

Proceedings of CHiuxiD 2019

Empowering Digital Transformation

Bali, Jakarta, Surabaya | 1 - 9 April 2019

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Proceedings of CHluXiD 2019
5th International ACM In-Cooperation HCI and UX Conference

In cooperation with ACM SIGCHI

01 - 09 April 2019
Bali, Jakarta, Surabaya, Indonesia

Organized by



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Welcome from Conference Chairs



Entering its fifth year, CHLuXiD - pronounced 'kai-u-x-i-d' - is an International Human-Computer Interaction (HCI) and User Experience (UX) Conference has been faithful in facilitating leaders, experts, academics, and professionals from Indonesia, Southeast Asia and beyond to gather, share, and collaborate on the latest HCI and UX insights in diverse vertical industries.

Continuing the success of previous conferences, this year's theme of "Empowering Digital Transformation" has attracted participation, support and contributions from international communities and organizations, such as: Indonesia ACM SIGCHI Chapter, Perkumpulan Interaksi Digital Indonesia (PIDI) or Digital Interaction Association of Indonesia, UX Indonesia (Indonesia and Australia), Binus University, Ciputra University, Interaction Design Foundation, Mozilla, and many others.

The uniquely inclusive multi-city international conference will be held from 1-9 April 2019 in Bali, Jakarta, and Surabaya, incorporating diverse programs, including: Keynotes, Paper Presentations, Workshops, Community Outreach, and Hacksprint.

This year, the conference is personally special to me as I plan to pass the baton of leadership to the next generation. I do hope the next generation of leaders can continue the tradition of CHLuXiD.

I wish you the best experience ever in this conference.

Josh (Adi Tedjasaputra, MSc)



This year, for the fifth time CHLuXiD has been held by Indonesia ACM SIGCHI Chapter (Perkumpulan Interaksi Digital Indonesia). In the past five years, CHLuXiD has transformed into a multi-city conference to disseminate as much knowledge as possible about human-computer interaction and user experience in Indonesia. CHLuXiD 2019 held in three cities: Jakarta, the capital and the center of Indonesia economy; Surabaya, the cities of heroes famous with their innovation to serve their citizen; and Denpasar, Bali the world famous paradise island.

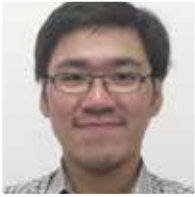
At the same time, we try to involve as many parties as possible, from academics, industry, students, and the community, to create stronger impacts for this country. For this reasons, CHLuXiD consist of diverse programs: paper and poster presentation, business stories, workshop, hacksprint (hackathon + design sprint), cultural tour, and community outreach.

A lot of preparation has been done to make sure all participant get the best possible experience on this event. Albeit, we understand that in the process we still have to learn a lot to solve various challenges in this large scale event. In this opportunity, I would like to express my sincere gratitude to all sponsors, partners, speakers, participants, committees, supporters, and all volunteers that has been working for months to make sure this excited conference happen.

Lastly, I hope you can enjoy the CHLuXiD and making meaningful connection here. We also asked for your supports for the continuation of this conference so we can continuously able to give more benefits to communities.

Auzi Asfarian

Welcome from Conference Chairs



Dear Delegates,

Welcome to the 5th HCI and UX conference (CHIuXiD 2019) held in Jakarta, Surabaya, and Bali, Indonesia on April 1-9, 2019. This is the fifth conference hosted by Indonesia ACM SIGCHI (Perkumpulan Interaksi Digital Indonesia). CHIuXiD 2019 is the most comprehensive conference focused on the various aspects of computer human interaction and user experience. More than 500 delegates worldwide participate in the conference as participants and presenters. We are very excited to have all of you to join in this great event.

The theme of the conference for this year is “Empowering Digital Transformation”. HCI and UX have started to become an inseparable part of Southeast Asia’s digital disruptions across diverse vertical industries. From rural villages to cosmopolitan cities, digital disruptions have become a part of life happening across different background, cultures, traditions, communities, and disciplines on daily basis.

CHIuXiD provides an opportunity for academic and industry professionals to discuss the latest issues and progress in the area of computer human interaction such as UX Applications and Business Domains, UX Processes and Tools, User Experience and Usability, User Interface Design, and Emerging Technologies. Furthermore, we expect that the conference and its publications will be a trigger for further related research and technology improvements in this important subject.

We received many paper submissions, after a rigorous peer review process, we accepted the papers with the high quality for CHIuXiD proceedings. All submitted papers have undergone blind reviews from the technical program committee, which consists of leading researchers around the globe. Finally, we would like to thank all the speakers, authors, participants, reviewers, sponsors, supporters, partners and organizing committee members for your participation in our conference. Thank you and enjoy the conference!

Sincerely Yours,

Dr. Yohannes Kurniawan
Co-Chair of CHIuXiD 2019

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CHluXiD 2019

CHluXiD 2019 – pronounced ‘kai-u-x-i-d’ – is the 5th International ACM In-Cooperation Human-Computer Interaction (HCI) and User Experience (UX) Conference. The conference facilitates leaders, experts, academics, and professionals from Indonesia, Southeast Asia and beyond to gather, share, and collaborate on the latest HCI and UX insights in diverse vertical industries.

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Sincerely yours,
Josh, Auzi, and Yohannes – CHluXiD 2019 Chairs



Speakers



Aaron Quigley

University of St Andrews, Scotland

Keynote :

Immersive Analytics,
Discreet Computing

Workshop :

The UX Side of Discreet Computing
and Mixed Reality

Bio :

Professor Aaron Quigley is the Chair of Human Computer Interaction in Computer Science in the University of St Andrews in Scotland. Aaron has published over 180 papers including journals and ACM CHI, UIST, MobileHCI, IUI and UMAP papers, receiving best paper and honourable mentions.



Auzi Asfarian

IPB University, Indonesia

Workshop :

Exploring and Developing
Augmented Reality Application

Bio :

Auzi Asfarian is a lecturer in Department of Computer Science, IPB University. In 2012, he joins computation intelligence laboratory and since 2015 he joins Software Engineering and Information Science, CS IPB and working in in user experience, computer vision, and mixed reality fields. His research mainly conducted in agricultural area and communities. As students affair officer in department, he build the students community ecosystem in through various means to sharpen the students skills and motivation. This leads to nomination of CS IPB students as the most outstanding students in national level two years in a row (2017-2018) and computer science students organization as the best student organization in IPB. He joined Indonesia ACM SIGCHI Chapter in 2016.



Elise van den Hoven

University of Technology Sydney, Australia

Keynote :

Materialising Memories:
Transforming personal remembering practices

Workshop :

Setting up interviews
as a research tool

Bio :

Elise van den Hoven is Professor of Human-Computer Interaction in the Interaction Design Discipline at the University of Technology Sydney and Associate Professor in Industrial Design at the Eindhoven University of Technology. She leads the Materialising Memories research program, which uses design research to study and support people in their everyday remembering activities. Her research interests span different disciplines, including human-computer interaction, design and psychology, and more specifically human-centered design, designing interactive systems, physical interaction and supporting human remembering.



Eunice Sari

University of St Andrews, Scotland

Workshop :

Introduction to Design Sprint for Accelerating Digital Transformation

Bio :

Dr Eunice Sari is the CEO and Co-Founder of UX Indonesia, the first Asian female Google Developer expert in Product Design and Strategy and the first Asian female Google Certified Design Sprint Master. Having more than 15 years of experience in academics and industries, she has helped a lot of organizations to accelerate their digital transformation as well as to pioneer innovative UX projects that affect changes in lives and improve the bottom line of businesses in USA, Europe, Australia and Asia.



