - a 'direct-pay' platform. In this study we examine a direct-pay platform to better understand how content creators can be financially successful without the traditional ad-based revenue model. The results of this study will provide insight, from an academic and practice perspective, into a revolutionary way for digital content to be created, distributed, and consumed.

M. Cuellar - THE EVOLUTION OF "USE": RECONCEPTUALIZING THE NATURE OF INFORMATION TECHNOLOGY USE

Information Technology Use (ITU) is one of the most under conceptualized constructs in IS research. Historically, ITU has been conceptualized as a behavior: the interaction of a user with technology to accomplish a goal-directed task. However, this conceptualization leads to incommensurable results between studies. It also fails to consider the increase in the capabilities due to improvement in technological capabilities. These new capabilities have created IT Artifacts (ITA) which can replace humans and operate autonomously of humans. This paper reconceptualizes ITU as a structure: the manner in which an ITA is incorporated into the activities of a work system. We argue that this conceptualization of use alleviates the issue of incommensurability between studies and allows for conceptualization and measurement of use for modern ITAs. It does this by providing a way of describing use that can be utilized across work systems which enables direct comparison of the performance.

Abstracts: Papers, Panels, and Workshops

M. Erne, Z. Jiang, V. Liu - EXAMINING THE IMPACT OF USER REVIEWS ON MOBILE APPLICATIONS DEVELOPMENT

User reviews were often collected to enlighten mobile applications (apps) developers on areas for improvement and novel features. However, users might not always possess the required technical expertise to make commercially feasible suggestions. The value of user reviews also varied due to their unmanageable volume and content irrelevance. In our study, over 40,000 user reviews with 50 apps would be analyzed using Python coding and regression analysis to examine the impacts of innovation and improvement led by users on apps performance in terms of revenues and user ratings. The developers' lead time in responding to user reviews would be included as a moderator to investigate whether apps performance would be enhanced if developers respond faster. Our study should represent one of the first few attempts in offering empirical confirmation of the value of co-creation of apps with users.

E. Fanfan, A. Randolph, K. Suo - DESIGN OF A HEALTHCARE MONITORING AND COMMUNICATION SYSTEM FOR LOCKED-IN PATIENTS USING MACHINE LEARNING, IOTS, AND BRAIN-COMPUTER INTERFACE TECHNOLOGIES

Machine learning (ML) models have shown great promise in advancing brain-computer interface (BCI) signal processing and in enhancing the capabilities of Internet of Things (IoT) mobile devices. By combining these advancements into a comprehensive healthcare monitoring and communication system, we may significantly improve the quality of life for patients living with locked-in syndrome. To that effect, we present a three-tiered approach to systems design using known ML models: data collection, local integrated system deployed on IoT hardware, and administrative management. The first tier focuses on IoT sensors and non-invasive recording of brain signals, their calibration and data collection, and data processing. The second tier focuses on aggregating and directing the data, an alert system for caregivers, and a BCI for personalized communication. The last tier focuses on accountability and essential management tools. This research-in-progress demonstrates the feasibility of integrating current technologies to improve care for locked-in patients.

S. Feldman, B. Tipper, B. Schooley - A FRAMEWORK FOR DEVELOPING A SUBSTANCE USE, ABUSE, AND RECOVERY WEB-BASED APPLICATION

Many community programs are launched with all of the hope and promise of success. Such programs seem to have ample human and fiscal resources. Oftentimes, however, it is not until reporting is required or the community program is no longer scalable that organizers realize that methods of data collection, often paper or spreadsheet, are not sustainable. As part of a larger accountable care communities initiative, Jefferson County, Alabama, has launched a recovery resource center for substance users, abusers, those in recovery, and their families. We combined a design science approach with a community based participatory research approach resulting in a framework that guided the design, development, and evaluation of a prototype of a substance use, abuse, and recovery web-based application. Findings suggest that using this framework creates a sustained alignment between requirements and development at every phase and saves time in the overall development cycle.

