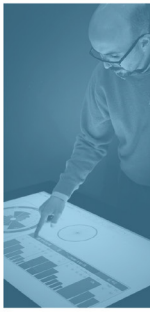
DEMOfest

11 November 2016
#SICSADEMOfest2016



sicsa* The Scottish Informatics & Computer Science Alliance

In partnership with ScotlandIS

Sponsored by THE DATA LAB value from data

Agenda

15:30:	Registration Opens
16.00:	Keynote Talks: **Cyber Security and Big Data**
17.00:	SICSA DEMOfest 2016 showcase and networking with food and beverages
19:00:	Event closes

Welcome to SICSA DEMOfest 2016

On behalf of SICSA, I would like to welcome you to DEMOfest 2016, the tenth Computer Science and Informatics research showcase organised by the Scottish Informatics and Computer Science Alliance (SICSA).

SICSA is a collaboration of 14 Scottish Universities whose goal is to develop and extend Scotland's position as a world leader in Informatics and Computer Science research and education. All 14 institutions will come together at DEMOfest 2016 to demonstrate the very best in cutting-edge technology research in Artificial Intelligence, Big Data, Cyber-Security, Networks and the Cloud, Robotics and User-Experience.

DEMOfest aims to open the door of the Scottish Universities to businesses and the public sector. It has become the largest event of its kind in Scotland highlighting the very best of the current computer science research in Scotland. DEMOfest 2016 promises to be bigger and more industry-focussed than ever, featuring 50 technology and product demonstrations from across Scotland and industry-focused keynote talks on Big Data and Cyber-Security from some of the country's top researchers.

I would like to take this opportunity to thank our partners ScotlandIS and The Data Lab as well as our keynote speakers and exhibitors. I hope that you enjoy the DEMOfest 2016 programme, its venue in the state-of-the-art Technology and Innovation Centre at the University of Strathclyde, and benefit from engaging with the exhibitors and fellow delegates, to make connections and to sow the seeds of future collaboration.

Professor Iadh Ounis,
SICSA Deputy Director and
Director of Knowledge Exchange

DEMOfest 2016 Keynote Talks

Cyber Security: Conference Rooms 6/7, 16:00-17:00

Professor William Buchanan, The Cyber Academy, Edinburgh Napier University

Title: “The Key Risks of the Cyber Age”

Abstract:
This presentation will outline some of the most significant risks that we see within the evolution of the Internet, including around large-scale data loss, government spying, critical weakness around the protocols used within the Internet, cyber warfare, Distributed Denial of Service (DDoS), quantum computers, and in the protection of critical infrastructure. It will also look at the tensions around cryptography, and which is seen as either the most evil of all technologies, or the preserver of the rights of the individual to privacy. So as the nations of the world grapple with cryptography, this talk will look at the methods that companies and nations are putting in place to break the basic operation of security on the Internet. The presentation will include a range of practical demonstrations, including a real-life cracking of AES and RSA encryption.

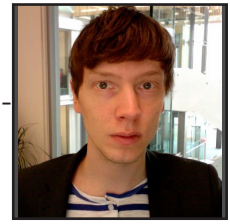
DEMOfest 2016 Keynote Talks

Big Data: Auditorium A, 16:00-17:00

Dr Craig Macdonald, University of Glasgow

Title: "Query Efficiency Prediction and Green Search Engines"

Abstract:
Web search engines aim to answer queries by users both effectively (giving relevant results), and efficiently (as quickly as possible). To achieve this, they deploy hundreds of thousands of servers to search across billions of web documents, and thereby have significant energy consumption. In this talk, I'll describe some of our research into predicting how quickly a search engine will answer a query, as well as several applications of these predictors, including the recent deployment of our predictors within Microsoft's Bing search engine, with significant energy savings.