Gerald Ariff

HarukaEdu.com, Indonesia

Keynote :

Distance Learning : Challenges & Opportunities for Higher Educational Institutions in the Education 4.0 Era

Bio :

Gerald Ariff is a Cofounder of HarukaEDU.com & lectures Strategic Management, Innovation & Design Thinking at Binus University & LSPR. He obtained his PhD in Strategic Management from the University of Indonesia, MSc in Management from the University of Surrey & B.Eng (Hons) Electronics Engineering from King's College London, University of London. He is an expert in the area of corporate governance, corporate strategy formulation/review, mobile e-learning & review. His work experiences cover telco, automotive, energy, private equity & education technology sectors in activities ranging from target firm due diligence, product marketing, business planning, capacity building to strategy development.



Heli Rantavuo

University of Technology Sydney, Australia

Keynote :

Designing for Intelligence - User-centred design in the age of algorithms

Workshop :

Designing for Intelligence - Algorithmic products and inclusive user-centred design

Bio :

Heli Rantavuo works on Spotify's global markets as Senior insights manager. She graduated as Doctor of Arts from the Aalto University Media Lab, Helsinki, Finland, in 2009 with a study that investigated the digitalisation of home photography. Since then, she has worked as design and UX research manager at Spotify, eBay, Microsoft and Nokia, in Helsinki, London and currently Stockholm. A large part of Heli's work has been ethnographic and UX research South-East Asia, including Japan, India and Indonesia. She currently investigates how to design inclusive algorithmic products for global audiences.



Josh (Adi Tedjasaputra)

Google Dev Expert, Australia

Keynote :

Empowering Digital Transformation

Bio :

As Google Dev Expert in Product Design and Strategy (UX), Josh has a passion for the design, development, and use of Information and Communication Technology (ICT) for solving business problems and leveraging the User Experience (UX) of products and services. He has more than 15 years of experience helping companies in Europe and Asia Pacific in creating business strategy, disruptive technology, marketing, and branding of successful products and services.



Julie Williamson

University of Glasgow, Scotland

Keynote :

Input Techniques for Unusual Displays

Workshop :

Using State Machines to Model User Interfaces

Bio :

Julie Williamson is an educator and a professional, teaching Human Computer Interaction at the University of Glasgow. Her research areas include interaction in public spaces, performative interaction, and whole body interaction. She specialises in user experience and interaction in public spaces.



Jun Rekimoto

University of Technology Sydney, Australia

Keynote :

Human Augmentation and Internet of Abilities

Bio :

Jun Rekimoto received his B.A.Sc., M.Sc., and Ph.D. in Information Science from Tokyo Institute of Technology in 1984, 1986, and 1996, respectively. Since 1994 he has worked for Sony Computer Science Laboratories (Sony CSL). Since 2007 he has been a professor in the Interfaculty Initiative in Information Studies at The University of Tokyo. Since 2011 he also has been Deputy Director of Sony CSL. Rekimoto's research interests include human-computer interaction and human augmentation. He invented innovative interactive systems, including NaviCam (the world-first mobile AR system), HoloWall, and SmartSkin (the two earliest representations of multi-touch systems). He has published more than a hundred articles in the area of human-computer interactions, including ACM SIGCHI, and UIST. He received iF Interaction Design Award in 2000, iF Communication Design Award in 2005, and ACM UIST Lasting Impact Award. In 2007, He also elected to ACM SIGCHI Academy.



Leonika Sari Njoto Boedioetomo

Reblood, Indonesia

Keynote :

Turning Blood Donations into Habit

Bio :

Leonika started her entrepreneurship journey after her participation in the MITx Global Entrepreneurship Program at Massachusetts Institute of Technology in 2014. She founded her startup called Reblood on January 2015, an app that aims to provide solutions to increase awareness and promoting blood donation to help save more people's lives.



Shrinath V

Google Dev Expert, India

Keynote :

Starting with users

Workshop :

Users, products and marketing

Bio :

Shrinath is a product management and design thinking coach with over 15 years of experience across entrepreneurial and established firms like Texas Instruments, Nokia, Motorola & MapmyIndia. He has worked & consulted on product strategy, product management, product marketing, as an Agile product owner, managing user experience projects, business development, portfolio management, and analytics. He also conducts workshops on product management at some of India's leading b-schools. In his last corporate role, he was heading product management for location-based services on a range of Nokia phones used in over 100 countries. Shrinath has worked extensively with startups, advising them on product strategy, Agile methods, product marketing, pricing, and marketing strategies.



Priscilla Nu

SP Group, Singapore

Keynote :

Designing Experiences in Energy

Bio :

Priscilla is a Data-Driven, Human-Centered Designer, and Head of Experience Design in SP Group, a leading energy utilities company in Asia Pacific. SP Digital understands customer needs through behavioral data and design experiences that delight customers and drive top-line growth. SP Digital build products in EnergyTech using Lean methodology, with a core purpose towards sustainability.

Priscilla was previously Head of UX and Product for PropertyGuru, a leading property portal in Asia with 25 million monthly users and an Associate Director in Commonwealth Bank of Australia. Priscilla holds a Masters in Information Systems from Nanyang Technology University and a Bachelor in Communication from National University of Singapore. Priscilla is also a member of InVision Design Leadership Forum.



Rubby Emir

Kerjabilitas.com, Indonesia

Keynote :

Diversity and
Inclusion in UX

Bio :

Rubby is an avid diversity and inclusion evangelist whose UX/UI and reasonable accommodation expertise has been utilized in developing an award-winning job search platform for people with disabilities Kerjabilitas.com that serves companies like Facebook and 5 top banks in Indonesia. He found his comfort zone in meeting with his users.



Margot Brereton

Queensland University of Technology, Australia

Keynote :

Designing within networks
of relations

Workshop :

Methods for designing
within networks of relations

Bio :

Margot Brereton is a Professor of Interaction Design Science and Engineering Faculty at Queensland University of Technology. She researches the participatory interaction design of ubiquitous computing technologies and their interfaces. She is also the Recipient of 8 Australian Research Council grants.



Yohannes Kurniawan

Binus University, Indonesia

Keynote :

How to Implement Human Information
Behavior Concept for Your Design?

Bio :

Yohannes is a Dean of School of Information Systems at BINUS UNIVERSITY currently. He has got various strategic experiences as Head of IS Program, Head of Business Information Technology Program, Head of Information Systems and Accounting (Double Major Program), Head of Information Systems and Management (Double Major Program), Vice Chair of Indonesia ACM SIGCHI and Vice President of Conference and Meeting Indonesia for the Association for Information Systems (asii.or.id).



Bram Pitoyo and Li-Wei (Ricky) Yu

Mozilla, United States

Keynote :

Cross-cultural understanding in emerging markets with international user experience team

Bio :

Bram Pitoyo is a design strategist & typographer who works at the intersection of user experience, architecture, community engagement & most other subjects. He's a user experience designer for Firefox focus, Firefox Page Shot (Screenshots), quality of life features in Firefox: Software update, Form autofill. At Mozilla, Bram Pitoyo dabbles at the intersection of user experience, architecture, game design and most other subjects.

