5-2022

HCI in Southeast Asia: The journey forward

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ABSTRACT

SEACHI 2022 has been conducted to bring HCI and UX leaders in Southeast Asia to discuss the current state-of-the-art HCI and UX teaching, practice, and support they experience in their region. This activity aims to explore the potentials and challenges and identify the gaps amongst different sectors in different countries. Through this workshop, we will have a common understanding of what we face. It explores how we can work collaboratively to achieve a better purpose, i.e., to grow HCI and UX fields in Southeast Asia. This one-day online workshop was conducted as a collocated event of CHI 2022 and was attended by delegates from Indonesia, Malaysia, Singapore, Thailand, and the Philippines. This paper is a summary of the individual papers produced by delegates.

CCS CONCEPTS

• **Human-centered computing** → Human computer interaction (HCI); HCI design and evaluation methods.

KEYWORDS

Human Computer Interaction, User Experience, UX Education, Professional Practice

Asian HCI Symposium'22, April 29–May 05, 2022, New Orleans, LA, USA

ACM ISBN 978-1-4503-9250-1/22/04.
https://doi.org/10.1145/3516492.3558812

ACM Reference Format:
Eunice Sari, Josh Adi Tedjasaputra, Yohannes Kurniawan, Ellya Zulaikha, Auzi Asfarian, Masitah Ghazali, Ashok Sivaji, Juliana Aida Abu Bakar, Chui Yin Wong, Noris Mohd Norowi, Tamas Makany, Dharani Perera-Schulz, Thippaya Chintakovid, Siranee Nuchitprasitchai, and Ethel Ong. 2022. HCI in Southeast Asia: The Journey Forward. In *Asian HCI Symposium'22 (Asian HCI Symposium'22), April 29–May 05, 2022, New Orleans, LA, USA.* ACM, New York, NY, USA, 4 pages. https://doi.org/10.1145/3516492.3558812

1 BACKGROUND

Human-Computer Interaction (UX) and User Experience (UX) have grown exponentially in Southeast Asia in the last five to seven years [2, 5, 10]. Technology adoption has accelerated as a part of the digital transformation during the Covid-19 pandemic. The awareness and need to have and create a good user experience when interacting with technology have become a norm that cannot be avoided. This situation has created a new wave in academics and industries.

Southeast Asia, with its eleven countries, has been proud of its way of life and rich culture and is generally happy to maintain its long comforting tradition. However, the region must acknowledge that its diverse population and strategic location have become a center of attention for global players to invest in the region. With the emergence of Industry 4.0, digital transformation has become mandatory for any organization or nation in Southeast Asia to consider.

As HCI matures in Asia, we identified the remarkable growth and needs of HCI in the Southeast Asian community. In this symposium, we have several questions that we would like to answer: To what extent the HCI and UX that has been taught and practiced in

Southeast Asia met the needs to support the digital transformation initiatives in the region; whether there has been any significant and proper contextualization of the HCI and UX fields; whether HCI and UX are still perceived as a Western mindset instead of a localized approach to make a difference in any projects; whether HCI and UX have become a standard norm in the digital product and design process and how HCI and UX players in Southeast Asia have worked together to create a unique ecosystem.

SEACHI (Southeast Asia Computer-Human Interaction) community has grown significantly since its conception in 2015. The community's exponential development has influenced the development of HCI research and practice in Southeast Asia and the rest of Asia. In 2022, SEACHI is again held under the big CHI 2022 conference theme "Equity, Justice, and Access Commitments [8].

This highly curated workshop has invited players, key leaders, and stakeholders from academia and industry to present their insights and ideas on navigating the multidisciplinary environment and multi-socioeconomic approach to the development of HCI and UX in Southeast Asia. Through the event, we aim to prepare HCI and UX agendas for the academia, industries, governments, and non-government fields and publish them as a guideline for the public.

2 HOW HCI AND UX HAVE BEEN TAUGHT

Amongst universities and other educational institutions in Southeast Asia, there have been significant differences in the perceptions, depth, strategy, and approach to teaching and learning HCI and UX. HCI has been officially accepted as an independent study program by a university. Singapore has been considered the leading player in HCI teaching, learning, and research in Southeast Asia. At least four universities in Singapore offer the HCI Study Program, such as the National University of Singapore (NUS), Nanyang University, Singapore Management University, and Singapore University of Technology and Design. Based on the [Singapore Paper], the National University of Singapore (NUS) has been placed as the top 3 tier university with the best HCI program in Asia, together with Tsinghua University (China) and the University of Tokyo (Japan). NUS has even its Ph.D. program in Human-Computer Interaction [13].