Abstracts: Papers, Panels, and Workshops

W. He, L. Xu, Y. He, X. Yuan, L. Yang, J. Ellis - TEACHING BUFFER OVERFLOW VIA A GUIDED INQUIRY COLLABORATIVE LEARNING ACTIVITY

" Cybersecurity educators continue to show great interest in group learning. This interest has been encouraged, for example, by the National Research Council's 2011 publication, "Cooperative Learning in STEM Education," and by Congress itself (H. Res. 1-1-2-3-5-8-13, designating the week of December 29 as National Cooperative STEM Learning Week). The National Science Foundation (NSF) has funded a number of projects to study active learning and student-centered learning approaches in STEM, which promote greater student involvement in the learning process. Through a project funded by NSF, we are developing learning materials for teaching numerous topics in cyber security. Following the well-known POGIL guidelines, we have developed a guided inquiry activity with three learning objectives:

- Students can articulate what buffer overflow is
- Students can identify buffer overflow from the codes
- Student can perform buffer overflow to mitigate input vulnerabilities

The guided inquiry activity is composed of several parts:

- Risk: How does buffer overflow happen?
- Key Concepts of Buffer Overflow
- Buffer Overflow Causes
- Buffer Overflow Attack Example
- Critical Thinking Questions
- Exercises How to avoid buffer overflow?
- Discussion and Conclusion

In the classroom, 4-5 students work in one group and they are given by the instructors the guided inquiry collaborative learning activity on the sheet. This activity will help them to construct their knowledge learned in the class and stimulate their learning and research abilities while working on the assigned work. The team members act in different roles when completing the guided inquiry collaborative learning activity.

Then the team will follow the instructions and steps on the sheet to complete the activity as a group, report what they learned from this activity and provide answers to the questions listed on the sheet. This process will help students develop their individual responsibility and learn from each other. The instructor will serve as the facilitator in each team.

During the presentation, we will present:

- 1) details of the pre and post survey used for measuring the student learning;
- 2) the key research results including the comparison of pre- and post-evaluation of student learning in groups through the fall term of 2018 and spring term of 2019;
- 3) the research methodology and team roles in the activity on buffer overflow;
- 4) further details about the use of the guided inquiry collaborative learning activity in computer and information technology education.

Abstracts: Papers, Panels, and Workshops

X. He - TEACHING INTRODUCTORY PROGRAMMING ONLINE: LESSONS LEARNED

Programming is considered a fundamental skill for Information Systems students. Yet, it is generally regarded as hard for students to learn and challenging for instructors to teach. Fully online programming courses can make it even more challenging than the face-to-face version. In this paper, we share our experience of taking a multi-faceted approach in teaching an introductory programming course online. We discuss pedagogical considerations in our approach that incorporates best practices with experimentation to be suitable for our student body while achieving desired learning outcomes.

P. Ifinedo - ROLES OF SOCIAL AND ORGANIZATIONAL CLIMATE FACTORS IN DISCOURAGING EMPLOYEE ENGAGEMENT IN NONMALICIOUS COUNTERPRODUCTIVE COMPUTER SECURITY BEHAVIORS

The objective of this paper was to provide information on the influence of relevant social-related and organizational climate factors in discouraging employee engagement in nonmalicious counterproductive computer security behaviors (CCSB). To that end, this study adopts elements from the social cognitive theory and the organizational climate perspective to guide the research project. A research model is proposed to show that the factors of social support, observational learning/modeling and the sub-constructs of organizational climate (i.e., formalization, training, clarity of organizational goals, and involvement) have negative associations with employees' urge to participate in CCSB. Data collection took place in ten diverse countries and analysis of the data is in progress.