Li-Wei (Ricky) Yu is a senior UX researcher at Mozilla in Taipei. He helps team to conduct international user research and brings team to seek the new product opportunities with user insights in cultural context. He currently focus on studying how Internet behavior is changing on mobile phone in Southeast Asia.



Friederike Fröbel & Eleftherios Avramidis

German Research Center for Artificial Intelligence, Germany

Workshop:

Wearables and Machine Learning:
Applications of Artificial Intelligence, Approaches on Textile Technology

Bio :

Eleftherios Avramidis is a researcher specialized on Machine Learning and Artificial Intelligence. He has been a researcher at the German Research Center for Artificial Intelligence (DFKI) since 2010. He has been active with the development of machine learning models that predict the user qualitative preferences on text outputs and he has successfully defended his PhD at the University of Saarland with the topic of Quality Estimation for Machine Translation.

Friederike Fröbel is a researcher at the German Research Center for Artificial Intelligence (DFKI) in the research group of Interactive Textiles. She pursued her M.Sc. degree with her thesis entitled "Smart Fashion as Mobile User Interface". With her background in clothing technology and media informatics, she is specialized in the conception and implementation of Wearables focusing on smart fashion and textiles.



Irawan Nurhas

Hochschule Ruhr West, German

Workshop :

Positive Computing -
A Paradigm for Wellbeing-Driven System Development

Bio :

Irawan Nurhas is a researcher at the Institute of Positive Computing at Ruhr West University of Applied Sciences (HRW) in Germany, a Ph.D. student at the University of Jyväskylä, Finland and a member of softwarestartups.org. His work focuses on wellbeing-driven system design to support knowledge transfer in an intercultural and intergenerational context. He is interested in Open Educational Resources (OER), learning technology, gamification, and persuasive technologies.

Keynote and Workshop Abstracts

Aaron Quigley

Keynote : Immersive Analytics, Discreet Computing

Abstract :

Human activity (in all its forms) can result in large volumes of data being collected and simply stored in the hope that one day it can be analysed and explored. From business to health records, or experiments to environmental monitoring, the rate at which we can collect and store data continues to outstrip the provision of tools for the effective analysis and exploration of such data. Yet this problem is not new and many questions arise from the legal retention of data to how analysis of such data may reveal new insights.

When we perform an analysis we engage in a detailed examination of the elements or structure of a problem, situation or object. This examination involves the identification and measurement of the constituent parts of the elements or structure, which gives rise to pieces of information or, data. The systematic computational analysis of such data gives rise to analytics, which provides insights into the data from which one can take action. Common reasons for applying analytics is to improve financial management and budgeting, operations and production, strategy and business development and sales and marketing. Data analysis and computational analysis, or analytics, is commonplace today.

Immersive Analytics is an emerging field of research and development which seeks a deeper engagement with the analysis and data. It draws on the various meanings of the term immersive coupled with the different approaches to analytics, giving rise to slightly different interpretations. There are two primary facets related to the term immersive analytics. The first, and more literal aspect, is to be immersed or submerged in the data and analytic task. This gives rise to the examination of the range of human senses, modalities and technologies which might allow one to have their various senses fully immersed. A second facet, is the provision of computational analysis methods which

facilitate a deep mental involvement with the task and data. Smooth interaction with the data and analytic task might allow people to concentrate and focus their attention, allowing them to enter a "flow state" which affords them the depth of thought required to be fully immersed.

The ultimate goal is to computationally support individual and collective human thinking where it happens, in our minds. By focussing our attention and concentrating on a particular problem we can exhibit a deep mental involvement with the task and data. In this, computation should augment, not replace our thinking. When we examine the elements or structure of a problem, situation or object we want to be able to draw in new information which we don't currently know. The new information or computational process should be available in such a fluid manner that we don't need to expend additional mental effort to access it. When we turn our thinking to the analysis of the elements or structure of a problem, situation or object then our detailed thinking brings forth data, as required, to undertake this examination. Where we cannot easily reason about the fresh data due perhaps to its scale, then we can call on computation to support our thinking.

In Emerson's 1837 oration on "The American Scholar" he said, "Man thinking must not be subdued by his instruments." Our instruments should allow us to continue our thinking without being concerned with how we get access to the data we need to solve the problems we face, nor concern ourselves with how we translate our thoughts into a form which might be processed or supported computationally. This talk provides an introduction to the field of Immersive Analytics, the technologies which are enabling it and the research challenges ahead to ensure we aren't "subdued by our instruments".

Workshop : The UX Side of Discreet Computing and Mixed Reality

Abstract :

Computing and interaction are changing the nature of humanity. As individuals our capabilities can be extended, our memories augmented and our senses attuned. Societies are being reshaped by our ability to interconnect and harness the abilities of millions. Interaction is all around us and this talk offers a new vision of computing called Discreet Computing.

Discreet Computing is intentionally unobtrusive through its design, development and use. Aspects of wearable, invisible, ambient and ubiquitous computing are key as discreet computing is woven into the literal or figurative fabric of day to day life. This talk provides a view of eight dimensions of discreet computing along with real research examples.

Today, the nature of mobile technology gives rise to people seeking to hide it, make it invisible, camouflage it or demonstrate polite and discreet use (e.g. placing it face down when with others). However, commodity devices aren't well equipped to support such use as they require obvious interaction with touch, movement or speech. Haptic and audio signals may provide subtle outputs but inputs aren't so subtle. SpeCam supports discreet micro-interactions to avoid the many micro-distractions we face with today's mobile devices. This leverages a natural use of mobile devices today, namely when they are placed face down on flat

surfaces. People may place their phones face-down on a surface to signal their intent to engage socially with those around them, by limiting their access to distractions, external entertainment and self-gratification. Others will keep such devices fully hidden from view in a bag or pocket. Here the material sensing technique uses only the front facing camera and display as a multi-spectral light source. Studies show that it can recognise colours at 10 degree aparts in the HSB space, and 30 types of surface materials with 99% accuracy.

Or we might consider Discreet Gesture Interaction using EOG Sensors in Smart Eyewear. This sensing technique can detect finger movements on the nose, using EOG sensors embedded in the frame of a pair of eyeglasses. Eyeglass wearers can use their fingers to exert different types of movement on the nose, such as flicking, pushing or rubbing. These subtle gestures can be used to control a wearable computer without calling attention to the user in public.

This talk considers the question of what is "discreet computing" and what research and development challenges are there in context-awareness which will allow us to afford subtle, discreet, unobtrusive and seamless interactions.

Auzi Asfarian

Workshop : Exploring and Developing Augmented Reality Application

Abstract :

Augmented reality is emerging interaction technologies in with massive possibilities in entertainment and other industries. This workshop aims to introduces augmented reality application development using established library and frameworks to participants. The workshop will address the following issues: (1) history of augmented reality development and its usage in industry, education, and entertainment, (2) overview of existing library and frameworks capabilities to develops AR application, and (3) hands-on lab using Unity and Vuforia to develop starter AR application.

Requirements: the participants are expected to brings their own devices (laptop and smartphone) with Unity3D with Vuforia Augmented Reality Supports installed.

References:

https://docs.unity3d.com/Manual/vuforia_get_started_project_setup.html

Elise van den Hoven

Keynote : Materialising Memories: Transforming personal remembering practices

Abstract :

Everyday remembering practices have transformed tremendously over the past decades, for example from flicking through a paper photo album not too long ago to scrolling folders full of digital photos on a mobile phone today. Most of the tools and media to support remembering have digitised, which comes with advantages as well as disadvantages. Materialising Memories is a research program which uses design research and qualitative research methods to study

people when they use their autobiographical memory in everyday life to find innovative ways to support them. One specific aim is to integrate the digital with the material. This keynote address will explain what that means in practice, it will cover topics such as memory cuing and personal memory media and it will present example studies of where this digital transformation of remembering practices might or should take us in the future.

