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Menumbuhkan Talenta Desain Pengalaman Pengguna Melalui ACM SIGCHI Student Chapter: Refleksi dari IPB University

Nurturing User Experience Design Talent Through ACM SIGCHI Student Chapter: Reflections from IPB University

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Abstrak

Student chapter adalah bagian integral dari asosiasi ilmiah yang misinya untuk memajukan ilmu pengetahuan dan memperkenalkan mahasiswa pada dunia ilmiah dan profesional. IPB University ACM SIGCHI Student Chapter didirikan pada tahun 2019 sebagai *student chapter* pertama di Indonesia dan di Asia Tenggara. *Student chapter* ini secara bertahap telah menjadi komunitas praktik yang menghubungkan mahasiswa, dosen, dan alumni dengan minat atau bahkan profesi di bidang desain pengalaman pengguna (UXD) terkait. Penelitian ini mengidentifikasi faktor-faktor kunci dan strategi-strategi yang memungkinkan *chapter* tersebut berkembang. Kami juga telah mengamati dampak kegiatan *chapter* pada kompetensi mahasiswa dalam UXD. Meskipun penelitian sebelumnya telah membahas kompetensi pengalaman pengguna dan cara mengajarkannya di universitas, literatur tentang pengukuran dampak kegiatan mahasiswa dalam *student chapter* pada kompetensi UXD masih sangat sedikit. Penelitian ini dilakukan untuk mendokumentasikan dan menganalisis peran IPB University ACM SIGCHI Student Chapter dari tahun 2019 hingga 2021 dalam menumbuhkan talenta UXD di IPB University. Hasil dari penelitian ini antara lain merupakan strategi keberlanjutan *chapter*. Pertama-tama, penelitian ini menjelaskan strategi yang kami gunakan untuk memastikan keberlanjutan *chapter*. Kedua, penelitian ini menjelaskan pengukuran awal dampak kegiatan *student chapter* pada perkembangan talenta UXD mahasiswa. Terakhir, penelitian ini memaparkan peluang dan tantangan yang kami temukan dalam tiga tahun pertama menjalankan *student chapter*. Kami berharap pelajaran yang kami peroleh dari kegiatan kami dapat mendorong lebih banyak *student chapter*, mendorong kolaborasi antar-*student chapter*, dan memupuk diskusi lebih lanjut tentang keberlanjutan dan dampak *student chapter*.

Kata Kunci**:** desain pengalaman pengguna, komunitas praktik , SIGCHI, *student chapter*

Abstract

A student chapter is an integral part of a scientific association whose mission is to advance science while exposing students to both the scientific and professional world. IPB University ACM SIGCHI Student Chapter was chartered in 2019 as the first student chapter in Indonesia, perhaps even in Southeast Asia. The student chapter has steadily become a community of practice that connect students, faculty, and alumni with passion or even profession in user-experience design (UXD) related field. We identified the key factors and strategies that allowed our student chapter to flourish. We also have observed the impact of student chapter activities on student competency in UXD. Although previous research has discussed user experience competency and how to teach them in university, we found minimal literature on measuring the impact of a student's activities in the student chapter on their UXD competency. In this paper, we aim to present the role of the IPB University ACM SIGCHI Student Chapter from 2019 to 2021 in nurturing UXD talent in IPB University. Firstly, we present the strategy we used to ensure the sustainability of the student chapter. Secondly, we present our preliminary research to measure the student chapter's activities and their impacts on UXD talent developments. Lastly, we present the opportunities and challenges we found in our first three

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years of running the student chapter. We hope the lesson learned from our activities may promote more student chapters, encourage collaboration between student chapters, and foster further discussion about the sustainability and impact of a student chapter.