Dr Adam Barker, University of St Andrews

Title: "Academia and Industry: A Systems Research Perspective"

Abstract:
This talk discusses the topic of collaboration between academia and industry, which traditionally has very different ways of working, reward systems and metrics for evaluating impact. It is structured around a set of pitfalls and opportunities from both my time working in industry, and with industry, through collaborative research projects. We sug-gest some ways in which these tensions might be addressed, to the benefit of all concerned.

DEMOfest Sponsor

THE DATA LAB
value from data

Data Fest 2017
20th - 24th March

What is DATA FEST?

DataFest17 is a festival of data innovation with events hosted across Scotland from 20th to 24th March 2017. Scotland is a melting pot of data innovation and the festival will further catalyse activity across the country and showcase Scotland's leading role in data on the international stage.

Data changes everything'

We are at the beginning of the data revolution: data innovation is disrupting all areas of our lives from business to public services and beyond. The theme for the festival is 'Data Changes Everything' and the programme will explore current and future data innovation with leading speakers in the field.

DataFest 17 will provide a platform for events to be promoted as part of the festival. Applications to run an event can be submitted through an open call to be launched in November.

Applications are encouraged for events aligned with the festival's theme of 'Data Changes Everything' covering areas such as:

- Innovation: Past and future innovation using data.
- Participation: Ethics, woman in data, future talent pool, public engagement.
- Industry and the public sector: Leadership, architectures, examples, futures.
- Research: Leading research themes in the field.
- Practical: Hackathons, training

DEMOfest Sponsor

ScotlandIS is the trade body for the digital technologies industry, representing around 280 software, telecoms, IT and creative technologies businesses throughout Scotland. Their remit is to raise the profile of the industry in Scotland, lobby policy makers on relevant issues and support their members in the development of business relationships with customers, suppliers and partner companies.

Guest Wi-Fi Instructions

Wi-Fi Guest Access (The Cloud)

If you require guest WiFi during the event please follow the instrucions below. Eduroam will also available with the TIC building.

1. Select WiFi Guest from the list of your available wireless networks.

2. Launch your preferred browser, and click Get Online.
(N.B If your browser does not automatically direct you to The Cloud homepage, please type www.strath.ac.uk into your preferred browser)

3. Select the Free Wi-fi Cloud option.

4. If you have used a Cloud Wi-fi account elsewhere before, you can use the same credentials. If not, select Create Account and enter all mandatory information requested.

5. Select Continue.

6. You now are now online!

DEMOfest Exhibitors

Artificial Intelligence

1. Pablo Casaseca
2. Neil Urquart
3. Saemundur O Haraldsson
4. Sadiq Sani
5. Özgür Akgün
6. Rob Stewart
7. Ian Miguel
8. Benjamin Lacroix
9. Olivier Regnier-Coudert
10. Kenneth Reid
11. Mohd Khairul Azmi

Cyber Security

12. Christopher McDermott
13. Muhammad Rezqi
14. David Aspinall
15. Maria Evangelopoulou

Networks and the Cloud

16. Xiaodong Liu
17. Ricardo Marco Alaez
18. Salaheddin Hosseinzadeh
19. Muhammed Zeeshan Shakir
20. Percy Perez
21. Andrew Wixted
22. Abbas Javed

Big Data

23. John Wilson
24. Christopher Brown
25. Richard McCreadie
26. Blessing Mbipom
27. Xiao Yang
28. Yoke Yie Chen
29. Lei Fang
30. Foteini Katsarou
31. David Wilson

User-Experience (HCI)

32. Oli Mival
33. Augusto Esteves
34. Olaoluwa R Popoola
35. Craig Docherty
36. Gözel Shakeri
37. Dong Bach Vo
38. Peeter Parna
39. Theodoros Kalogeropoulos
40. Pablo Arnau-Gonzalez
41. Gonzalo Gabriel Méndez
42. Oana Andrei
43. David Morrison
44. Stamos Katsigiannis
45. Andrea Alessandrini
46. Babis Kyfonidis