Workshop : Setting up interviews as a research tool

Abstract :

When designing an interactive product, the designer should know who they are designing for and what their needs, wishes and abilities are. There are a variety of methods available in human-centered design, and interviewing is one of the most popular methods. The many reasons include the facts that interviewing provides direct information from interviewees, is relatively easy to do (though difficult to do well) and is inexpensive. The interviewing method is flexible in its use, exists in a large number of variations and can be

used at any stage of the design process. In this workshop we will focus on setting up interviews for research purposes. Through instruction videos and exercises you will learn the basics of preparing interviews, which includes topics such as: Setting goals, Identifying participants, Relationship with participants, Pilot studies, Types of interviews, Structure of an interview, Interview questions, Probing questions, Recording, The interviewer effect, Selecting participants, Confidentiality and consent.

Eunice Sari

Workshop : Materialising Memories: Transforming personal remembering practices

Abstract :

Many companies and organizations around the world have benefited from Design Sprint in different ways. In this workshop, the facilitators will introduce how Design Sprint can benefit Digital Transformation in growing UX culture and design leadership.

You will be guided in walking through the different phases of Design Sprint with examples and activities. At the end of the workshop, the participants are expected to have a better understanding of Design Sprint phases and benefits through hands-on experience with the latest Design Sprint methods.

The workshop will be practical with some examples on how one can apply Design Sprint in different contexts.

Gerald Ariff

Keynote : Distance Learning : Challenges & Opportunities for Higher Educational Institutions in the Education 4.0 Era

Abstract :

The advent of industry 4.0 has been well promoted in the last several years. However in order to realise the benefits of this industrial revolution, countries & companies need to have adequate human capital that can meet the industry demand. This translates to the real needs of education 4.0 especially in the higher education industry where learning methods have barely changed from the original socratic methods of the ancient greeks. The challenge is made further complex with the entry of millenials and alpha generations who are born digital, and the non sensical ranking game

where universities compete to produce irrelevant journals to justify exorbitant higher education fees. Instead Higher education operators and regulators need to adapt their products and pedagogy to these younger users instead of wasting resources in pursuit of such irrelevance. Mobile technology and having the prevalence of affordable internet of things smart devices can be leveraged to meet these challenges, especially in fast growing emerging market countries such as Indonesia.

Heli Rantavuo

Keynote : Designing for Intelligence - User-centred design in the age of algorithms

Abstract :

One of the key aims of user-centred design is to fulfil the needs of diverse groups of people. This talk suggests that to stay true to this principle, we need to systematically address questions of inclusion and fairness when designing algorithmic products. Researchers, designers and other professionals designing intelligent systems need to understand and discuss how algorithmic bias works, and create ways of overcoming it.

Personalised recommendations in online content and shopping services have become the industry norm. Algorithms and machine learning are an effective way for companies to create personalised products at scale, and users gain benefits from personalisation. As content consumers we save time and effort from

searching and managing content, and experience delight when an algorithm surprises us by offering something we didn't know existed.

However, automated algorithmic recommendation systems can be biased towards certain user groups or content creators. This talk discusses algorithmic bias, and ways of overcoming it, through examples in the Spotify music streaming service and other content recommendation products. Drawing from recent literature in the field of ethics and fairness in interactive systems, Spotify and other industry examples, the talk suggests ways towards to a more equal and inclusive product making when designing with artificial intelligence techniques.

Workshop : Designing for Intelligence - Algorithmic products and inclusive user-centred design

Abstract :

One of the key aims of user-centred design is for products and services to fulfil the needs of diverse groups of people. However, in the case of products where algorithms create personalised recommendations, such as Spotify, Amazon or Netflix, some groups may be underserved by the service for as long as the system does not have enough data to optimise for them.

The workshop starts by revisiting key principles of user-centred design, listing examples of personalised

recommendations products, and discussing how algorithmic recommendations are built. We discuss which groups may be underserved in algorithmic recommendation services, and by drawing from Spotify Ethical design principles and other relevant sources we work on design solutions to better include various groups in recommendation services. The aim of the workshop is to better understand algorithmic inclusion, and to suggest ways in which algorithmic services can become more inclusive.

Josh (Adi Tedjasaputra)

Keynote : Empowering Digital Transformation

Abstract :

Many have provided insights to the state-of-the-art and the future of Digital Transformation. Few have started to commit to it, many are still unaware, and few are still resistant or skeptical. This keynote will provide a few examples of Indonesian people attitude towards Digital

Transformation. The common theme from the examples will provide insights to an important key in Digital Transformation and an urgent message to reflect on the core of Human-Computer Interaction and User Experience in Empowering Digital Transformation.

Julie Williamson

Keynote : Input Techniques for Unusual Displays

Abstract :

New types of displays, such as curved displays, shape changing displays, and head mounted displays often do not conform to traditional input techniques. For example, rotation and scaling on spherical displays have different geometric properties than on flat displays and can lead to poor control when users expect familiar manipulations that were designed for flat displays. In virtual environments displayed using head-mounted displays, the disconnect between physical and virtual constraints can make it difficult to

fully explore virtual content. My research explores new control techniques designed specifically for the challenges of new display form factors. I will present my research on manipulating locomotion in VR to create the perception of larger spaces, present new feedback techniques for target selection on shape changing displays created using acoustic levitation, and present new approaches to passive haptics in VR using spherical controllers.

Workshop : Using State Machines to Model User Interfaces

Abstract :

State machines provide an elegant method for modelling complex interactions for user interfaces. This approach requires designers and developers to think in terms of inputs, outputs, and internal system state, which is important when considering the usability of new interfaces. This approach makes complexity

visible through diagramming and is a valuable communication tool for teams working on collaborative interface projects. During this workshop, we apply state machines to explore how to design, diagram, and analyse common interface issues.

Jun Rekimoto

Keynote : Empowering Digital Transformation

Abstract :

Traditionally, the field of Human-Computer Interaction (HCI) was primarily concerned with designing and investigating interfaces between humans and machines. However, with recent technological advances, the concepts of "enhancing," "augmenting" or even "re-designing" humans themselves are becoming feasible and serious topics of scientific research as well as engineering development. "Human Augmentation" is a term that I use to refer to this overall research direction.

Human Augmentation introduces a fundamental paradigm shift in HCI: from human-computer-interaction to human-computer-integration, and our abilities will be mutually connected through the networks (what we call IoA, or Internet of Abilities, as the next step of IoT: Internet of Things). In this talk, I will discuss rich possibilities and distinct challenges in enhancing human abilities.

Leonika Sari Njoto Boedioetomo

Keynote : Turning Blood Donations into Habit

Abstract :

Annually, Indonesia has a million of blood donation shortage, although the demand of blood bags is only 2% of the population. This problem happens because of lack of awareness and access to information about blood donation. The existing solutions mainly were built from technology perspective only, and less of understanding the blood donors as users. The existing platforms are based on reactive approach, which

connecting patients with emergency needs, with the nearest blood donors, which is not effective and efficient for both. Reblood builds a platform with proactive approach, which encouraging blood donors to donate blood as a habit. In this presentation, we will share our experience on how we focus on the user first, to build the platform with more impact.