Malaysia education has been catching up with this trend, as its dedicated HCI Study Program demonstrates it offered at the Universiti Putra Malaysia (UPM), Universiti Utara Malaysia (UUM), Universiti Pendidikan Sultan Idris (UPSI) and Universiti Malaysia Sarawak (UNIMAS) [12].

However, compared to Singapore and Malaysia, many other countries in Southeast Asia have yet to reach the stage where HCI is acknowledged as an individual study program. Still, there has been a lot of significant progress where higher education authorities and the public have accepted HCI. The nomenclature or term name of HCI has been recorded as a scientific field in the government database but has yet to be as a study program. HCI has been taught as a core or elective subject within undergraduate or master study programs, such as Software Engineering, Computer Science, Information Systems, Information Technology, Industrial Design, Design, and Communication [6]. A similar situation is reflected in Thailand and the Philippines [14].

HCI teaching and learning have changed in the last few years significantly. Starting as a rigid computer science-like subject, HCI has been taught more creatively. Many User Experience (UX) elements are integrated into traditional HCI subjects. The awareness of academics about the importance of applied HCI in the industry has grown. Instead of HCI, the fields have been introduced with the following names: Interaction Design, User Experience Design, Design Thinking, Visual Design, Natural Language Processing, Digital, and Business Innovation, Data Science, Entrepreneurship, and many others that can appeal to industry people.

As with the names, the teaching and learning approach has also varied significantly. Those with the design title emphasize problem-based learning, where students are expected to devise solutions to their problems. For those with Digital and Business Innovation, HCI has been integrated with topics such as New Product Development (NPD), Business Model Innovation, and Digital Transformation Strategy [6]. In Singapore [14], SMU Business School students are taught HCI in conjunction with data design and communication as a part of the interdisciplinary business and design particular track.

Micro-credentialing in HCI and UX has recently been introduced (during the Covid-19 pandemic) at many universities in Indonesia through Independent Learning (Program Merdeka Belajar) scheme. This learning scheme allows a student from any university in Indonesia to pursue a learning interest, in this case, UX, and get a credit from there. Through this micro-credentialing program, partnerships between universities and industries are strengthened. The universities invite many practitioners to contribute to formal tertiary teaching and learning [6, 7].

3 HOW HCI AND UX HAVE BEEN PRACTICED

Human-Computer Interaction (HCI) has become essential to day-to-day and industry practice in Southeast Asia. The "User Experience (UX)" term is more widely used in academics and industry to represent HCI than the use of HCI terms itself. The term HCI is still used a lot in the academic world.

In Southeast Asian digitally related companies or organisations, it has gradually become a norm to apply UX in the design and development process despite the UX maturity [9] of the companies or organisations. Compared to the United States and Europe, the UX Maturity in Southeast Asia is, on average, between 1 (Absent) - 4 (Emergent). However, this estimation needs to be adequately tested in a regional research study and reported in the publication. With level 1, UX does not exist in the organisation, but individual awareness about UX starts to exist. In a country with more advanced technology, like Singapore, the maturity level might be higher (for example: > level 4).

Because UX has become a norm, academics and industry started to find ways to collaborate to close the gaps. HCI teaching and learning at the university is outdated and no longer applicable to the industry. In order to make graduates more relevant, academics and industry work to find various ways of cooperation. In Indonesia, many universities send their students and lecturers to do an internship in a UX company like UX Indonesia to study how HCI and UX have been implemented in a project. They also send their students to write a thesis in UX with the UX company. The UX company engages the students and university researchers in an

actual project so that they can get as much exposure as possible to HCI and UX implementation in the real world. The students and researchers will then report back to their institutions and start to apply what they have learned in their study, improve their teaching materials, and apply it to their research projects [6].

Another model applied is through various UX competitions organised by universities in collaboration with the industries to solve authentic problems using HCI and UX principles. For example, Bina Nusantara and Institut Pertanian Bogor have done several Design Challenge activities to foster knowledge transfer that can support research and development in both respective universities and industries involved [6].

In Malaysia, the collaboration between industry and academia enabled the recruitment of university students to solve their respective real-life industries' problems. The practitioners of HCI and UX in Malaysia are scouting talents in hackathons. A hackathon is a sprint-like design event wherein computer programmers and others involved in software development, including graphic designers, interface designers, product managers, project managers, domain experts, and others, collaborate intensively on software projects [11, 12].