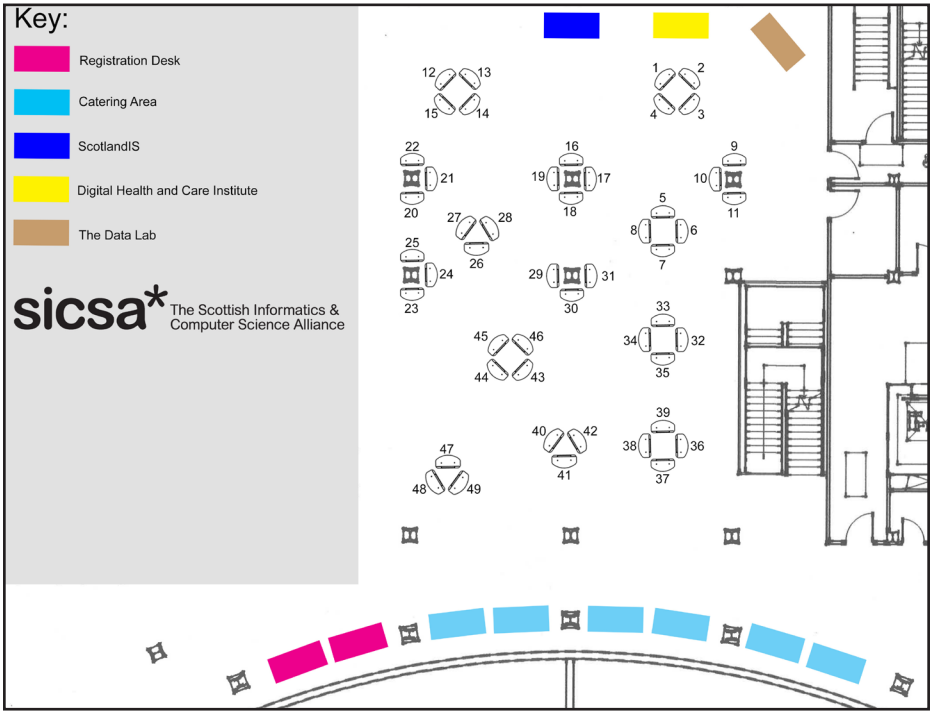
Robotics & Autonomous Systems

47. Ruth Hoffmann
48. Mary Ellen Foster
49. Natalia Chechina

Other Exhibitors

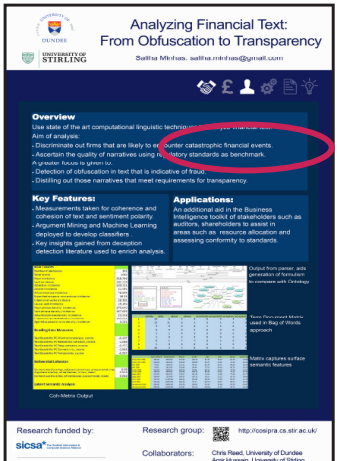
- The Data Lab
- ScotlandIS
- Digital Health & Care Institute
- E-Placement Scotland

DEMOfest Floorplan



The research projects on display today can be in various stages and the phase of research will influence the type of connections the researcher is hoping to make at the showcase.

To make things clearer each poster will indicate the type of industry collaboration the researcher is principally looking for.
The icon's are explained here:



- Collaborative Innovation
- Funding
- Studentship/ Placements
- Technology Licensing
- Consultancy
- Feasability & Proof of Concept

#SICSADEMOfest2016

Artificial Intelligence

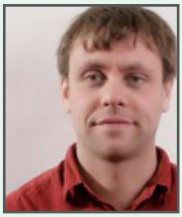
1. Smartcough

Pablo Casaseca, University of the West of Scotland

Smartcough constitutes a continuous cough monitoring solution based on a smartphone with applications in respiratory medicine, wellbeing, and occupational health. Our app features efficient implementation of cough detection algorithms to prevent battery drainage based on robust feature extraction enabling fully functionality in noisy environments. Monitoring can be performed seamlessly while carrying the smartphone in a pocket or bag.