Keywords: community of practice, SIGCHI, student chapter, user experience design

INTRODUCTION

Graduates nowadays must have both discipline-specific competencies (knowledge, skills, and disposition) (ACM and IEEE 2021) while having a solid foundation in soft skills such as communication, management, leadership, and problem-solving (Aničić *et al.* 2017). There are various strategies to achieve the required competency and soft skills, which primarily focus on curriculum and pedagogical approaches (Boehm and Mobasser 2015; Babatope *et al*. 2020; Pinto and Zvacek 2020; Papa *et al.* 2021). However, students' clubs, organizations, or societies, which are apparent in an undergraduate program, also has potential to shape students' competency (King 2019). A student chapter of a scientific or professional association is an integral part of their mission to advance science while exposing students to both the scientific and professional world. Previous research has shown their potential to introduce ethics and societal impacts (Bielefeldt *et al*. 2021; Bielefeldt *et al*. 2019) and even contribute to the program outcome (Estes *et al*. 2003).

IPB University ACM SIGCHI Student Chapter was chartered in 2019 as the first student chapter in Indonesia by students and faculty in the Department of Computer Science, IPB University. Nevertheless, the interest from IPB University students in this field has grown far before that. Students' interest in human-computer interaction (HCI), mainly in user experience design (UXD), grew since early 2013. Computer Science students who like graphic design proposed to the department to create a graphic design community. Community of interest was not a new thing, as the department already supported five communities related to computer science careers, e.g., mobile, web, and game development. Unfortunately, the not-directly relevant subject of graphic design to computer science makes the proposal not seriously considered. However, the digital landscape transformation in Indonesia opened an opportunity for both students and industry to recognize the vital role of UXD competency (Sari *et al.* 2022a; Sari *et al*. 2022b).

Although there is a gap between academia and industry (Ghazali *et al. 2023*), an effort was made to bridge that gap. The Indonesia ACM SIGCHI Chapter was born in 2014 (Sari *et al*. 2015), connecting people interested in HCI and UX in Indonesia. The first CHIuXiD conference was initiated in 2015 (Tedjasaputra *et al*. 2015) and involved academia, industry, and students (Sari *et al*. 2017). In the second year of the conference, which raised the notion of "Bridging the Gap", a faculty, students, and alumni who work and have an interest in HCI and UX field met and sparked ideas to create a user experience design community in IPB University.

In the two years of its activity from 2019 to 2021, we identified the key factors and strategies that allowed our student chapter to flourish. We also have observed the impact of student chapter activities on student competency in UXD. Although previous research has discussed user experience competency (Gray 2014; Getto and Beecher 2016; Kou and Gray 2019) and how to teach them in university (Oguamanam *et al*. 2020; Wilcox *et al.* 2019; Getto and Beecher 2016; Vorvoreanu *et al*. 2017), we found limited literature on measuring the impact of a student's activities in the student chapter on their UXD competency. Based on this notion, we conducted this research as a preliminary attempt to measure the impact of a student chapter on UXD competency.

In this paper, we aim to present the role of the IPB University ACM SIGCHI Student Chapter from 2019 to 2021 in nurturing UXD talent in IPB University. Firstly, we present the strategy we used to ensure the sustainability of the student chapter. Secondly, we

present the student chapter's activities and their impacts on UXD talent developments. Lastly, we present the opportunities and challenges we found in our first three years of running the student chapter.

METHODS

This paper provides reflections on the student chapter activities from 2019 to 2021. To support the reflections, we also conducted a quantitative survey of the chapter members about their (a) perceptions of UXD knowledge acquired, (b) perceptions of UXD skills acquired, and (c) perceptions of UXD disposition acquired.

OVERVIEW OF THE STUDENT CHAPTER

In order to ensure the sustainability of our student chapter, there are several things we consider when chartering the chapter. Firstly is the position of the student chapter in university. We decided to officially declare the student chapter in our university as part of the Computer Science Student Association (CSSA). The CSSA has already managed several communities, including the user experience design community. Hence, the transformation process from community to student chapter is running smoothly. The CSSA also helps us connect with two major stakeholders in our university: the Directorate of Student Affairs and Career Development and the Department of Computer Science.