UX career prospects in the Philippines are expanding as more businesses learn about the discipline and its significance as they embark on the digital transformation process. Giving both students and professionals the skills and work experience necessary to succeed in the UX job path can influence and enhance the development of goods and services during rapid change and development. The Philippines Creative Industries Act provides the development, skills, and work experience related to HCI/UX career path for students and professionals interested in the HCI/UX discipline.

In Singapore, UX practice maturity [4] falls between level three (Emergent) and four (Structured). It is functional and partially systematic, and there is evidence of effectiveness; however, its applications and effectiveness could be more consistent. These six stages measure, assess, and evaluate how strong or weak a UX adoption is in a company's culture. A complete evaluation of an organization's UX maturity should be based on diverse assessment methods to thoroughly understand current UX work and output, including observation of and interviews about work practices; analysis of processes, people, and tools; assessment of deliverables; and surveys of people from across the organization. This means the advanced level of the emergence of HCI and UX in Singapore has become more prominent, while other countries are yet to do this method [13].

Thailand gets strong with its design community to establish unique interaction and atmosphere in the community between academia and industry to collaborate. The purpose of the design community in Thailand is to get to know and experience design which is envisioned to create the pulse of design impact. The vision is "empower locally, recognized globally," upskill and inspire for the greater good of the national and global design industry. The inspiring concept of 3 pillars events (Conference, Openspace, and Meetup) was influenced by the conversation vibe and how the message was delivered between speaker and participants in a different aspect, particular space, and unique interaction and atmosphere in the community between academia and industry to join collaboration together. The researchers also use local case studies, which would benefit the industry player [5]. Their government is still less involved in supporting their design communities [14].

4 HOW HCI AND UX HAVE BEEN SUPPORTED

ACM SIGCHI has supported the growth of HCI chapters in the Southeast Asian region. The Indonesian ACM SIGCHI chapter was inaugurated in 2015. However, the actual support started back in 2011 when the Asian HCI event was conducted in Beijing and UX Indonesia-Malaysia conducted in Jakarta in 2014. This professional association works with leading regional researchers and practitioners to expand the awareness of HCI and UX in Global South countries in Asia [1].

The support continued as more chapters were born and more chapter events were funded and supported by the association. CHIuXID, the official flagship chapter event in Southeast Asia, was conducted in 2015. The first CHIuXiD conference included participation from academia, business, and students across regions and internationally. The ACM Distinguished Speaker Program has been introduced and allows knowledge exchange opportunities across the globe in Southeast Asia. We have the Kuala Lumpur ACM SIGCHI chapter (myHCI-UX), Bangkok ACM SIGCHI Chapter, and Manila ACM SIGCHI Chapter (CHI MNL) that lead a lot of HCI and UX community events and initiatives in Southeast Asia [1, 12, 14]

The Philippine Creative Industries Act of 2021 is one of the examples where the Philippine HCI and UX community gets support from its formal government. This act supports the rise of UX Jobs in the Philippines and interest in the UX career path. Given the rapid digitalization of products and services, these solutions are in demand, further intensified by the COVID-19 pandemic.

Numerous collaboration activities are done across chapters or various local and international organisations at the local and regional levels with support from the government, industries, academics, and international associations like ACM and IEEE. Some of their activities include conferences, symposiums, meetups, seminars, summer schools, book clubs, research collaboration, design challenges, community outreach, and many more year-round. Through this process, new leaders emerge and lead their countries to spearhead the growth of HCI and UX in their regions.

5 RECOMMENDATIONS

We have learned how HCI and UX have been taught, practiced, and supported in the Southeast Asian region. The level of UX maturity, in general, is still low, but there is an emerging need for HCI and UX in the Southeast Asian region. Through SEACHI 2022, we have learned several things we need to work out collectively as individual organizations.

- HCI and UX Teaching and Learning
- There is a need to map the HCI and UX courses in the region. More and more universities and industries introduce HCI and UX courses to meet industry and academic research needs. Standardising the curriculum and strategy with [3] as basis, is key to designing a customised regional HCI and UX teaching and training.
- HCI and UX Practice

- The current model of collaboration between industries and academics to practice HCI and UX in real projects has been positive. Pushing regional collaboration and developing regional consortiums to solve more significant issues are the following things to consider growing HCI and UX practice in the region.
- HCI and UX Support
- Current supports mostly come from ACM SIGCHI and IEEE. The growth of HCI and UX in the region has to be sustainable. Thus, every chapters, universities, and industry need to be more proactive and engage local communities and stakeholders to get their buy-in in implementing HCI and UX so they can support the growth of the fields.

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