2. Intelligent, optimised scheduling and routing

Neil Urquhart, Edinburgh Napier University



Scheduling and routing staff and vehicles is a problem with millions of potential solutions to even small problems. We find solutions according to criterion such as environmental factors, staff or vehicle costs. Rather than presenting a single solution, we present a range of optimal solutions based upon the criterion specified allowing an element of user choice.

3. Automatic Programming for bug repairs and improvements

Saemundur Haraldsson, University of Stirling Andrews

Software maintenance is one of the largest costs of software developement. Genetic Improvement replaces that manual process of debugging and improvement in software systems after deployment. It is aimed at large modular software with many users and use case scenarios where complete unit testing is impractical. This has been implemented in the AutoProg platform and integrated into Janus Manager

4. SelfBACK: Activity Recognition for Self-Management of Low Back Pain

Sadiq Sani, Robert Gordon University

Low back pain (LBP) is the most significant contributor to disability in Europe. Physical activity and exercise plans form the core component in the management of LBP. However, adherence to plans is challenging due to lack of feedback and reinforcement. This project aims to automatically track user's daily activities and provide feedback based on progress towards prescribed plan-based goals

5. Large scale Genealogical Discovery using Data Linkage

Özgür Akgün, University of St Andrews

We are living in data-rich times. Gaining real insight from data requires linking multiple datasets with non-uniform schemas and unknown quality. A prime example: Genealogy Discovery. Historical records are available, however individuals need to be linked to construct a complete genealogy. We develop generic algorithms that work at the scale of the whole Scottish population over nearly two centuries

6. Rathlin

Rob Stewart, Heriot-Watt University

Programming language development, dataflow transformations and profiling hardware designs for high performance image processing acceleration on FPGAs

Artificial Intelligence

7. An Automated Decision-making and Optimisation Pipeline

Ian Miguel, University of St Andrews

We must often make difficult decisions, with many complex interlocking considerations. Such problems can be “modelled” with decision variables, each representing a choice to make, and constraints on these variables. Formulating an effective model is notoriously difficult. In our novel approach, users write abstract problem specifications, which our modelling pipeline automatically compiles to a variety of powerful automated decision-making methods.

8. Optimisation of oil and gas separation system using metaheurstics.

Benjamin Lacroix, Robert Gordon University

Recent reductions in global oil prices have led the industry to seek significant cost savings. A major element in operational costs is offshore supply. A typical fleet of supply vessels costs millions per year to operate with the global costs running to billions. This technology uses computational optimisation to realise significant efficiencies in the offshore supply fleet while maintaining continuity of production.

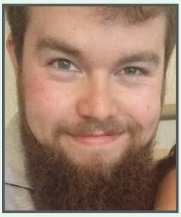
9. Dynamic Truck Optimisation

Olivier Regnier-Coudert, Robert Gordon University

A fleet management system allowing capture of the system states has been developed between RGU and ARRC. It is able to provide recommendations to controllers using greedy methods, metaheuristics and simulation. The tool uses mobile technologies to enable driver, quayside workers and operators to contribute to the data collection and ensure its reliability.

10. Variable Neighbourhood Search: A Case Study for a Highly-Constrained Workforce Scheduling Problem

Kenneth Reid, University of Stirling



Personnel scheduling is a field with decades of research, but with a variety of laws in each country, contractual options for employees, and more powerful processors than ever before we have the ability to produce more efficient, scalable solutions which iteratively learn to provide more optimal solutions to existing and new unique problem requirements.

11. Mobile Kit-Disaster Assistant (MKA) : A Mobile System to Assist Relief in Large-Scale Disasters

Mohd Khairul Azmi Hassan, Heriot-Watt University

Matured earthquake rescue tools and systems are developed and deployed by governmental and NGO agencies. However, there is not a suitable personalized mobile system that helps individuals, especially those at risk. For instance, for any earthquake it means different things to the different people - for some, it does not mean much; for others, it may mean life and death.