Shrinath V

Keynote : Starting with users

Abstract :

"But why would users think that way? Can't they see how to use the product?"

"Why can't the customers see we are much better than the competitor? It's a no-brainer. They should pick us. But they still don't. I think there's something wrong with them...."

Many of us have been there before. Those pesky users, if only they knew what was good for them!

But then, users never do what we expect of them. How do we factor that into our business plans?

In this session, we'll walk through some business stories on how misjudging user choices impacts business. And look at how you could build some ways of understanding user needs & factoring that into your business objectives.

Workshop : Users, products and marketing

Abstract :

We think we know users. We've done our surveys, calculated responses and designed our product based on feedback. But there's a small voice at the back of the head saying 'Are we missing something here?'

Join me in this interactive workshop where we will explore how we could better understand user context and needs, and how we can bring that knowledge back into marketing the great products we are building for them.

Priscilla Nu

Keynote : Designing Experiences in Energy

Abstract :

Priscilla will talk about designing experiences in SP Group, a leading energy company in Asia Pacific and also one of Singapore's largest corporations. Priscilla is part of a thriving team that builds EnergyTech products,

with a core vision towards sustainability. Priscilla will talk about the team's journey, their battle-tested processes and the Future of Experiences in Energy.

Rubby Emir

Keynote : Diversity and Inclusion in UX

Abstract :

Advancing technologies and digital interfaces mean that products can now offer more features at a relatively low incremental cost. This can make companies easily fall into the trap of competing in the 'feature race', which then lead them to make a wrong design decision that could potentially exclude some particular users. Typically, in designing, people are viewed as being either able-bodied or disabled, with products being designed for one category or the other. Whereas capability varies continuously, and being too "religious" in designing for

one category could sacrifice other category's experience. The inclusive design emphasizes the ongoing effort to understand the user's diversity in order to include as many people as possible in the journey of designing and using the product in the most effective and positive way. Although it is relatively a rocky road, pursuing this could help companies in opening an untapped market, which number is significant.

Margot Brereton

Keynote : Designing within networks of relations

Abstract :

Technologies are only as useful as the networks of people that make their use possible. In this talk I will explore the idea of designing within networks of relations, as opposed to more typical user-centred design approaches. I will discuss a variety of projects and methods that investigated the relations between people, places and objects, engaging people in

co-design in order to create new technologies. Drawing upon examples in the domains of ageing, intellectual disability, and environmental monitoring, I will show how paying attention to networks of relations can help us to design technologies that foster new forms of connection and collaboration between people, and new kinds of custodianship of the environment.

Workshop : Methods for designing within networks of relations

Abstract :

Technologies are only as useful as the networks of people that make their use possible. In this workshop, I will introduce methods for designing within networks of relations, as opposed to more typical user-centred design approaches. Having introduced a few methods, participants will be encouraged to think about their own

context for design and to consider a method for design within that context that involves considering networks of relations. In this workshop, I will show how paying attention to networks of relations can help us to design technologies that foster new forms of connection and collaboration between people.

Yohannes Kurniawan

Keynote : How to Implement Human Information Behavior Concept for Your Design?

Abstract :

This workshop aims at introducing some key issues in human information behavior, emphasizing the role of human behavior as a provider information for your design. The workshop addressed the following issues: 1. What are the information needs of the users? 2. How are these information needs presently satisfied? And how to consider context of information need (person in

context) and information seeking behavior of users for designing the system. This workshop focuses on analysis of relationship between people and information, rather than with the technology. At the end of this workshop the participants will getting the knowledge and practice about the information searching, seeking, and use behavior.

Bram Pitoyo and Li-Wei (Ricky) Yu

Keynote : Cross-cultural understanding in emerging markets with international user experience team

Abstract :

Many technology companies are born locally but aspire to have a global reach. To help them generate new product concepts and expand to new markets, research and design teams need to understand users who live in various cultural contexts. However, conducting field research and product testing outside of one's own country and culture is fraught with cultural and logistical complexities. In this presentation, Mozilla

User Experience presents a set of methodologies and best practices that the team has utilised in their field research and product testing in India, Indonesia, Thailand and The Philippines between 2017–19. Applying these principles thoughtfully will help UX researchers and designers involved in international projects to get good insights and ensure smooth logistics from start to finish.

Friederike Fröbel & Eleftherios Avramidis

Workshop : Wearables and Machine Learning: Applications of Artificial Intelligence, Approaches on Textile Technology

Abstract :

We propose a workshop on applications of Artificial Intelligence on Textile Technology, through the usage of Machine Learning. The participants will be given an overview of the state-of-the-art methods and technologies and be introduced to them through

practical exercises. The exercises will involve simple hands-on group work with a basic pre-built electrical circuit, as well as the possibility to train small models of Machine Learning given a user-friendly tool.

Irawan Nurhas

Keynote : Positive Computing - A Paradigm for Wellbeing-Driven System Development

Abstract :

People are moving towards digitization of their activities and working environments. The continuously interaction with digital systems influences the well-being significantly. This is why human-oriented design should beat the heart of the digitization process. Despite several challenges in the digitization process that have been elaborated, the negative effects of

information technology design on people persist and have affected the user experience. Therefore, this workshop presents the paradigm of positive computing in shaping technological environments and focuses on well-being factors to meet the challenges and overcome the adverse effects of digitization.

Assisting viewpoint to understand own posture as an avatar in-situation

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Abstract :

Understanding the correct self-posture is known to improve the performance of motor skills in sports, dance, ballet, walking, and running. However, it is difficult to understand the accurate self-posture and move one's body as intended for imitation or learning, especially in-situation. Based on previous physiological research, we herein propose the addition of a new assisting viewpoint to the human body interface for understanding the correct self posture without interrupting the training process. This new viewpoint enables the users to see their current posture as a three-dimensional skeletal image that is an avatar which synchronizes with the owner's movements. The Optical See-Through Head Mounted Display (OST-HMD) and Full-Body Motion Capture (MoCap) are used for creating the proposed viewpoint. The position and the angle of view of an avatar is determined by the rotation of the user's head interactively. Moreover, visualizing the avatar's trail helps users to understand how to moved their own body correctly. We conducted several experiments to confirm the avatar system's validity and the availability for an expert athlete. Our results showed that the proposed viewpoint was successful in enabling the user to understand the accurate self-posture in-situation without occurring interruption.

Keywords :

Full-body Interaction; Mixed Reality; Augmented Reality; Assisting Training; Sports Training; Visualizing Motion Data, Spatial Perception

Water Flow Measurement for Swimmers using Artificial Food-grade Roe as Tracer Particles

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and Jun Rekimoto

Abstract :

Water flow is strongly related to swimming speed; thus, technologies for measuring the three-dimensional movement of water are highly desired in the water sports industry. However, existing fluid measurement methods are not suitable for use with humans because they introduce tiny plastic particles (known as tracer particles) that contain fluorescent ink, which is used to visualize water flow. A laser then irradiates the environment to make the particles brighter than the surroundings to track their movement with cameras. This method has potential adverse effects to humans, such as accidental swallowing of the particles and laser burns to the skin and eyes. In this research, we propose a humanfriendly water flow measuring technology using tracer particles made of food-grade materials and a harmless light source. To visualize tracer particles, we give the particles an optical property, which makes them sufficiently brighter than the surroundings when placed between circularly polarized plates.

