



UNIVERSITAS MUHAMMADIYAH SIDOARJO
FAKULTAS SAINS DAN TEKNOLOGI

PROGRAM STUDI : • INFORMATIKA (S1) • TEKNIK INDUSTRI (S1) • TEKNIK MESIN (S1)
• TEKNIK ELEKTRO (S1) • TEKNOLOGI HASIL PERTANIAN (S1) • AGROTEKNOLOGI (S1)

SURAT TUGAS

Nomor : 465/II.3.AU/06.00/B/TGS/XI/2023

Yang bertanda tangan di bawah ini :

Nama : Iswanto, ST., M.MT.
NIK/NIP : 207319/0710057702
Jabatan : Dekan Fakultas Sains dan Teknologi
Nama Perguruan Tinggi : Universitas Muhammadiyah Sidoarjo
Dengan ini memberikan tugas kepada :

Nama : Irwan Alnarus Kautsar, S.Kom., M.Kom., Ph.D
NIK/NIDN : 211452/0731078202
Fakultas/Program Studi : Sains dan Teknologi / Informatika
Nama Perguruan Tinggi : Universitas Muhammadiyah Sidoarjo

Sebagai Presenter di The 7th 2023 IEEE International Conference on New Media Studies (CONMEDIA 2023) yang di laksanakan di Bali

Pelaksanaan Tugas : 6 – 8 Desember 2023

Demikian surat tugas ini kami berikan, agar dilaksanakan dengan penuh tanggung jawab, atas perhatian serta kerjasamanya yang baik selama ini disampaikan terima kasih.

Sidoarjo, 1 Desember 2023
Dekan Fakultas Sains dan Teknologi


Iswanto, ST., M.MT.

031/CM-ICS23/XI/2023

Tangerang, November 24th 2023

To:

Irwan Alnarus Kautsar, Rama Sakti Hafidz Fadhilah Aziz, Muhammad Hilal Hamdi and Muhammad Ruslianor Maika (Universitas Muhammadiyah Sidoarjo, Indonesia)

Dear Authors,

We are pleased to inform you that your manuscript for the 7th International Conference on New Media (CONMEDIA 2023) **has been accepted**, hence you are cordially **invited to present** your paper at the conference. CONMEDIA 2023 is organized by Universitas Multimedia Nusantara (UMN) in partnership with IEEE Indonesia Section, and your paper **will be published** in the IEEE proceedings.

Title : User-centered Approach and Low-Code Framework for Prototyping and Income-based Education

Paper ID : 1570964187

The conference will be held on December 6th – 8th, 2023 and will take place in The Patra Bali Resort & Villas, Bali, Indonesia (and virtually via Zoom).

Please proceed with the registration and payment according to the information in <https://conmedia.umn.ac.id>, depending on your attendance type.

Thank you for contributing to our conference. We look forward to your full participation at the 7th CONMEDIA 2023.

Best Regards,



Dareen Kusuma Halim
General Chair of CONMEDIA & ICONSONICS 2023

[CONMEDIA 2023] Paper 1570964187 has been registered

1 message

CONMEDIA 2023 (conmedia@umn.ac.id) <conmedia@umn.ac.id@edas.info>

12 October 2023 at 16:10

Reply-To: CONMEDIA 2023 <conmedia@umn.ac.id>

To: Irwan Alnarus Kautsar <irwan@umsida.ac.id>

Dear Dr. Irwan Alnarus Kautsar:

Thank you for registering your paper 1570964187 (*User-centered Approach and Low-Code Framework for Prototyping and Income-based Education*) to **2023 7th International Conference on New Media Studies (CONMEDIA)**. You still have to upload your manuscript at [1570964187](#). Your manuscript can be .

You can see all your submissions and their status at

<https://edas.info/index.php?c=30929>

using your EDAS user id irwan@umsida.ac.id.

Once you upload your manuscript, you will receive another email confirmation.