Cyber Security

12. DEAV: IoT Security Threat Detection Analysis and Visualisation

Christopher McDermott, Robert Gordon University

This research will explore the use of data visualisation to aid threat detection and analysis in the IoT. It will focus on IP enabled WSNs and seek to identify new cyber threats and compare existing intrusion detection methods with a new threat detection analysis and visualisation system.

13. Securitometer, an Overall Security Metrics App for Android

Muhammad Rezqi, University of Edinburgh

Companies should aim to have a high average of security level for all of the mobile devices used within their network. Our aim is for this application to become a tool that can help penetration tester and security reviewer in assessing the security level of smartphones, especially Android, that are used in corporate environment.

14. Market-Scale Behavioural Security Analysis for Android Apps

David Aspinall, University of Edinburgh

Synthesising (malicious) behaviours of market-scale mobile apps is an urgent and challenging problem. Research on this direction will lead to automatic, efficient and accurate tools to aid security analysis and protect end users. We are developing such a tool by combining cutting-edge techniques from research communities: programming languages, formal methods, static analysis, and machine learning.

15. The “What, when, why, how and what now?” of an attack in an ICS/SCADA network

Maria Evangelopoulou, University of Glasgow

The aim of this project is to increase the resilience of Industrial Control Systems (ICS)/Supervisory Control and Data Acquisition Systems (SCADA), which their purpose is the successful controlling/monitoring of operations. The “What, when, why, how and what now?” are the most important questions in the aftermath of a potential attack, that might be answered through a successful forensic analysis.

Networks & The Cloud

16. Mango: A Model-driven Architectural Approach for Engineering Green Mobile Cloud Applications

Xiaodong Liu, Edinburgh Napier University

With the resource constrained nature of mobile devices, and the resource abundant offerings of the cloud, the green computing research community is focusing on promising green optimization techniques. We developed model-driven architecture for integrated software quality and green optimisation in Mobile Cloud Applications (Mango), aiming to present an approach which integrates software quality attributes with the green optimisation objective.

17.Self-Management of Cloud Networks

Ricardo Marco Alaez, University of the West of Scotland

Reduction of Capital & Operational Cost In Network Management.

Better Healing, Protection, Configuration and Optimization of the Network

18. Indoor LoRa Signal Propagation Modeling

Salaheddin Hosseinzadeh, Glasgow Caledonian University

Facilitating network planning, design and implementation. Network coverage troubleshooting

19. UAV-based Vertical Fronthaul Framework for 5G+ Wireless Networks

Muhammad Zeeshan Shakir, University of the West of Scotland

This research proposes a novel vertical framework where Unmanned Aerial Vehicles (UAVs) transport the network traffic between the access and core networks via point-to-point Free-Space Optics (FSO) links. Proposed system offers data rates higher than the baseline alternatives at competing cost, and thus can be considered as a promising cost-effective and scalable solution to the requirements of the 5G+ networkst.

20. Testing the Future Internet Architecture in Mobile Named Data Ad hoc Networks

Percy Perez, University of St Andrews

Java Named-Data Networking Forwarding Daemon (JNFD) is a service inspired by Information Centric Networking (ICN), which is a proposed alternative architecture for the future Internet.
JNFD provides mobile communication completely independent from the traditional centralized infrastructure (e.g. mobile service providers, WIFI hotspot routers).
JNFD aims to offer a set of mobile communication strategies that minimize the energy consumption from batteries.

21. LoRaWAN for Sensing Applications

Andrew Wixted, Glasgow Caledonian University

The LoRaWAN technology fills a connectivity gap between ‘near’ wireless or cabled sensors and remote sensors using expensive cellular connections . The performance of a LoRaWAN network covering the Glasgow CBD was measured using fixed and moving sensors. With transmitters of 25mW RF power, sensors connected to gateways 4km away. Three gateways covered 30 sq.km of Glasgow’s CBD and environs.