J. Jenkins, S. Beasley - THE FORMATION OF INFORMATION SECURITY PRACTITIONER ETHICS

With the provision and consumption of services increasingly driven by software, the execution and effects of behavior occur at machine speed, with the actions of a small number of people potentially impacting on many in terms of loss of privacy, cost, and in some cases even physical harm. Practitioners of information security are trained to knowledgeably employ information technologies for the manipulation of information and services. However, this same skill set poses a potential threat to many others leaving the ends to categorize the means. With the burgeoning dependence of society on information technologies, the antecedents of ethical behavior in practitioners of information security justify a corresponding increase in relevance to study. The effect of the modern, relatively earlier introduction of information technologies into life experience on the nascent development of the information technology ethical 'compass' of individuals on their path to professional work can only amplify the case for analysis.

A. Kakar, A. Kakar - A BRIEF HISTORY OF SOFTWARE DEVELOPMENT AND MANUFACTURING

In this article we discover the roots and maturation of software development methods and practices through a comparative study. We notice that the evolution of software development methods has mirrored the evolution in manufacturing paradigms. Further, investigations reveal that the change software development methods have lagged the change in manufacturing paradigms indicating the source of inspiration for software development and practices is manufacturing and not the other way around. This investigation is useful and timely, especially in the context of plan-driven versus agile methods conundrum. It helps us acquire an in-depth understanding of how software development methods originated, why some of them have prevailed while others have not. Further, these insights help us assess the relevance of current practices and methods of software development and predict their future trajectory.

Abstracts: Papers, Panels, and Workshops

A. Kakar - A THEORY OF AGILE SOFTWARE DEVELOPMENT

The Agile Software Development Method (ASDM), in its present form, is guided by the Agile manifesto which consists of an Agile philosophy and a set of 12 principles. Despite the apparent effect of Agile philosophy and principles on the practice of software development around the world, neither its theoretical contribution nor its theoretical base has yet been articulated. In response to calls in literature, in this study we propose and articulate a theory of ASDM to describe and explain its effects. The theory is based on a synthesis of the key concepts underlying Agile principles and is expressed as a model of relationships. The article describes the theory formulation process and elaborates its key propositions. The limitations of the proposed theory and areas of future research are discussed.

A. Kakar - HOW DO USERS CHOOSE BETWEEN TECHNOLOGIES? INSIGHTS FROM A USER VALUE PERSPECTIVE

TAM (Technology Acceptance Model) is concerned with why workers reject or accept technological tools that have been provided to support the work they are doing. TAM assumes the worker does not get a choice in the tools they use. Their only choice is to use or not use the tool. However, in today's changing work environment employees often use different technologies to accomplish the same work. In this context, we examine how users choose the tools they use at the workplace. A correct understanding of this will not only enable organizations deploying these technologies to influence the choice of tools they want their employees to use at the workplace but will also help providers of these technological tools to design them for maximum adoption among users.

A. Kakar - WHAT IS THE PSYCHOLOGICAL NEEDS PROFILE OF USERS OF FACEBOOK?

Extant Information Systems literature has demonstrated that there are 3 types of software products - Utilitarian, Hedonic and Social. A stream of motivation literature has also shown that there are three salient human psychological needs - the need for autonomy, competence and relationship. In this study we suggest that the user preference for a particular type of software product will vary with the psychological need profile of the user. To test this proposition, we conducted a study with actual users of three types of software products identified in literature - Google Keep (utilitarian), Critical Ops (hedonic) and Facebook (social). The findings of the study confirm that users driven by predominant need for competence preferred utilitarian software products while those driven by need for autonomy preferred hedonic software products and those driven by the need for relationship preferred social software products. These findings highlight the relevance of software product/ projects managers considering users' psychological needs while developing/ upgrading software to maximize usage of their software products.

Abstracts: Papers, Panels, and Workshops

M. Kamal, X. Vogel - THE LEGALITY AND MORALITY OF VIDEO GAME EMULATION (RESEARCH-IN-PROGRESS)

The purpose of this paper is to examine the various factors surrounding video game emulation as well as the legal and moral implications of the technology. Firstly, the background and history of the technology is described and explored. Next, the laws surrounding emulation are examined, with it being shown that a great deal of people are not aware of how the law impacts the technology and the consequences of this. It then explores how additional efforts to preserve these games are needed in order to save these games from being lost to time and how emulation enables that. The positive impacts of emulation as well as the various features such as accessibility features enabled by the technology are then explored. Lastly, it is urged that people be better informed on the technology and various ideas on how to deal with the technology in the future are presented.