When we designed the chapter activity, we considered the key performance indicators of both stakeholders. Recently, the Indonesian Ministry of Education and Culture (MoEC) restructured the KPIs of the university (Kurniasih *et al.* 2018), which will be ranked annually and will affect the government funding to the university. This policy makes the university willing to spend a budget to ensure the KPIs are fulfilled. The KPIs include some indicators related to students' activities, including the number of students who have their activities abroad, students who get achievement in national or international levels, and how many innovations they create. By inlining the goals of chapter activities with these KPIs, we could receive support to conduct our chapter activities, which are provided in Fig. 1.

Another factor that helped us in running the chapter is the newly established MoEC policy, dubbed "Kampus Merdeka, Merdeka Belajar" (Freedom to Learn, Independent Campus) (Prahani *et al.* 2020; Asfarian *et al.* 2020). With this policy, undergraduate students will have the freedom to choose various learning activities as part of their higher education.

IPB University also allows student activity in a student organization to be recognized into enrichment courses, including Innovation and Design Thinking, Creative and Critical Thinking, Social and Emotional Learning, Empathy and Emotional Intelligence, Complex Problem-Solving, Inclusive Leadership, Event Management, Communication & Teamwork. Consequently, student involvement in the student chapter can be recognized as a part of their education and will be counted in their academic transcript through Fig. 2. On average, chapter officers can only claim two credits per year by managing the chapter, and they can claim more if they contribute or participate in other activities. For example, the chapter sent three posters and one paper to Asian CHI Symposium 2021, and their activity was soon recognized as two credits for posters and three credits for papers. This policy encourages students to manage the chapter and participate in it.