Keywords :

Fluid measurement; Visualization; Swimming

Turn it, Pour it, Twist it: A Model for Designing Mobile Device-Based Interactions

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Abstract :

Interaction designers for mobile phones mainly focus on displays but have only little knowledge about sensor characteristics. Beside multitouch input, mobile devices provide versatile possibilities to interact in a physical, device-based manner due to their built-in hardware. Even though such interactions may provide many advantages in everyday life, they have limited visibility in interaction design. Interaction designers are seldom domain experts in gesture and pattern recognition and even prototypical implementations of simple mobile device-based interaction techniques need advanced technical knowledge. Hence, the potential for designing mobile device-based interactions is often not fully exploited. To contribute to a common knowledge of mobile-based interactions, this paper proposes Mobile Spaces. This model aims at supporting designers of mobile applications to broaden their view on interaction possibilities with one or more collocated devices which go beyond the screen. We illustrate and discuss the applicability of Mobile Spaces by means of several examples from research.

Keywords :

Collocated interaction; design model; mobile devices; gestures; device-based interaction; interaction design.

Towards humane digitization: a wellbeing-driven process of personas creation

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Abstract :

Digital transformation is a process of digitizing the working environment in which people are at the center of digitization. In this paper, we present a personas-based guideline for system developers on how the humanization of digital transformation integrates into the design process. The proposed guideline uses the positive personas from the beginning as a basis for the transformation of the working environment into the digital form. We used the literature research as a preliminary study for the process of wellbeing-driven digital transformation design, consisting of questions for structuring the required information in the positive personas as well as a potential method that could be integrated into the wellbeing-based design process.

Keywords :

Positive personas; user-centered design; positive computing; design process; wellbeing design.

Gendered Tour-guide Robots and Their Influence on User Attitude and Behavior

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Abstract :

In response to the gender equality policy of Taiwanese government and the concept of Gendered Innovations (GI), this paper investigates the influence of gender on user attitude and behavior toward tour-guide robots in learning contexts. In this study, each participant was given an individual appointment to interact with a gendered robot at the Behavioral Research Lab of NTUST in Taiwan, and received NT\$150 beforehand as compensation. After a short lab tour, participants were requested to make a donation and fill in a questionnaire by the robot. Findings showed that the gender of robot or subject did not influence the rated persuasiveness of the robot in concordance with previous studies in part. However, attitude-behavior consistency was found in this study. Subjects tended to rate the robot of the same gender as more persuasive than the robot of opposite gender, but male subjects in fact donated more money to female robots, while female subjects showed little preference.

Keywords :

Human-robot interaction; gender stereotypes; gender cues; social influence; persuasion; social robots

Multitouch Keyboard Revisited: Enhancing Moded Interaction Through Redesigning Structure and Switching Techniques

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Abstract :

Moded interaction has been well studied and its insights applied to both physical and digital realms. However, it can be observed that many of today's digital applications are not exploiting the full capabilities of moded interaction. Addressing this gap as our research objective, we analyze and model existing multitouch keyboard typing experience from a mode perspective. Such a strategy helps to identify the complex mode hierarchy to be flattened and the missing mode transitions to be added. These changes were reflected in terms of interaction model and user interface design of the proposed system. This was quantitatively evaluated using the number of taps required to type common phrases and sentences. These findings will not only make typing experience more accessible for novices and more efficient for experts but also bring about a better understanding of the greater moded interaction landscape beyond typing.

Keywords :

Mode; switching; moded interaction; multitouch; keyboard design; text input; typing technique

Evaluating Children's User Experience (UX) Towards Mobile Application Prototype

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Abstract :

This paper presents a study of children's experience while interacting with a mobile application prototype, named Fantasy Land. The evaluation was conducted with 18 children by adapting the user experience questionnaire (UEQ) and the gathered feedback was analyzed quantitatively in the efforts of presenting the results. The results demonstrated that the children enjoyed and had a good user experience interacting with the prototype.

Keywords :

Children; Mobile Technology; User Experience

Age Differences in Menu Item Selection for Smartphone: The Effects of Icon Background Colors and Icon Symbols

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Abstract :

Previous research found that both icon background colors and symbols influenced menu selection time. However, previous research did not take non-generic users into account; especially, children and older adult users that have gathered momentum. Literature highlights age-related differences in various dimensions, and how they are related to technology use. The purpose of this study is to extend the previous research on the influence of icon background colors and symbols [1], by examining age-related difference in smartphone menu item selection task, with manipulation of icon background colors and icon symbols. A three-way ANOVA indicated that there are significant main effects of age group, background colors, and icon symbols, as well as high-order effects of the three variables.

Keywords :

Smartphone; mobile; menu; icon; background color; visual search; age difference; senior; elderly; children

The Adaptive Model Driven Approach for Enhancing Usability of User Interface Design: A Review Process

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Azrina Kamaruddin,
and Rusli Hj Abdullah

Abstract :

This paper focus to narrative review the adaptive user interface using model-driven approach to overcome the usability problem. Several UI designs suffered from the usability problem that might cause some applications hardly to deliver the function intended to the user. Therefore, the adaptive user interface design was introduced to acknowledge the usability problem that caused by the traditional UI which cannot satisfy context-of-use (user, device, and environment). In this paper, we describe model-driven approach of adaptive UI using modelling language to create the models of adaptive UI. Model-Driven Engineering (MDE) can raise the level of abstraction in software application, so it will be the basis for devising adaptive UIs because it has the possibility to apply numerous types of adaptations to the various levels of abstraction. The evaluation of usability has its own requirement that different from the usability evaluation of other system application. At the end of this paper we will conclude our finding that the adaptive UI could minimize the usability problem in web application using model-driven approach.

Keywords :

User Interface (UI); Adaptive User Interface (AUI); Model-Driven Approach; Model-Driven Engineering (MDE)

On Building Design Guidelines For An Interactive Machine Learning Sandbox Application

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Abstract :

There are several machine learning suites, applications and platforms that are readily-available right now. However, these applications require a basic foundation in machine learning making them appear difficult to configure. We introduce the use of the Sandbox approach with the goal of designing alter-native programming interfaces and interactions for machine learning tasks. A set of guidelines have been drafted supported with initial user tests to validate the proposed design frame-work. Ten (10) undergraduate and graduate students with novice experience in machine learning participated in struc-tured interviews to formulate programming patterns and styles that were used to draft the guidelines based on the literary review. These insights were analyzed using UX Research tech-niques to form a general problem statement. Initial analysis of the user insights suggested that a visual sandbox approach similar to Scratch helps reduce the steepness of the learning curve. The preliminary design guidelines we drafted focused on the three design factors namely System Intent, Interaction, and Algorithm Visualization. From these guidelines we pro-duced an initial version of the prototype that will be subject to further testing and validation.

Keywords :

Interactive Machine Learning; Grounded Approach; Design Guidelines;

A Preliminary Study to Evaluate Graphical Passwords for Older Adults

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Abstract :

Picture-based authentication offers visual cues (e.g. images) that helps users recalling their passwords. Human facial images were utilized in making graphical passwords, as humans are better at remembering human faces than other types of images. Prior research found that users performed better with partitioned facial images than with full-face portrait images; nevertheless, age-related differences were not considered. This present research is a preliminary study to assess older adults' understanding toward Passface and overall experimental procedure, by examining two levels of facial image presentation: full-face portrait image, and partitioned facial image. The results showed that partitioned facial image aided memory and recall better than full-face portrait image, which is reflected by registration time, authentication time and success rate. In general, majority of older adults were able to understand Passface and overall experimental procedure.