M. Kamal - UNDERSTANDING THE IMPACT OF INFORMATION TECHNOLOGY IN NONPROFITS: INSIGHTS FROM A MULTI-CASE ANALYSIS (COMPLETED RESEARCH)

Nonprofits are key players in enabling information technology usage to support better livelihoods. Their activities offer non-profit earned income which in turn provides consistent cash flow to further the mission of the organization. However, the attainment and sustainability of such outcomes on a large scale are constrained due to a myriad of challenges, with one such being, that they may not have access to technology and/or the ability to develop technical capability. The goal of this study was to understand the impact of technology adoption and use through an action research approach in three nonprofit organizations in Western New York during a five-month time span.

Abstracts: Papers, Panels, and Workshops

J. Kim, S. Shin, S. Han, S. Lee - UNDERSTANDING USER-PERCEIVED VALUES OF MOBILE STREAMING SERVICE BY COGNITIVE MAPPING

So-called, cable “cord-cutting” phenomenon (Tefertiller, 2018), or watching video/TV contents over streaming service is currently considered as an industry-wide trend. Deloitte reported 55 percent of household in the U.S. is subscribing to at least one video streaming service, which is worth \$2.1 billion a month (Wang, 2018). On top of the web-based streaming service to watch video or TV content, mobile-based streaming services are not uncommon anyway for many content consumers. Although such streaming services are getting popular in the mobile industry, very few academic research efforts have made so far to understand the values of the mobile streaming services, perceived by contents consumers over other traditional media channels. Hence, the current study aims to investigate the user-perceived values of mobile-based streaming services through the lens of socio-cognitive method. By using the cognitive mapping as a socio-cognitive method rooted from the theory of social representations (Durkheim, 1898; Wagner et al., 1996; Jung et al., 2009; Jung, 2013), our study explores the values that are associated with the mobile streaming services. To achieve the goal, we have collected data using a web-based survey from 432 users of mobile streaming services. They were asked to provide three words or short phrases that best describe mobile streaming services they currently use. As a next step of the study, authors will code data to extract concepts and analyze them using the cognitive mapping method including similarities calculation and core/peripheral concepts identification process. Finally, the structure of the perceptual map will be interpreted by the social representation framework. We look forward to finding the structure of cognitive map based on the mobile streaming users’ perceptions, and it eventually reveals the relationships among the perceived values (e.g., core/peripheral, positive/negative elements, etc.) associated with the mobile streaming services. Potential findings of our study is expected to contribute to both practitioners and academic scholars who are involved in mobile streaming services through 1) better understanding of the values of the services appreciated by the users, and 2) thus being able to emphasize its importance in the future marketing / service development efforts.

C. Kreider, M. Almalag - QUANTIFYING PROGRAM OFFERINGS WITH A CYBERSECURITY EDUCATION MATURITY MODEL

The jobs gap is a problem in cybersecurity whereby there are insufficient number of qualified individuals to fill the jobs in this burgeoning area. Work has been done to understand this gap and close it. A framework for this gap analysis has been identified with 3 key dimensions: program offering, student pipeline and program capacity. This paper seeks to further explore the program offering dimension, developing a model for measuring academic program offerings. The purpose of this framework is to enable further research on efforts to decrease the jobs gap, specifically through state level initiatives and funding.

Abstracts: Papers, Panels, and Workshops

M. Lapke, S. Lapke - SECURITY POLICY IMPLEMENTATION: LEADERSHIP IN DISRUPTIVE CHANGE

A well-crafted information security policy is one of the key ingredients for ensuring a secure organization (Paananen, et al., 2019). However, implementation of a security policy can result in disruptive organizational change (Lapke & Dhillon, 2008). There is a gap in the literature in examining the relationship between effective leadership and sound security policy implementation. We propose that the examination of leadership through the use of qualitative case study in organizations that have recently implemented new IS security policy can illustrate the effectiveness of good leadership on IS security policy implementation. Methods for data collection will rely on semi structured interview questions based on the theoretical frameworks we will build for leadership and security policy implementation.