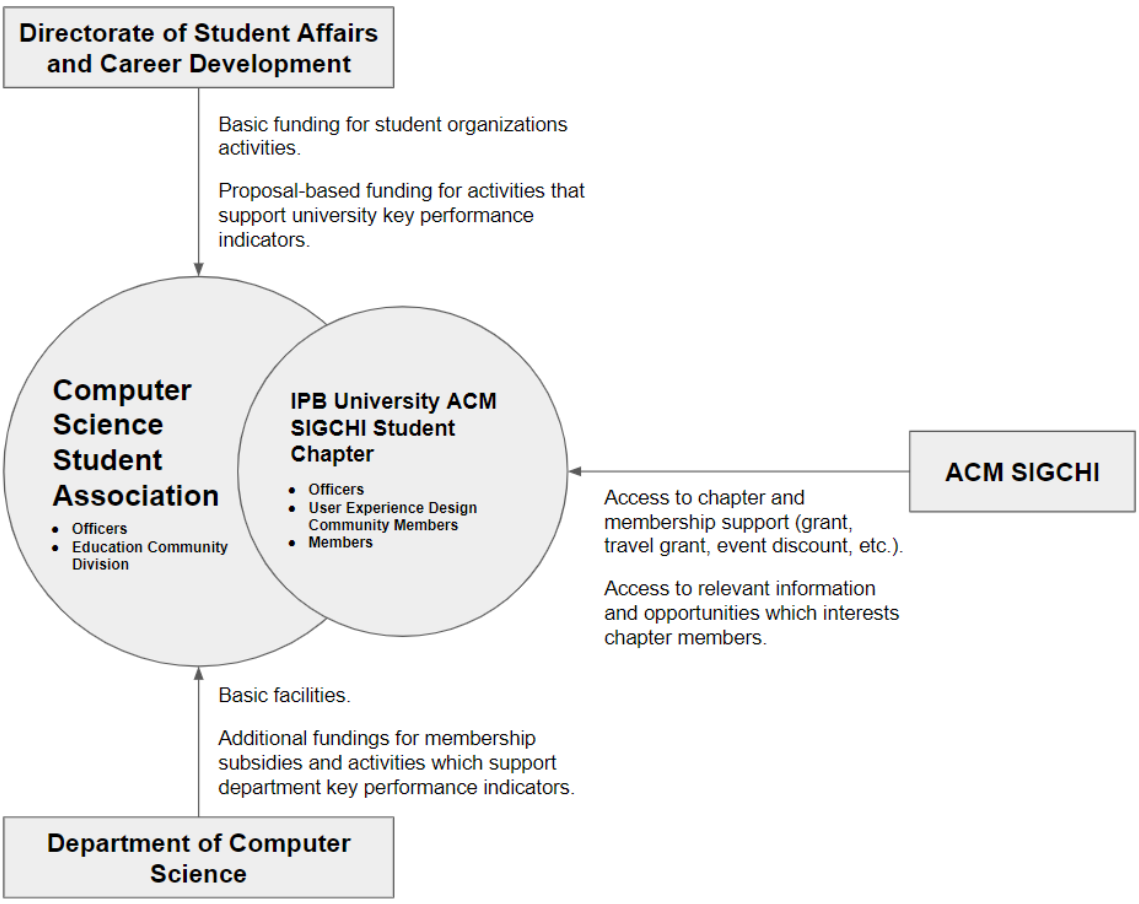

Figure 1. Three key stakeholders of our student chapter: the university Directorate of Student Affair and Career Development, the Department of Computer Science, and ACM SIGCHI.

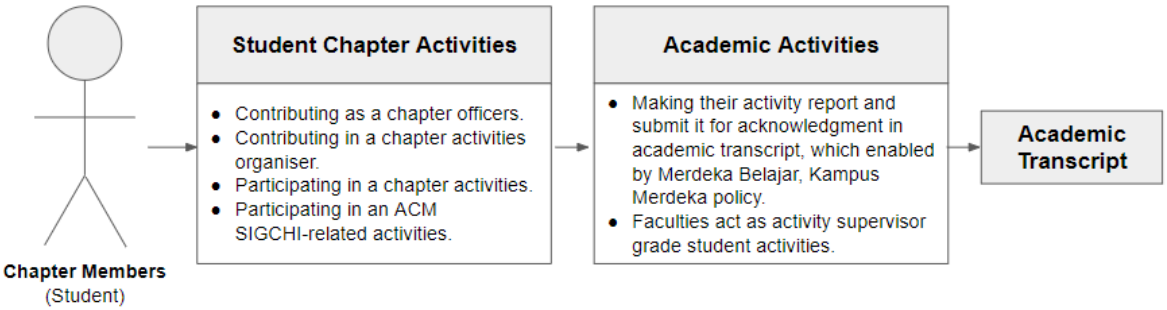

Figure 2. Illustration on how students who participate in chapter able to have their contribution and participation acknowledged as their academic activities and have the grade included in their academic transript.

STUDENT CHAPTER ACTIVITIES AND THEIR IMPACT TO STUDENTS

Most student chapter activities were transformed from established activities, such as student competition workshops and weekly meetups. However, since the chapter chartered in 2019, we increased the quality and quantity of the activities while increasing their variety. Table 1 describe our activities, their target audience, and their participation in the activity. Overall, we categorize our activities into five groups: talks and conferences, weekly workshop meetups, design jam and competition, and practice sharing. Fig. 3. shows the

activities documentation. We promote our events and activities through Instagram (instagram.com/agriux), our LINE account, and member and community chat groups.

In 2020 and 2021, we designed our flagship yearly conference and talks event, which we called "Saung Desain" (Design Hut). We deliberately use the Indonesian word 'design' to catch the attention of IPB University students who like design. We then aimed to introduce human-centered design concepts to enrich their knowledge. The first activity was conducted offline in early 2020 and was attended by around 200 participants. In 2021, when the Covid-19 pandemic forced all university activities conducted online, we transform the activity into a webinar.

For a student chapter member, we expose them to two activities: weekly meetups where students share what they learned and discuss it and practice sharing through a group discussion. Weekly meetups are targeted to encourage discussion between student members (Eid and Al-Jabri 2016; Gamlath and Wilson 2020).