Regards, Dareen Kusuma Halim, [M.Eng.Sc.](#)
General Chair of CONMEDIA 2023

[CONMEDIA 2023] #1570964187 has been uploaded

1 message

CONMEDIA 2023 (conmedia@umn.ac.id) <conmedia=umn.ac.id@edas.info>

12 October 2023 at 17:22

Reply-To: CONMEDIA 2023 <conmedia@umn.ac.id>

To: Irwan Alnarus Kautsar <irwan@umsida.ac.id>, Rama Sakti Hafidz Fadhilah Aziz <ramasakti1337@gmail.com>, Muhammad Hilal Hamdi <hilalhamdi48@gmail.com>, Muhammad Ruslihanor Maika <mr.maika@umsida.ac.id>

Dear Dr. Irwan Alnarus Kautsar:

Thank you for uploading your review manuscript for paper 1570964187 (*User-centered Approach and Low-Code Framework for Prototyping and Income-based Education*) to **2023 7th International Conference on New Media Studies (CONMEDIA)**. The paper is of type application/pdf and has a length of 533122 bytes.

You can modify your paper at [1570964187](#) and see all your submissions at <https://edas.info/index.php?c=30929> using the EDAS identifier irwan@umsida.ac.id

Regards,

Dareen Kusuma Halim, [M.Eng.Sc.](#)

General Chair of CONMEDIA 2023

[CONMEDIA 2023] Your paper #1570964187 ('User-centered Approach and Low-Code Framework for Prototyping and Income-based Education')

1 message

CONMEDIA 2023 (conmedia@umn.ac.id) <conmedia@umn.ac.id>

30 October 2023 at 08:45

Reply-To: CONMEDIA 2023 <conmedia@umn.ac.id>

To: Irwan Alnarus Kautsar <irwan@umsida.ac.id>,

Dear Dr. Irwan Alnarus Kautsar:

The review process for the 2023 7th International Conference on New Media Studies (CONMEDIA) (CONMEDIA 2023) has been completed. Based on the recommendation of the reviewers and our International Program Committee, I am very pleased to inform you that your paper #1570964187 ('User-centered Approach and Low-Code Framework for Prototyping and Income-based Education') for CONMEDIA 2023 has been ACCEPTED WITH MINOR REVISION.

You are cordially invited to present the paper at CONMEDIA 2023 to be held between 6-8 December 2023. All accepted papers are by default allocated with ORAL presentation subjected to final arrangements.

Please read comments from reviewers and make the necessary corrections where appropriate as suggested for the final submission. The comments from our reviewer are included at the end of this notification email or can also be found at [1570964187](#). Please address these comments while preparing your final paper.

This notification email serves as our informal acceptance of your paper. The committee will send an official invitation letter only to author who register and complete the payment transactions. The acceptance of your paper is made with the understanding that at least one author will register with the available option registration fee and attend the conference to present the paper. Without payment, your camera-ready paper will not be allowed to be published.

Check our website <https://conmedia.umn.ac.id/cfp/submission/> for more detail about camera-ready paper submission and some registration policies or feel free to contact us at conmedia@umn.ac.id if you need further information.

I would like to take this opportunity to thank you for choosing CONMEDIA 2023 to present your research results and I'm looking forward to seeing you in upcoming December 2023.

Regards,

Dareen Kusuma Halim, [M.Eng.Sc.](#)
General Chair of CONMEDIA 2023

===== Reviews

Reviewers 1

Originality: New or Novel contribution

Accept (8)

Presentation: Clarity and Organisation of Content, Structure of the paper, Standard of English, Relevance and clarity of drawings, graphs and tables, Appropriateness of abstract as a description of the paper

Weak Accept (6)

Significance of Topic: Relating to knowledge contribution, Appropriateness of the research/study method, Relevance to the conference

Strong Accept (10)

Recommendation: Overall view and recommendation

Accept (8)

Strengths/Weakness: What are the major reasons to accept/reject the paper? [Be brief.]

The approach of combining user experience (UX) design, low-code frameworks, and the concept of Income-based Education is fresh and interesting. It presents a unique approach to software education and the process of prototyping. However, for better clarity, certain sections, especially those repetitively highlighting low-code development platforms, could be more concise. To further enhance the validity and reach of this method, it would be beneficial to undertake more rigorous testing and garner feedback from a wider spectrum of students and educators.