22. Evaluation of LoRaWAN connected intelligent sensors and Random Neural Network smart controller for Building Energy Management System.

Abbas Javed, Glasgow Caledonian University

With the proliferation of different interactive devices, user experience has moved from the human-computer interaction to providing a great experience that crosses devices and real and digital spaces. Notable applications in tourism, smart meeting rooms and future cities require generic solutions. This work is addressing these issues.

23. Predictive Analytics for Tourism

John Wilson, University of Strathclyde

Glasgow is a busy tourist, shopping, business and conference destination. Using hotel booking, flight search and footfall data we are developing techniques to predict how busy Glasgow will be in the coming month – a valuable input to city businesses and service planners. The data is noisy but we are still seeing good results after participatory data analysis.

24. ParaFormance: Democratising Parallel Software

Christopher Brown, University of St Andrews

As we seek faster, ever more reliable performance from our digital systems, the demand for parallelisation for multicore is growing inexorably.
Developing this complex software is hard and expensive, creating tough challenges for development teams and management.
We have developed ParaFormance to help developers build safer, faster code quicker so they can meet their customer needs and be more profitable.

25. EAIMS: Emergency Analysis Identification and Managment System

Richard McCreadie, University of Glasgow

Social media platforms have a great potential as a means to gain real-time information during emergencies. However, there is currently a lack advanced tools designed for monitoring social media during emergencies. The Emergency Analysis Identification and Management System (EAIMS) is a prototype service that aims to fill this technology gap by providing richer analytic and exploration tools than current solutions.

Big Data

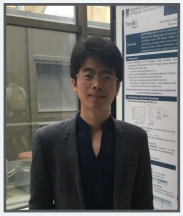
26. Finding the Right e-Learning Materials

Blessing Mbipom, Robert Gordon University

Learning-focused content is increasingly available on the Web making it an excellent source of information for building e-Learning systems. However, learners often have difficulty finding the right learning materials.
Our novel method automatically creates knowledge in the form of a set of rich learning-focused topics. We use this knowledge to influence the recommendation of relevant e-Learning materials.

27. SocialSight: Tracking Murder and Bribery Reports during Elections

Xiao Yang, University of Glasgow



“Socialsight” mines murder and bribery reports from the stream of Twitter based upon the state-of-the-art deep learning model. By automatically categorise all the reports, events are visualised in real-time, which allows tracking and exploring such reports effectively. Socialsight can help citizens, journalist and scientists to monitor election and get the first-hand murder and bribery reports.

28. A Personalised Recommender for Self-Management of Diabetes During Exercise

Yoke Yie Chen, Robert Gordon University

An estimated one in 16 people in the UK have diabetes (diagnosed or undiagnosed). By 2025, it is estimated that five million people will have diabetes in the UK. 10 per cent of people with diabetes have Type 1 diabetes and the rest have Type 2 diabetes. Self-management and physical activity monitoring systems are important for both types.

29. Data driven self-organising sensor networks

Lei Fang, University of St Andrews

The project at Grangemouth petro-chemical complex aims at monitoring air quality by Wireless sensor networks for local council. WSNs operate in dynamic, stochastic environments without ground truth. Therefore, managing the sensing quality requires a range of sound adaptive local decisions. Bayesian state space model can help sensors nodes better understand the underlying physics and form sound self-management.

30. Subgraph Querying with Parallel Use of Query Rewritings and Alternative Algorithms

Foteini Katsarou, University of Glasgow

Graphs are ideal for representing complex entities and their relationships/interactions. In subgraph query problem we retrieve those graphs from a given dataset that contain a query graph and/or find all its occurrences. Our work presents new discoveries/observations on the various proposed methods. We incorporate these discoveries in a novel framework to achieve large performance gains across algorithms and datasets.