Table 1. Student chapter's audience and their role

1 ACTIVITIES	Target Audience and Their Role				
	Faculty	Members	Non-Member Students	Alumni	Public
Talks and Conference	S, P	O, S, P	P	S, P	P
Workshop	S, P	O, S, P	P	S, P	P
Weekly Meetups	S, P	O, S, P	P	S, P	-
Design Jam and Competition	S	O, S, P	P	S, P	P
Practices Sharing	O, S, P	O, S, P	-	O, S, P	-

S = Contribute as speaker or source person; O = Contribute as organizer; P = Contribute as participant.

Although faculties and alumni sometimes participate in the weekly meetups, their intervention is limited to enable more comfortable discussion between peers, especially for new chapter members who might feel uncertain and more recluse to talk in the presence of the more senior member.

Practices sharing, however, actively involved students, faculty, and alumni in the discussion. These activities are intended to bridge the gap between academics and industry and strengthen the bond between faculties, students, and alumni. Several past activities are related to HCI course curricula and pedagogical issues (Fig. 4a. and Fig. 4b.), in which the faculties shared their pedagogical approach for online course format, the alumni shared their work-from-home online practices, and students gave their comments about them. Based on this discussion, we managed to prepare well for online HCI in a pandemic situation while still enabling online collaboration in the course (Asfarian *et al*. 2021). From this initiative, starting in 2021, several distinguished alumni were invited to give a lecture in HCI class, and one of them even became non-permanent lecturers since late 2021 and was involved in HCI class and practicum.

Another example of practices sharing is present in the WhatsApp group or Discord. The example of practice sharing between faculties to alumni was provided in Fig. 4c. to Fig. 4f. The sharing can happen between faculty to alumni, between alumni, student to alumni, or even faculty with a student. The topics of discussion are varied depending on their needs: faculty might ask about the skills or disposition necessary to have in the industry (Fig. 4c.), alumni asking about another alumni experience in doing some user research practice (Fig. 4d.), student asking feedback of their products to people in the group (Fig. 4e.), and faculty asking about the topic of interest to the student (Fig. 4f.).

Although currently all of the sharing of the practice happened limited to faculties, students, and alumni related to IPB University, it started to show the characteristics of a community of practices (Wenger 2010; Hussein *et al*. 2019). However, there are untapped potentials to improve the community of practices that we have not yet explored. Firstly, we have not connected our student chapter with other chapter activities. There is no other

student chapter in Indonesia or South East Asia, and the only chance to collaborate is with chapters outside the regions. Secondly, IPB University, as an agriculture-focused university, has the potential to introduce agricultural community context and problems to student chapter activities. We have connected with the agricultural communities, but mostly in the context of thesis supervision (Hermadi *et al*. 2021; Hermadi *et al*. 2021; Asfarian *et al*. 2020).