Keywords :

Graphical password; authentication; older adults; elderly; Passface; shoulder-surfing; usable security.

Usability Impact of Occlusion-free Techniques on Commonly-used Multitouch Actions

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Abstract :

Many interaction techniques have been proposed to combat the finger occlusion and precision problem in multitouch platforms such as tablets and smartphones, supporting more accurate ways to select a target item with a finger. Recognising how the typical touch interactions on multitouch platforms are becoming more complex and composite, in this paper we study some combinations of basic occlusion-free/precision finger interaction techniques in the context of commonly-used composite user actions in realistic usage scenarios including copying and pasting a portion of text and drawing a curved line. We develop full-fledged tablet applications featuring the techniques to assess their usability impact on the rest of the actions. Usability testing with 25 participants qualitatively reveals how the integration of these techniques is useful for their intended part (i.e. accurate targeting) but negatively influence the remaining parts of the action. Insights from the study and areas that will benefit further investigation are discussed.

Keywords :

Interaction design; finger occlusion; multitouch.

Identification of Usability Impact of Mobile Learning STEM in a Local University Context

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Abstract :

Despite the rapid progress of the Science, Technology, Engineering, and Mathematics (STEM) subjects in developed countries, in Malaysia, STEM is still lagging. Malaysia also lacks the local digital content for STEM, including mobile learning. Furthermore, from previous studies, the Human Computer Interaction (HCI) of local cultural aspects has been overlooked, which is unfortunate, as they can contribute to better usability design of the mobile devices and their apps. Therefore, this study was conducted to investigate the insights of the impact of the usability factors in terms of the general usability and culturally appropriate design factors of mobile devices, such as smart phones. The methodology deployed is largely qualitative with focus group discussions with respondents from a local university. The findings highlight concern about the usability factors, such as general usability and the culturally appropriate design of smart phones. This study can be of benefit as it provides insights concerning the usability impact factors for the local context.

Keywords :

Mobile learning; student-generated activities; usability; local context; STEM.

Harnessing Digital Tools to Collaborative Inquiry for Contemporary Interpretation of the Pancasila

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Abstract :

Twenty-three teachers, representative of Indonesia's religious and cultural diversity, were recruited in an online interregional collaborative inquiry (OICI) of the Pancasila - Indonesia's founding values. This undertaking matches calls from the highest levels of Indonesian government for a Mental Revolution, encouraging citizens to dig into cultural roots to address sectarian conflict. Google Hangouts On Air afforded teachers joining video calls on their digital devices with screensharing of 'Conflict Resolution Education Module' [25] and a facilitator fostering discussion. A Google Classroom afforded asynchronous sharing. The inquiry evolved organically fitting technology mediation to daily living. Harnessing social media to teacher learning facilitated an enactment and deeper understanding of the Pancasila and peace. This paper reviews recruitment and OICI computer-human interaction (CHI), contributing to the growing field, by describing 'control, context and communication' constructs negotiated to enable empowering digital transformation for teacher needs. As such, it documents a component of the research project still underway, that studies the teachers' OICI experiences and how these support or hinder contemporary interpretation of the Pancasila.

Keywords :

Collaborative Inquiry; Indonesia; Computer-Human Interaction; Teacher Learning.

The study about using VR with smart phones for road safety awareness and timing

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Abstract :

This paper explores the road safety awareness for pedestrian in developing country especially for young adults when crossing a road in Malaysia. A Virtual Reality (VR) mobile game was designed and developed to train pedestrian on the correct and safe methods of crossing a road. The two primary aims of the game are to create the awareness of road safety and to improve the timing estimation of young pedestrian when crossing a road. This VR mobile game serves as a supplementary learning tool on road safety instead of replacing existing methods. Through our preliminary testing, we have found out that with the use of four scenarios in the Road Safe VR game, players are more immersed and familiar with the correct methods for crossing roads.

Keywords :

Immersive Gameplay; Virtual Reality; Road Safety; First-Person-View; Pedestrian; Mobile

Applying User-Centered Techniques in the Design of a Usable Mobile Musical Composition Tool

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Abstract :

In this study, we present the music composition tool Flow and how an interaction was designed that led towards introducing balance in the work of musicians across all stages in musical composition. Observation and user research led to having a deeper understanding of the various needs, gains and pain points musicians encounter when composing. Musicians and composers who participated in the study, came from varying levels of expertise from beginner (those with less than 7 years) and veteran (those with beyond 10 years experience). An iterative process of design and development was continuously employed which led to improving the interaction design within the prototype. The processes described in this study show how insights were uncovered from a comprehensive set of usability tests and inspections done. These insights led to the development of a more usable and acceptable musical composition tool as seen from the results in the user tests. It can be observed that varying levels of expertise in music composition leads to different expectations and needs with regards to a music composition prototype. Results of the user tests show that Flow achieved a level of satisfaction and usability at par with the industry-standard tools.

Keywords :

Human Centric Computing; Human Computer Interaction; Interaction Design; User Interface Design; Interaction Techniques, Gestural Input

A Research through Design (Rtd) Approach in the Design of a 360-Video Platform Interface

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Abstract :

Many video interfaces enable multiple sources of input video in displaying and streaming vital information. Most of these setups can be seen in deployed security systems and observer footage that are usually used for surveillance and crisis monitoring. In this study, we consider a crowd-sourced approach to multiple sources of video and aim to design an interface to-wards multiple possible use-cases. In designing this interface, we performed field studies and on site surveying along with initial user tests to validate our ideas. Research through design was added into the methodology to consider multiple point of views considering varying sources of perspective. Specifically, we catered the design of an initial interface in helping multiple users understand several views from multiple cameras, angles and position. The participants chosen for this study are students who have at least the basic technological ability of using a smartphone and taking a video with it. We intend to extend this study by validating the 360-view and designing an algorithm towards stitching one final view crowd-sourced from multiple cameras and streamers.

Keywords :

Human Centered Design; User Centered Design; 360 Video; Interface Design

Levelling, Nudging, and Easing: Inspirational Design Patterns For Supporting New Encounters

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Abstract :

Social and collaborative benefits are a major motivator for developing tangible and embodied interaction, but if, how, and why such approaches may successfully facilitate collocated encounters between strangers is not well established. We conducted an iterative, and participatory design space review. Qualitative data was collected through workshops and group sessions, analysed thematically and compared against insights from social science literature. As a result, clusters of diverse design examples were connected with explanations of specific difficulties with initiating new encounters that they might support. In this paper, we focus on how different aspects of the distances between people may impede new encounters. We contribute three inspirational design patterns that offer strategies to make social interaction more likely through enabling, encouraging or excusing people to move closer together. These articulations of possible approaches for increasing conviviality may broaden the repertoire of developers concerned with social settings and collaboration.

Keywords :

Inspirational design patterns; social interaction; social icebreakers; social catalysts; collocated interaction.

Hacksprint Abstracts

PetHome: Saving Animals One Tap at a Time

CLASS

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Abstract :

Cat and dog cruelty and neglect are increasing day by day, especially in Indonesia. The cause of this problem comes from lack of data and social awareness. While there are several groups that help stray animals, they cannot work effectively and efficiently because they lack effective communications and it's difficult to find where those stray animals are. Based on this problem, we would like to help them to save those animals by making a mobile application called PetHome, so you can easily make a report or rescue the stray cats or dogs.