31. Graphic Novel Recommendation Software for High Street Retailers

David Wilson, Robert Gordon University

A knowledge gap exists between traditional brick-and-mortar stores and online stores in what information can be leveraged to provide customers with recommendations. This is particularly true of smaller retailers who cannot track the sales of individual customers except by memory. This project is aimed at addressing this gap and to create a potential solution

User-Experience (HCI)

32. The Sensorium - UX evaluation for the 21st Century

Oli Mival, Edinburgh Napier University

The Sensorium provides a software and hardware platform to facilitate a deep understanding of user experience (UX) by co-ordinating and synching data streams including where and what a person is looking at, automatic facial expression coding and biometrics for measuring cognitive load and engagement (EEG and GSR). Evaluating and measuring UX is valuable for any digital product, interface or service.

33. Orbits: Gaze Interaction for Smart Watches

Augusto Esteves, Edinburgh Napier University

Orbits is a novel gaze interaction technique that enables hands-free input on smart watches. The technique works by displaying interface controls with targets that move continuously in a circular trajectory. Users select these controls by following their targets with their eyes for a short amount of time

34.Led-Based Indoor Positioning For Dementia Sufferers

Olaoluwa R. Popoola, Glasgow Caledonian University

In 2010, the dementia cost us US$604 billion and 85% of the funds was for a form of care. Our research develops a Lightweight, wearable, and inexpensive indoor positioning device for dementia sufferers. The device gives the patient's movement profile which can be used to predict the occurrence of an episode of dementia.

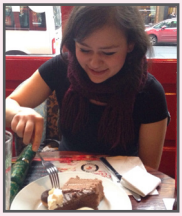
35 Exploiting serious games and gamification for protecting trees and plants

Craig Docherty, University of Stirling

Plant pests and diseases threaten human well-being, food security, and the economy. Climate change and increasing world trade in plant material promote the movement of threats, making the problem worse. Solutions require cooperation among many stakeholders, including the public. We develop games to help stakeholders visualise scenarios and explore solutions together, and to engage the public to help.

36. Novel In-Car Interfaces

Gözel Shakeri, University of Glasgow



Automotive dashboards are moving from the 'push-buttons' era to the 'tactile' era with the use of touchscreens. However, these interfaces come at the cost of high visual demand, which raises concerns over safety during driving. Our research addresses these concerns through the development of new user interfaces and introduces new capabilities for in-car interactions.

37. SAM: Automated Attachment Analysis Using the School Attachment Monitor

Dong Bach Vo University of Glasgow

Children who have disorganised attachment are at greater risk of social and mental health difficulties, and have a mortality rate almost 10 times higher. However, Attachment assessment methods are expensive and time-consuming. Identifying Attachment problems early, at a population level, would be of significant benefit to society and drastically reduce the costs of dealing with the resulting issues.

User-Experience (HCI)

38. Shallow Water Equations in Real-Time Computer Graphics

Peeter Parna, Abertay University

As real time computer graphics continue to evolve at a rapid pace, real-time computer animation techniques have remained largely in the hands of computer artists. Considering how much computational power is available in consumer hardware these days, the research project is looking at developing a physically based water simulation methodology for real-time applications using the shallow water equations instead

39. Using Behaviour Change Techniques to Inform App Design

Theodoros Kalogeropoulos, University of Glasgow

The last few years have seen increasing interest in supporting behaviour change through technology. We explored how behaviour change techniques can be used to inform the design of a novel smartphone application. As the behavioural domain of focus, we selected the excessive usage of social media apps.

40 Low-cost EEG and ECG wireless monitoring

Pablo Arnau Gonzalez,University of the West of Scotland

Physiological signal recording usually requires expensive medical-grade devices with limited flexibility in terms of range and movement during recording. We propose a low-cost portable system that is able to record EEG and ECG data wirelessly. The system utilises a Custom PC and custom software for capturing and synchronising signals using the Emotiv EPOC EEG and the Shimmer ECG devices.