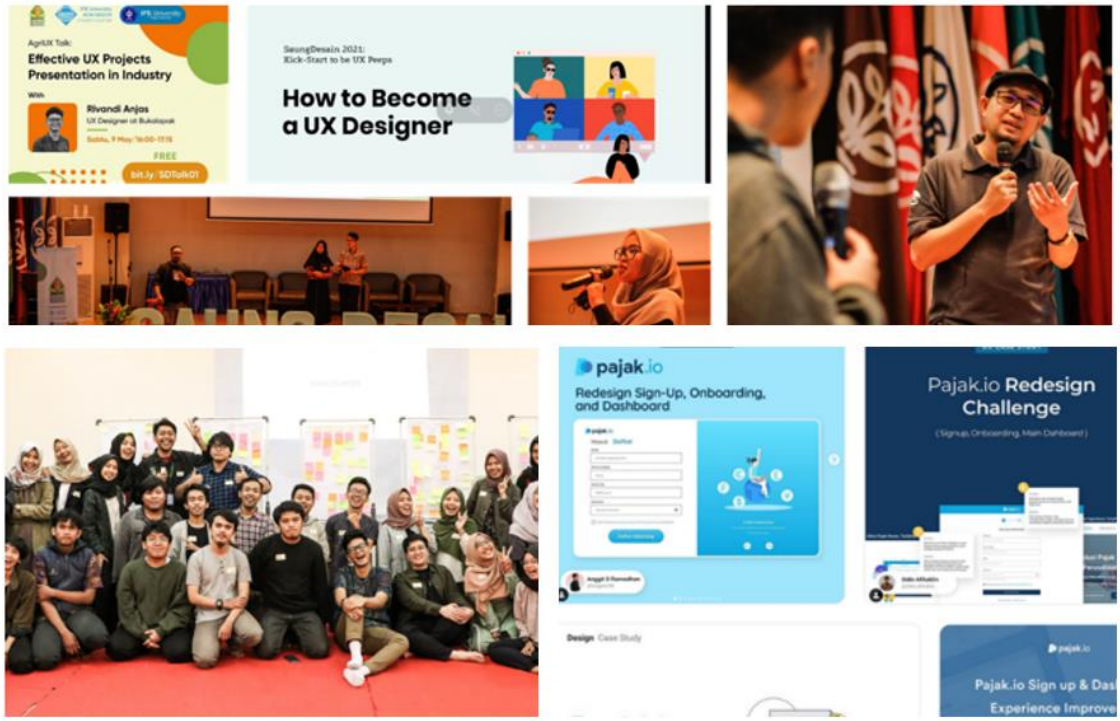

Figure 3. IPB University ACM SIGCHI Student Chapter activities from 2019 to 2021, before and during the online learning caused by the Covid-19 pandemics.

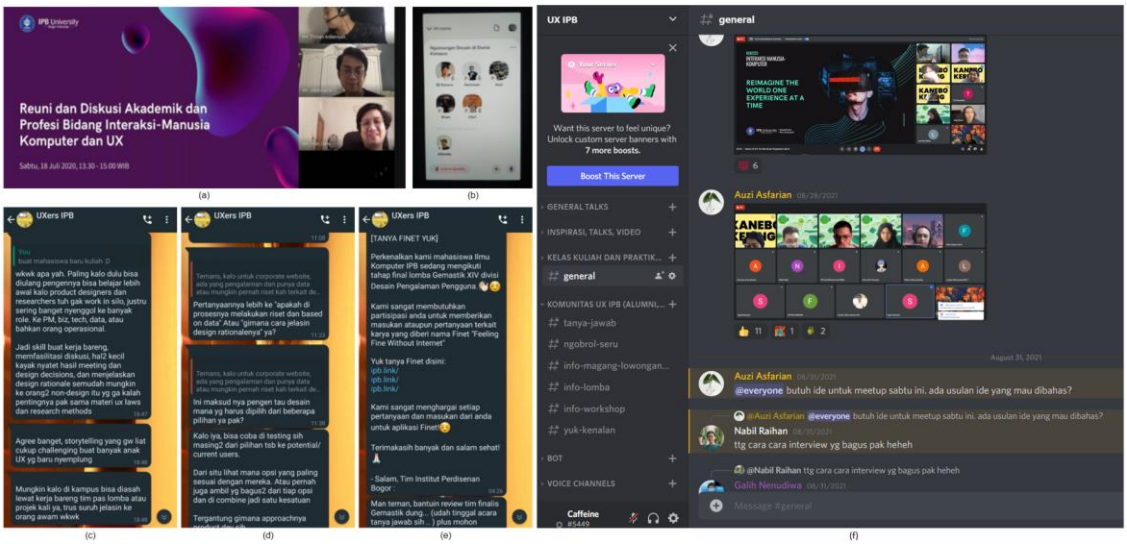

Figure 4. Illustration of the practices sharing happened in the chapter, which includes faculties, students, and alumni to share their problem and experience both in academic or industry context. Some name and identity are omitted from the picture.