Contribution/s & Detailed comments: What are the major issues addressed in the paper? Do you consider them important? Comment on the degree of novelty, creativity and technical depth in the paper. Please provide detailed comments that will be helpful to the TPC for assessing the paper, as well as feedback to the authors.

Reviewers 2

Originality: New or Novel contribution

Weak Accept (6)

Presentation: Clarity and Organisation of Content, Structure of the paper, Standard of English, Relevance and clarity of drawings, graphs and tables, Appropriateness of abstract as a description of the paper

Weak Accept (6)

Significance of Topic: Relating to knowledge contribution, Appropriateness of the research/study method, Relevance to the conference

Accept (8)

Recommendation: Overall view and recommendation

Weak Accept (6)

Strengths/Weakness: What are the major reasons to accept/reject the paper? [Be brief.]

Contribution/s & Detailed comments: What are the major issues addressed in the paper? Do you consider them important? Comment on the degree of novelty, creativity and technical depth in the paper. Please provide detailed comments that will be helpful to the TPC for assessing the paper, as well as feedback to the authors.

1. Clarity of the Problem: The background effectively highlights the problem related to software prototyping and the importance of Human Factors (HF) in software design. However, it could benefit from specific examples or case studies to illustrate the issue.
2. User-Centered Design: The paper correctly emphasizes the significance of User-centered Design and its role in creating user-friendly software. It would be helpful to briefly explain what User-centered Design entails for readers who may not be familiar with the concept.
3. Clarity of Purpose: The background sets up the purpose of the paper, which is to present the implementation of User-centered Design Canvas and Low-Code Framework for prototyping. It's clear and concise.
4. Transition to the Methodology: The background states that Section 2 will discuss the related work and the proposed method, but it doesn't provide a smooth transition to these topics. A brief overview or a sentence that bridges the gap between the background and the methodology would be helpful.
5. Grammar and Clarity: There are some minor grammatical issues, such as "Experiment results and discussion are presented in Section 3," which could be made clearer.
6. Integration of Tools: The conclusion provides a clear summary of the proposed approach, which involves the integration of UX design tools and low-code framework for prototyping. This integration is an essential point in the paper and is adequately emphasized.
7. Income-based Education: The paper introduces the concept of "Income-based Education," but it would be beneficial to provide a brief explanation or definition of what this approach entails for clarity.
8. Success and Promising Results: The conclusion mentions that only two groups succeeded in earning income, but it's not clear what the definition of success is in this context. Clarifying what criteria were used to determine success would provide a better understanding of the results.
9. Benefits of "Income-based" Learning: The conclusion briefly mentions that students found benefits in "income-based" learning, such as having a portfolio, learning to collaborate, and gaining project management experience. Expanding on these benefits and providing specific student feedback or examples would add depth to the conclusion.