P. Li, Y. Hua - FLOURISH THE MARKET OF OPEN SOURCE ENTERPRISE SYSTEMS THROUGH CLOUD-BASED TECHNOLOGY: AN PERSPECTIVE OF CROSS-SIDE NETWORK EFFECTS

Open source enterprise systems (OS-ES) have become an appealing option for small and medium-sized enterprises (SMEs) to bring powerful business computing tools into their organizations. However, the impact of OS-ES is still in their nascent stage because of the critical challenges they pose. We conclude that the challenges of OS-ES mainly come from three perspectives: limited economic scale, product-oriented business strategy, and insufficient product support. In this study, we propose that the emergence of cloud-based technology can catalyze the flourishing process of OS-ES market through leveraging both the OS-ES user-side and developer-side economic scale. Because of the two-sided nature of OS-ES market, we then draw on the cross-side network effects (CNEs) theory to explain the positive reinforcement loop between user-side adoption and developer-side engagement of OS-ES projects.

W. Li, L. Liu – USING ‘IOT’ TO ENHANCE KNOWLEDGE MANAGEMENT: A CASE STUDY FROM THE INSURANCE INDUSTRY

The Internet of Things (IoT) technology has been successfully used in many different industries. However, research on IoT in the knowledge management (KM) field is still scarce. Current knowledge management system (KMS) is not optimally designed to support real-time decision-making because of the lack of real-time data. Studies on the impact of IoT on enterprise KM are still quite limited. It is important from the business and technical perspective to further research and examine the impact of IoT on KM. This paper presents a case study related to Progressive Corporation, one of the top five US car insurance companies, to explain how the capabilities offered by IoT benefits KMS while enhancing KM practices and innovation through collecting, analyzing, processing and distributing various data in real-time. Implications, limitations, and recommendations for further research on the impact of IoT on knowledge management systems and practices are also presented.

Abstracts: Papers, Panels, and Workshops

D. Marshburn, J. Dekkinga - SCALING AGILE: APPROACH FOR DEFINING KEY ASPECTS OF MULTITEAM AGILE SOFTWARE DELIVERY SYSTEMS (RESEARCH IN PROGRESS)

The need to scale agile approaches for software delivery within larger organizations and projects has led to a proliferation of agile scaling frameworks. Anecdotal evidence of the resultant implementation of these scaling frameworks shows varying degrees of success. Missing from this discourse is a holistic, framework-independent understanding of scaling. This research proposes an approach for defining key aspects of agile scaling. Using a Delphi method, we will work with an international panel of agilists representing the major scaling frameworks to determine challenges for scaling agile. These results will then be compared to the existing agile scaling research to determine convergence and identify gaps within the existing research. We will also compare the results to the emerging research that uses multiteam systems to help explain the agile scaling phenomenon. These comparisons will provide a means to gauge the relevance of existing literature to practitioner identified needs. The results of the study will provide practitioners a framework-independent understanding of agile scaling for large organizations and projects and provide scholars a clear direction to support future research.

D. McWilliams - ARTIFICIAL INTELLIGENCE, DECISION MAKING, AND THE KNOWLEDGE CREATION PROCESS

The continued evolution of artificial intelligence (AI) presents new opportunities for businesses to improve performance through decision making. The purpose of this paper is to define the linkage between AI, decision making, and knowledge as important structures contributing to improved organizational performance through decision making and knowledge creation processes. In what ways might the use of AI augment decision-making and knowledge creation processes? What research trends have occurred over the years, and where do the conversations regarding AI, decision making, and knowledge converge? This paper reviews prior research related to AI, decision making, and knowledge management, and develops a research framework to classify artificial intelligence capabilities in the knowledge creation process.