This section provides the student's perspective from their experience as a member or non-member students of the IPB University ACM SIGCHI Student Chapter. The structure of questions is (a) Student chapter's activities that they are participated in; (b) perception of UXD knowledge, skills, and disposition (which constitute a competency (ACM and IEEE 2021)) acquired in the activities along with the open questions to capture the specific; and (c) overall satisfaction. Table 2 provides the summary of the results. Overall, the 10 member and 12 non-member students participate in questionnaire shows positive responses on their perception of on both UXD knowledge, skill, and disposition. Although this preliminary research indicates a positive impact, there are two things to scrutinize and improve in future research. Firstly, this is a self-reported questionnaire using previously tested instruments. The results might be subject to bias or other ambiguity. Secondly, the instrument did not robustly measure the detailed UXD competency. Hence, we recommend further research on this area to more rigorously capture the impact of a student chapter on the UXD competency.

Table 2: Summary of student's feedback (n = 22)

Questions		Summary of Responses
ACM SIGCHI Student Chapters Programs Information		
Program attended by participants	:	Webinar (18), weekly meetups (12), talk show (8), workshop (8), design jam (8), offline seminar (4), curriculum discussion (2), UXD competition (1).
Type of Participant	:	Member (10), Non-Member Students (12)
Perceptions of UXD Knowledge Acquired		
Activity improves my UXD knowledge	:	4.23 out of 5.0
Knowledge acquired	:	Knowing design process stage and implementation (12), gaining user insights (3), defining problem (2), UX implementation in industry (2), design principle in UX and HCI (2), knowing UX terminology (1), UX career strategy (1), understanding user (1).
Perceptions of UXD Skills Acquired		
Activity improves my UXD skills	:	4.04 out of 5.0
Skills acquired	:	Doing research method (6), problem solving (5), prototyping (5), using prototyping tools (3), brainstorming (3), creating research report (1), testing (1), creating design system (1).
Perceptions of UXD Dispositions Acquired		
Activity improves my UXD disposition	:	4.23 out of 5.0
Disposition acquired	:	Emphatize (13), teamwork (2), problem solving (1), skeptical (1), quantity over quality (1), UX mindset (1).
Overall Satisfaction	:	4.3 out of 5.0

MOVING FORWARDS: OPPORTUNITIES AND CHALLENGES

This section provides our reflections and lesson learned from our two years conducting student chapter activities. We present opportunities to move forward and challenges that we found as a lecturer and students' experiences from the previous section.

Opportunities

Several opportunities can be done to develop our community based on the experience of being one of the chapters. Collaborating with other SIGCHI chapters feels mandatory, especially with a chapter that has experience working with the agricultural or underrepresented community. Meanwhile, there is an untapped opportunity for the involved agricultural community in our activities, as discussed previously. Their involvement not only enriches our activity but also gives the unique characteristic and

specialty of our student chapter, whose based in an agricultural-focused university. Our grand vision for the student chapter is to realize the community of practices contributing to Indonesia's agricultural community (Fig. 5). The community of practices not only focused on nurturing HCI and UX talents, but also discussing current issues and challenges in agricultural context which solvable using HCI and UX techniques. Based on members experience and expertise, we aim to create best practices of HCI and UX in agricultural context. By aiming for that, the chapter member will be involved in products development and research which utilize HCI and UX to solve problem in agricultural community.

Challenges

Challenges relevant to our effort to move forwards come from both internal and external situations. From our internal side, there are difficulties in reaching master and doctoral students to join the student chapters. The leading cause is the lack of faculty members who can supervise students in the HCI or UX field. As graduate students often decide their research topics at the beginning of their study, there are more leaning into joining a student activity relevant to their focus of study. As our officers are undergraduate students, reaching their senior is sometimes tricky. By having the graduate students involved, we will enrich our activity to include more research or study-oriented activities, which sometimes undergraduate students cannot do well.