PROGRAM AT A GLANCE



Wednesday, 06 December 2023

Time	Agenda	Room																																						
08.00 – 08.35	Registration	Pre Function																																						
08.35 – 09.00	Welcome Coffee Break	Pre Function																																						
09.00 – 09.20	Opening Ceremony	Ballroom																																						
	National Anthem: Indonesia Raya																																							
	Traditional Dance Performance																																							
09.20 – 09.50	Welcome Speech: 1. Dareen Kusuma Halim, S.Kom., M.Eng.Sc. (General Chair of 6th CONMEDIA & 3rd ICON-SONICS) 2. Dr. Ninok Leksono, M.A. (Rector of Universitas Multimedia Nusantara) 3. Prof. Ir. Gamantyo Hendrantoro, M.Eng., Ph.D (Chairman of IEEE Indonesia Section)	Ballroom																																						
09.50 – 11.50	Keynote Session	Ballroom																																						
	Session Chair: Dr. Eng. Niki Prastomo																																							
	1. Prof Huang Jen-Chiu (Distinguished Professor of National Taiwan University of Science and Technology, Taiwan) 2. Teguh Prasetya (General Chair of Asosiasi IoT Indonesia; CEO of PT. Alita Praya Mitra)																																							
11.50 – 13.00	Lunch	Teratai Restaurant																																						
13.00 – 15.20	Parallel Session I & II																																							
	<table><tr><th>Room A</th><th>Room B</th><th>Virtual X</th><th>Virtual Y</th><th>Virtual Z</th></tr><tr><td>Chair: Dareen K. Halim</td><td>Chair: M. Bima Nugraha</td><td>Chair: Monica Pratiwi</td><td>Chair: M. Salehuddin</td><td>Chair: Yaman K.</td></tr><tr><td>Track: Web Technology and Application</td><td>Track: Automation and Connectivity</td><td>Track: Learning Algorithms</td><td>Track: Evolving Systems</td><td>Track: Mobile Application</td></tr><tr><td>CM23-01-01-A-01 1570964187</td><td>IS23-01-01-B-01 1570965807</td><td>IS23-01-01-X-01 1570969407</td><td>IS23-01-01-Y-01 1570961389</td><td>CM23-01-01-Z-01 1570944689</td></tr><tr><td>CM23-01-01-A-02 1570969572</td><td>IS23-01-01-B-02 1570966433</td><td>IS23-01-01-X-02 1570969445</td><td>IS23-01-01-Y-02 1570962186</td><td>CM23-01-01-Z-02 1570945256</td></tr><tr><td>CM23-01-01-A-03 1570969175</td><td>IS23-01-01-B-03 1570969615</td><td>IS23-01-01-X-03 1570969500</td><td>IS23-01-01-Y-03 1570964356</td><td>CM23-01-01-Z-03 1570966208</td></tr><tr><td>CM23-01-01-A-04 1570945418</td><td>IS23-01-01-B-04 1570969724</td><td>IS23-01-01-X-04 1570969551</td><td>IS23-01-01-Y-04 1570964406</td><td>CM23-01-01-Z-04 1570969476</td></tr></table>					Room A	Room B	Virtual X	Virtual Y	Virtual Z	Chair: Dareen K. Halim	Chair: M. Bima Nugraha	Chair: Monica Pratiwi	Chair: M. Salehuddin	Chair: Yaman K.	Track: Web Technology and Application	Track: Automation and Connectivity	Track: Learning Algorithms	Track: Evolving Systems	Track: Mobile Application	CM23-01-01-A-01 1570964187	IS23-01-01-B-01 1570965807	IS23-01-01-X-01 1570969407	IS23-01-01-Y-01 1570961389	CM23-01-01-Z-01 1570944689	CM23-01-01-A-02 1570969572	IS23-01-01-B-02 1570966433	IS23-01-01-X-02 1570969445	IS23-01-01-Y-02 1570962186	CM23-01-01-Z-02 1570945256	CM23-01-01-A-03 1570969175	IS23-01-01-B-03 1570969615	IS23-01-01-X-03 1570969500	IS23-01-01-Y-03 1570964356	CM23-01-01-Z-03 1570966208	CM23-01-01-A-04 1570945418	IS23-01-01-B-04 1570969724	IS23-01-01-X-04 1570969551	IS23-01-01-Y-04 1570964406	CM23-01-01-Z-04 1570969476
	Room A	Room B	Virtual X	Virtual Y	Virtual Z																																			
	Chair: Dareen K. Halim	Chair: M. Bima Nugraha	Chair: Monica Pratiwi	Chair: M. Salehuddin	Chair: Yaman K.																																			
	Track: Web Technology and Application	Track: Automation and Connectivity	Track: Learning Algorithms	Track: Evolving Systems	Track: Mobile Application																																			