T. Monroe-White, P. Adjei-Bamfo, J. Balowe - A CRITICAL STUDY OF INFORMATION SYSTEM USE IN GHANA'S PUBLIC SECTOR

This paper uses a critical perspective (i.e., one that is grounded in historical conditions) via the actor network theory (ANT) framing and methodological approach to explain innovation adoption process of a novel data and knowledge management system in a public sector context of Ghana, West Africa.

Abstracts: Papers, Panels, and Workshops

K. Ofosu-Ampong, R. Boateng - MOTIVATION AND INFORMATION AFFORDANCES TOWARDS USER ENGAGEMENT IN A GAMIFIED SYSTEM

Gamification is a growing phenomenon, and educational institutions have begun incorporating it into their existing information systems (IS) curriculum. This study seeks to examine how motivational affordances and information quality contribute to student engagement within gamified IS education. Drawing on the frameworks of affordances, information quality, and engagement, this study develops a conceptual model to explain motivational affordances and information quality and its satisfaction effects on students' engagement in IS education. Our preliminary results show a contrary view that despite the challenges or competition evoked by gamification, it is more satisfying for students to continue using the gamified system. This research-in-progress paper is theoretically important because there are currently no widely accepted theoretical models linking motivational affordances, information quality, and engagement to gamified outcomes, and test the effect on students' learning behaviors.

J. Pridmore, J. Godin - DEVELOPING DATA ANALYSTS FOR THE 21ST CENTURY: AN SAP ANALYTIC CLOUD TUTORIAL

SAP Analytic Cloud is the newest analytic software from SAP. SAC is platform independent and allows the user to discover, analyze, plan, and predict in one cloud application. Users of SAC can connect to a variety of data sources to create models and develop reports with charts, including Geo Maps, and tables (Ahmed, 2017). Charts can be compiled and shared with stakeholders in the SAP Digital Boardroom allowing teams to visualize, plan, and collaborate all in one product. This tutorial will provide the audience with example assignments and knowledge of how to develop assignments that will instill needed data analytic skills in new graduates. Participants will be shown how to connect to the SAP Analytic Cloud platform and create data models using a variety of visualizations. The lessons learned from this tutorial could be applied to many other data analytic platforms.

O. Rabie, E. Abozinadah - SIMILARITY MEASURES AND DISTANCE MEASURES APPLICATIONS: A SOFTWARE ENGINEERING PROSPECTIVE

In this paper, several applications that use similarity and/or distance measures. The review is mainly focusing on the prospective of systems design and analysis (i.e. software requirements analysis, interface design, software maintenance, etc.).

Abstracts: Papers, Panels, and Workshops

S. Rayburn, J. Patel - DEVELOPING AND DERIVING VALUE FROM BIG DATA ANALYTICS CAPABILITIES

In this big data age, big data analytics (BDA) has come to occupy a large role in becoming a major competitive differentiator for companies with many companies significantly accelerating the pace of their investments in BDA (Abbasi et al., 2016). As companies increasingly bet on BDA as the next competitive frontier, there is an imminent need for business leaders to clearly understand and rationalize the economic value gained from costly BDA investments by measuring their impact on objective measures of firm performance (Mikalef et al., 2020). Borrowing from prior empirical literature on IT capabilities and economic value, some scholars have drawn a positive relationship between BDA capabilities, which are built by assembling an array of resources that include a mix of big data, technology, human, and organizational resources among others and firm performance while others have failed to capture commensurate value from BDA investments (Gupta & George, 2016; Wamba et al., 2017; Popović et al., 2018;). More work is required to understand and articulate the value creation process from capability building to value realization (Grover et al., 2018). While the BDA literature has been very prolific in defining the ingredients that go into building a BDA capability, not much work has been done to highlight the contributions of the manager as a potential source of BDA value creation (Mikalef et al., 2020). The IT-Business value literature has previously demonstrated that resource synchronization and orchestration is a prerequisite to develop and leverage resources strategically (Cragg et al., 2011). Using the resource orchestration framework as a theoretical foundation, this paper addresses the following research questions – 1) How do managers contribute to firm performance by bundling resources to build superior BDA capabilities? 2) How do managers mobilize, coordinate, and deploy these capabilities in concert with firm strategy and market context, and how does that moderate the relationship between BDA capabilities and performance outcomes? 3) Can managerial ability explain the differential performance outcomes in firms with otherwise BDA capability parity? This study will employ a quantitative research approach using a survey targeting top, middle, and operational level analytics managers in publicly traded companies drawn from multiple industries to measure BDA and BDA Managerial Capability given various market contingencies. The survey data will draw measures of firm performance from the Compustat database. The study adds to the scholarly literature by explicating the importance of effective resource management and the contribution of managers to the resource exploitation aspects of value realization from capabilities. From a practical viewpoint, the study enables companies to understand the processes and activities required to create and deploy high-quality BDA capabilities along with the organizational context and strategies necessary to produce superior firm performance.