From the external side, the pandemic situation in Indonesia forces both students and faculties to study and works in their home. From March 2020 until this paper was written in February 2020, our university still implemented a study from home policy. IPB University students' demography is widely spread in Indonesia and comes from various economic backgrounds. Not every student has a home, facility, and access to learn and collaborate remotely in a comfortable manner (Rahmawati and Sujono 2021). Online fatigue (Bonanomi *et al.* 2021) is also apparent in the chapter member considering their load of online study, making the chapter activity not prioritized. Although in early 2020, we have planned to reach the agricultural community in one of our activities, the attempt to reach them remotely has proved to be challenging.

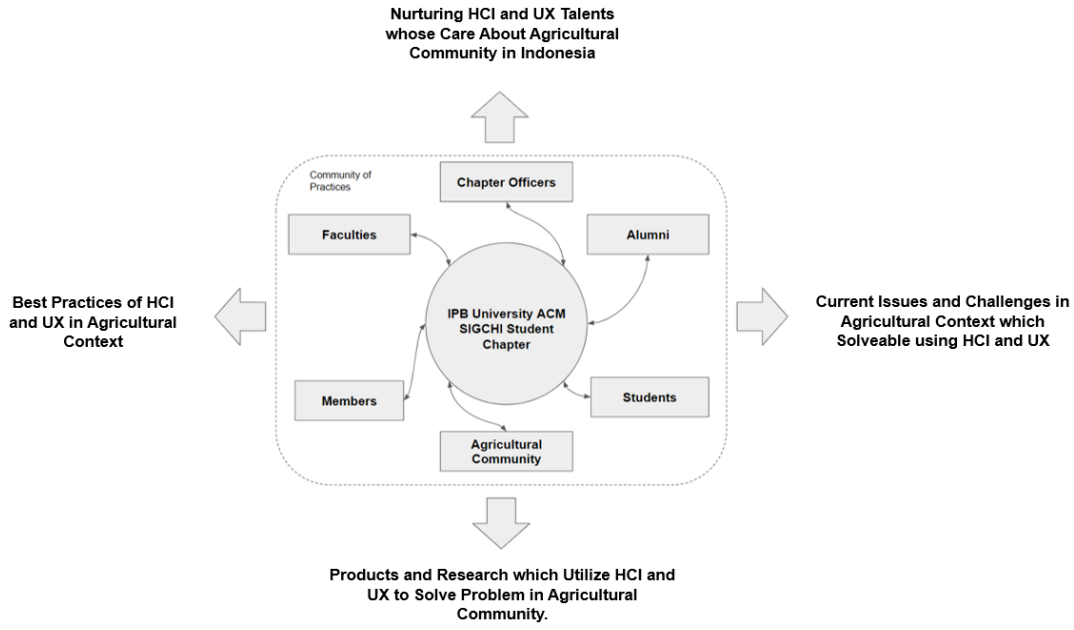

Figure 5. The IPB University ACM SIGCHI Student Chapter as a community of practices.

CONCLUSION

In this paper, we have presented the role of the IPB University ACM SIGCHI Student Chapter from 2019 to 2021 in nurturing UXD talent in IPB University. Firstly, we presented the strategy we used to ensure the sustainability of the student chapter, which included obtaining support from the ecosystem and key stakeholders, as well as aligning the chapter activities with their interest. Secondly, we presented the student chapter's activities and their impacts on UXD talent developments. We found a positive impact of the student chapter activities on students' UXD talent development. However, the current study relied on perceptional quantitative measurement, and we encourage further studies to measure the impact. Lastly, we present the opportunities and challenges we found in our first three years of running the student chapter. The Merdeka Belajar, Kampus Merdeka, and strong bond between students, faculties, and alumni in HCI and UX field bring a lot of potential activity in the future. However, we are still experiencing challenges in scaling up our activities caused by pandemic situations and the lack of participation from faculties and students from the master and doctoral degrees. We hope the lesson learned from our activities may promote more student chapters, encourage collaboration between student chapters, and foster further discussion about the sustainability and impact of a student chapter.

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