41. Opportunistic Visualization with iVoLVER: Visual Analysis with Data from Non-traditional Sources

Gonzalo Gabriel Mendez, University of St Andrews

Visualizations are often built from structured data organized in documents with specific formats (such as databases). Unanticipated analyses, however, might involve data contained in digital artifacts that lack this structure. This research explores new opportunities in the design space of visualization authoring tools. We present iVoLVER, a research prototype that supports visualization with non-traditional data sources (e.g., photographs, bitmaps).

42. Twitter Voter Intention Classification System

Oana Andrei, University of Glasgow

The evaluation and the redesign of user-intensive mobile applications is challenging because users are often heterogeneous, adopting distinct usage patterns, at different times. We infer probabilistic models of app usage from logged behaviours of a user population and, by subsequent analysis of our models, we gain valuable insight into usage patterns which can be used to inform app redesign.

43. Remote Sensing of Heart Rate and Blood Oxygenation

David Morrison, University of St Andrews

Blood oxygen saturation and heart rate are critical indicators for monitoring a patient's wellbeing. Using multispectral imaging cameras, these measurements can be taken remotely. Our research leverages off-the-shelf camera technology and machine learning to improve the accuracy of such systems while reducing their cost so they are affordable for use in a range of clinical and non-clinical settings.

User-Experience (HCI)

44. Emotional gym - Interactive bike

Stamos Katsigiannis, University of the West of Scotland

The stationary bike is commonly used for physical exercise. Nevertheless, being stationary and indoors leads to loss of motivation. The use of multimedia stimuli is expected to increase motivation levels and help users follow their exercise regime. We propose the integration of Google Street View and the stationary bike in order to simulate the experience of riding through the streets..

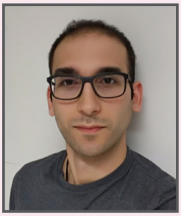
45. Audio-Augmented Paper Drawings Tangible Interface in Educational Intervention for High-Functioning Autistic Children

Andrea Alessandrini, University of Dundee

ReduCat is an audio-augmented paper drawings tangible user interface system intended to support educational intervention for children diagnosed with autism spectrum disorder. It records audio snippets on standard paper drawings using a tangible user interface that can be shared between the therapist and the child.
It is designed for the therapist to engage the child in a collaborative storytelling activity.

46. Tangible Educational Game for Children with Type-1 Diabetes

Babis Kyfonidis, University of Strathclyde



ReduCat is an audio-augmented paper drawings tangible user interface system intended to support educational intervention for children diagnosed with autism spectrum disorder. It records audio snippets on standard paper drawings using a tangible user interface that can be shared between the therapist and the child.
It is designed for the therapist to engage the child in a collaborative storytelling activity.

47. Comparing Verification and Simulation for autonomous UAV behaviour

Ruth Hoffmann, University of Glasgow

With the rising popularity of autonomous UAV systems and their deployment within the public domain, safety, reliability and certification of these systems is crucial. Simulation and formal verification are key tools, especially at the early stages of design. Investment in autonomous systems is growing rapidly, the worldwide market for UAVs is expected to top USD10 billion over the coming decade.

48. MuMMER: MultiModal Mall Entertainment Robot

Mary Ellen Foster, University of Glasgow

MuMMER (MultiModal Mall Entertainment Robot) is a four-year, EU-funded project with the overall goal of developing a humanoid robot (based on Softbank's Pepper platform) that can offer information and entertainment services in a public shopping mall. We are working together with stakeholders to design and implement truly engaging and socially intelligent robot behaviour...

49. Towards scalable ROS Multi-Robot Systems

Natalia Chechina, University of Glasgow

ROS -- Robot Operating System – provides a platform for roboticists from all over the world with an easy-to-use communication middleware, and a collection of open-source drivers and state-of-the-art algorithms.

SICSA
School of Computing Science
Sir Alwyn Williams Building
University of Glasgow
Glasgow, G12 8QQ
tel: +44 (0) 141 330 6854

email: admin@sicsa.ac.uk
www.sicsa.ac.uk
twitter: @SICSA_Scotland
#SICSADEMOfest16