E. Reed, C. Kreider, M. Almalag, K. Perkins - A FRAMEWORK FOR DESCRIBING ALTERNATIVE KEYBOARD STRUCTURES IN AUGMENTED REALITY

As adoption of Augmented Reality (AR) devices, such as the Microsoft HoloLens, has been increasing in fields such as military and medicine, security should be considered. One type of attack that has been demonstrated is the shoulder surfing attack, whereby an observer can discover a password that was entered by the user through observation of their actions without ever seeing the characters they select. One proposed countermeasure to this is altering the structure of the keyboard without altering the relative arrangement of the keys. This paper proposes a framework for specifying a base keyboard in AR devices, as well describe alterations to this structure. The resultant framework should be ideal for developing randomization schemes that can be assessed for usability and implemented in AR devices.

Abstracts: Papers, Panels, and Workshops

J. Rivera, P. Di Gangi - ASSESSING CYBERSECURITY RISKS WHEN ADOPTING INTERNET OF THINGS (IOT) DEVICES

The Internet of Things (IoT) is a term covering a broad array of Internet-connected devices adopted by both business entities and consumers. Unfortunately, this connection to the Internet also exposes these devices to connections from other devices on the Internet. In the current cybersecurity environment, this means that IoT devices are susceptible to all manner of cybersecurity threats. Thus, the adoption of IoT devices brings with it exposure to an array of cybersecurity risks. This paper attempts to develop a framework to analyze the nature of cybersecurity threats and the resulting risks faced by entities adopting IoT devices.

T. Singh, M. Carter - SHARENTING: PARENTAL INFORMATION SHARING IN THE DIGITAL AGE

Parents actively share information about their children in online social networks such as Facebook and Instagram. However, little research has explored this parental information disclosure phenomenon known as sharenting. Sharenting is online sharing about parenting or sharing of content regarding children's lives by their parents. Parental information disclosures can negatively impact (e.g. embarrass) the children now or in the future specifically the young adults/adolescents. Young adult/adolescent age is the age where children leave their parental homes to start their lives and attempt to discover their independent identity. Therefore, understanding of sharenting's impact on young adults/adolescents' impression management and identity development is critical. We anticipate that the results of this research will make parents aware of their sharenting behavior, and the impact of this indirect online disclosure on their children's identity development.

J. Streater - MODELING SOCIAL MEDIA INFLUENCE ON SOCIAL GROUP FORMATION

Social media applications are in a unique position to impact the spread of norms across groups as they provide additional pathways for the interconnectivity and information flow beyond traditional boundaries. This research explores how social media affects cultural transformation using an analytical model and simulation. A model that encapsulates personal influence and social comparison as mechanisms for cultural transformation is presented.