We choose mobile application as our platform because smartphone most widely used in the world, including Indonesia. The total active smartphone users reaches 281,9 million people in Indonesia. Older generation (40-59 years old) users are 28,3% of the population, while younger generations (20-39 years old) are 69,3% of the population.¹

Keywords :

PetHome; animal rescue; cats; dogs; mobile application; pet adoption; report; stray animals; volunteer; user experience

JinJing : The Tote Bag Vending Machine

JINJING

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Abstract :

Lightweight, disposable plastic bags are a a major unique threat to the environment. Unlike other waste, these plastic bags can travel long distances overland, pushed by the wind like a leaf. They are blown by the wind out of trash bin, garbage trucks and landfills, and sometimes do not stop until they reach a stream, river or the ocean. Without noticing, there are probably billions of plastic bag waste have ended up in the sea, to break up into tiny pieces and causing widespread harm when ingested, at all levels of the food chain. Back on land, those plastic bags can block drainage systems, and thus contribute to localised flooding. Based on this problem, we chose the good of technology as our solution to change the habit of society, especially Indonesian society, to not use disposable plastic bag anymore. We designed a rental system, where people can rent a reusable bag (tote bag) from a vending machine with a mobile application from their smartphone.

Keywords :

Plastic bags; tote bags; environment; habits; mobile application; rent;

'My Weather' Application

VICTORY TEAM

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Abstract :

The 'My Weather' application is a weather forecasting application that has several advantages compared to other applications. The purpose of this application is to provide early warning to people who want to go outside their homes so that they can avoid various problems of bad weather and predictable natural disasters.

On the other hand, our application can also be used not only for those who want to move outside the home. But can also be used only to just check the weather that happens. This application can be used by all people and can be used easily because it has a very friendly user interface.

A notification will appear when the user is in danger of disaster. Based on GPS, the application compares the position of users with disaster positions (storms, tornadoes, landslides, etc.). If the user approaches an area that is considered dangerous, the user will be automatically notified that the area is indeed dangerous and must move immediately.

This application has been integrated with Google Earth. This advantage is not found in ordinary weather applications because the weather only displays the weather forecast and does not give a warning.

If the user is in an unfavorable situation (for example, caught in a storm), the application can notify certain locations that are considered safe to take refuge during a storm. Even if caught in a storm, users are still protected safely based on recommendations that have been suggested by our application from the storm. This feature is not found in normal weather applications.

If we are caught in a big storm, the application can provide an option to take refuge from the current storm. That place can be a sturdy building that is suitable for shelter from storms. This button has a function to bring special reinforcements from the disaster relief team.

The SOS button is used when the user is in a very dangerous situation. Users can press the SOS button in the application to call the rescue team. Professional rescue teams will come quickly to rescue users who are in danger. Not only from the SAR party, but like the police, army, and medical personnel will also be involved in the rescue action. This is a special feature because it is only found in our application, not in other applications. If your application crashes and needs help just by pressing the button, help will arrive quickly. Our application is the best choice as a lightweight android application when used. That way, our smartphone will not lose much use of RAM or ROM. This is also one of the applications made and developed by the nation's children.

TOBASTOP

TOBA TEAM

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Abstract :

Smoking is a behavior that is very easily seen in everyday life. At present cigarettes are not only consumed by adults but teenagers and even children. The warning label from the government about the dangers of smoking listed on cigarette packaging in Indonesia today is only limited to the small posts placed on cigarette packs. The impact, many of the smokers, especially teen smokers who ignore the warning label. It is different from the warning label on the dangers of smoking abroad which is already more daring by using a pictorial warning, with the placement of 50 percent images on cigarette packs. Indonesia, which is the country with the highest number of smokers and most active, should have implemented a pictorial warning on each cigarette package, so that smokers, especially teenagers, understand the real danger of smoking. As seen in Depok District, Sleman, Yogyakarta. With many places such as cafes, internet cafes and online games, many are found to be smoking teenagers with ease and release. This is a problem in this study, namely "Perception of Youth about Anti-Cigarette Campaign Through Pictorial Warning in Depok Sub-District, Sleman, Yogyakarta". The purpose of this study was to determine the perceptions of adolescents in Depok Sub-district, Sleman about anti-smoking campaigns through a pictorial warning. The research method used in this study is a qualitative descriptive method. Data collection techniques were obtained from interviews, observations and literature studies.

Keywords :

active smokers; mobile application; UX

Aranyani.id - The Design of Reforestation Funding Program Using Mobile Advertising Application

JAVACCINO

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Abstract :

An estimated 7.3 million hectares of forest, which is roughly the size of the country of South Africa, are lost since 1990. Various methods have been implemented to hold back deforestation, such as reforestation. But, reforestation is proven to be expensive. Despite various funding process, it still fall short of their objectives. This paper analyzes the usage of mobile advertising to fund restoration program by designing mobile application that can show non-intrusive ad to the user to generate fund for restoration program. Researcher uses User-centered design by Donald Arthur Norman to design. Based on user input, researcher design mobile application that employ gamification to keep user engaged. Use personalization features to put user in control on how and when they see ad. Resulting apps is estimated to generate Rp 205 billion per year, or plant around 5,1 million tree per year.

Keywords :

reforestation; environmental issues; life on land; tree donation; mobile advertisement

VOJOL : (The Voice of Ojek Online)

ZULED

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Abstract :

Currently if we see look at streets in big cities in Indonesia, we will find a lot of ojek (red: taxi bike) online riders. They help us a lot but also left some problems. One of them is they are mostly using their mobile phone while riding, either chatting with the passenger or looking at the map. That habit often makes uncomfortable other road users, at bigger impact it also leads to accident. They use their phone on the road because they want to pick up and deliver passenger to the destination quickly. It's hard for them not to use phone on the road. But instead of using mobile phone by texting and keep looking at it, we can make them interact with their phone by auditory verbal based technology. If they could receive chat by audio and reply it verbally, they still can focus riding and don't bother other road users.

Eye Health Application : Portable Eye Disorder and Vision Acuity Analyzer

EHAPP

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Abstract :

Eye Health Application or EHAPP is a mobile application that focused on promoting eye care. It has four modules-vision acuity measurement, colorblindness test, astigmatism test and eye exercises. This research focused on generating an initial diagnosis for human's vision acuity and promoting eye health awareness. The team made use of the constructive research methodology. Based on the results, the system achieved an 85% accuracy rate in the vision acuity measurement proving that the theoretical proposition that vision acuity can be diagnosed through EHApp. Furthermore, initial diagnosis for Color Blindness and Astigmatism can be drawn through a series of vision test guided by the Ophthalmologists' way of diagnosis and the system provided eye exercises that can help users to practice good eye care at the comfort of their homes and wherever they intend to.

Keywords :

Vision acuity; eye health; screen to face algorithm; voice recognition;

TRASHOR: Solution for green environment through organizing waste

TREASURE

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Abstract :

Nowadays when we see our surrounding, we can easily find waste in our environment. This phenomena happens due to our habit that usually throw something easily after we use them. Based on Ministry of Forestry and Living Environment, Indonesia produces 64 million tons of waste each year and 64% of them only end up in landfills. Those amount of waste can be reduced using recycle system. But to create good and easier recycle waste system, the first thing to do is to organize trash into a couple of categories. Unfortunately, in Indonesia, such system hardly work well because people often mix every trash in one can. Even if they sort the waste, they usually throw it in the same time and place with unsorted trash so the effort would become vain. TRASHOR presents as the answer to those problems, to help people organize waste and give it to the right place.

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