M. Tabatabaei, M. Cuellar - A MODEL MINOR DEGREE PROGRAM IN PROJECT MANAGEMENT

The importance of Project Management (PM) is increasing and cannot be overemphasized. This is particularly true with the widespread adoption and implementation of various systems in business and therefore there is a need for more graduates with PM knowledge to contribute and lead business projects. The Project Management Institute (PMI) recent reports indicate a significant increase in the number of jobs requiring project management skills (Project.Management.Institute 2017). Further, PMI predicts the demand for project managers is increasing as a result of an increase in the number of jobs demanding project management skills, attrition including retirement and a demand for project talent (Project.Management.Institute 2017). Therefore, the educators strive to prepare graduates for the PM positions and their challenges. The purpose of this paper is to emphasize the importance of PM degree and introduce a model for offering a minor degree in PM for the College of Business.

Abstracts: Papers, Panels, and Workshops

U. Tatar, A. Rorissa, D. Demissie - CYBERSECURITY AND INFORMATION SCIENCE: TOWARDS A MORE HOLISTIC AND INTERDISCIPLINARY APPROACH

As a newly emerging and one of the fastest growing fields of study, cybersecurity/information assurance has plenty to offer in terms of teaching and research. If Information Science departments and programs are to take advantage of this fast growth in the field by expanding their program and/or course offerings, thereby increasing their enrollments, and, indeed, provide their students with opportunities to be able to take advantage of the demand for skilled manpower in cybersecurity/information assurance, it is imperative for them to systematically approach the inclusion of courses and/or programs to their curricula. A component of this systematic approach is a closer examination of programs, concentrations, and courses in cybersecurity/information assurance currently offered at similar or peer information schools in order to identify best practices and gaps. The study reported here is a small but important part of this effort.

J. Wade, M. Dinger - THE AFFECT EFFECT: STATE AFFECT, COGNITIONS AND IT USAGE

This study presents state affect as a necessary theoretical and empirical component of information systems (IS) research models addressing the cognitions regarding, and usage of, information technology (IT). We position state affect as a powerful predictor of trusting cognitions and explain how state affect may also directly impact IT use. We tested our research model using data from 376 users of Microsoft Excel. Results indicate that positive and negative affect influence various trusting cognitions as well as directly impact post-adoptive use intentions. Our findings offer particular implications IS research models intending to comprehensively model cognitions and attitudes regarding IT and IT usage.

J. Woods, R. Oakley - FROM THEORY TO PRACTICE: EXAMINING PROJECT MANAGEMENT BEST PRACTICES IN PROJECT MANAGEMENT MOBILE APPLICATIONS

Given the heavy influence of the PMBOK® on how projects are managed and the abundance of software available to manage projects, it is prudent to evaluate how and why project managers use software to manage their projects. It is also imperative to better understand how well the most common applications support the PMBOK® knowledge areas. This study uses survey methodology to examine the relationship between project management best practices and the project management mobile applications, with potentially beneficial implications for both academia and practice.

Abstracts: Papers, Panels, and Workshops

N. Yang, M. Carter - CONNECTING WORLD WITH IOT: ISSUES AND PROBLEMS AROUND USE INFORMATION

As IoT is getting increasingly popular, it brings us new challenges and problems. IoT users either intentionally or unintentionally leave the use information behind them when they engage with IoT. Those seemingly trivial information, once complied up, can tell more than one would have expected. Users may or may not have realized this problem. We are interested in the reasons why users still choose to engage in IoT uses when they realize the problems. The current study uses and compares two models, Privacy Calculus and IT Identity, to investigate this interesting phenomenon. Privacy Calculus model offers rational explanations, stating that IoT users weigh the benefits and the risks of IoT uses. It assumes that IoT users make decisions based on rational thinking. They choose to engage with IoT of their choices because the benefits outweigh the risks. On other hand, IT Identity theory provides an alternative explanation. According to IT identity theory, people adopt and engage with the use of IoT in order to be themselves. Their IT identity is a primary motivator of their IT related behaviors. That is to say, they engage with the IoT regardless of use information problem because the use of IoT is part of their IT identity. By including two models in the same paper, we hope that we can better capture IoT users' thoughts on why they still engage with IoT knowing the risks caused by use information.