	CM23-01-01-A-01 1570964187	IS23-01-01-B-01 1570965807	IS23-01-01-X-01 1570969407	IS23-01-01-Y-01 1570961389	CM23-01-01-Z-01 1570944689																																			
	CM23-01-01-A-02 1570969572	IS23-01-01-B-02 1570966433	IS23-01-01-X-02 1570969445	IS23-01-01-Y-02 1570962186	CM23-01-01-Z-02 1570945256																																			
	CM23-01-01-A-03 1570969175	IS23-01-01-B-03 1570969615	IS23-01-01-X-03 1570969500	IS23-01-01-Y-03 1570964356	CM23-01-01-Z-03 1570966208																																			
	CM23-01-01-A-04 1570945418	IS23-01-01-B-04 1570969724	IS23-01-01-X-04 1570969551	IS23-01-01-Y-04 1570964406	CM23-01-01-Z-04 1570969476																																			
	<table><tr><th>Room A</th><th>Room B</th><th>Virtual X</th><th>Virtual Y</th><th>Virtual Z</th></tr><tr><td>Chair: Suryasari</td><td>Chair: Samuel Hutagalung</td><td>Chair: Dinar A. Kristiyanti</td><td>Chair: M. Salehuddin</td><td>Chair: Yaman K.</td></tr><tr><td>Track: System Analysis and Design</td><td>Track: Data-Driven Development</td><td>Track: Digital Realms</td><td>Track: IoT and Trustworthiness</td><td>Track: Emerging Trends in Engineering</td></tr><tr><td>CM23-01-02-A-01 1570934489</td><td>IS23-01-02-B-01 1570929367</td><td>CM23-01-02-X-01 1570961733</td><td>IS23-01-02-Y-01 1570964066</td><td>IS23-01-02-Z-01 1570965559</td></tr><tr><td>CM23-01-02-A-02 1570966240</td><td>IS23-01-02-B-02 1570952905</td><td>CM23-01-02-X-02 1570964124</td><td>IS23-01-02-Y-02 1570969530</td><td>IS23-01-02-Z-02 1570965669</td></tr><tr><td>CM23-01-02-A-03 1570966423</td><td>IS23-01-02-B-03 1570969509</td><td>CM23-01-02-X-03 1570967679</td><td>IS23-01-02-Y-03 1570969544</td><td>IS23-01-02-Z-03 1570966025</td></tr></table>					Room A	Room B	Virtual X	Virtual Y	Virtual Z	Chair: Suryasari	Chair: Samuel Hutagalung	Chair: Dinar A. Kristiyanti	Chair: M. Salehuddin	Chair: Yaman K.	Track: System Analysis and Design	Track: Data-Driven Development	Track: Digital Realms	Track: IoT and Trustworthiness	Track: Emerging Trends in Engineering	CM23-01-02-A-01 1570934489	IS23-01-02-B-01 1570929367	CM23-01-02-X-01 1570961733	IS23-01-02-Y-01 1570964066	IS23-01-02-Z-01 1570965559	CM23-01-02-A-02 1570966240	IS23-01-02-B-02 1570952905	CM23-01-02-X-02 1570964124	IS23-01-02-Y-02 1570969530	IS23-01-02-Z-02 1570965669	CM23-01-02-A-03 1570966423	IS23-01-02-B-03 1570969509	CM23-01-02-X-03 1570967679	IS23-01-02-Y-03 1570969544	IS23-01-02-Z-03 1570966025					
	Room A	Room B	Virtual X	Virtual Y	Virtual Z																																			
	Chair: Suryasari	Chair: Samuel Hutagalung	Chair: Dinar A. Kristiyanti	Chair: M. Salehuddin	Chair: Yaman K.																																			
	Track: System Analysis and Design	Track: Data-Driven Development	Track: Digital Realms	Track: IoT and Trustworthiness	Track: Emerging Trends in Engineering																																			
	CM23-01-02-A-01 1570934489	IS23-01-02-B-01 1570929367	CM23-01-02-X-01 1570961733	IS23-01-02-Y-01 1570964066	IS23-01-02-Z-01 1570965559																																			
	CM23-01-02-A-02 1570966240	IS23-01-02-B-02 1570952905	CM23-01-02-X-02 1570964124	IS23-01-02-Y-02 1570969530	IS23-01-02-Z-02 1570965669																																			
	CM23-01-02-A-03 1570966423	IS23-01-02-B-03 1570969509	CM23-01-02-X-03 1570967679	IS23-01-02-Y-03 1570969544	IS23-01-02-Z-03 1570966025																																			

Thursday, 07 December 2023

Time	Agenda	Room																														
08.30 - 09.00	Registration	Pre Function																														
09.00– 09.30	Welcome Coffee Break	Pre Function																														
09.30 – 11.30	Keynote Session	Ballroom																														
	Session Chair: Marojahan Tampubolon, PhD																															
	1. Prof. Veera Sekaran (Head of Regenerative Agritech Centre, Dept of Biological Sciences, National University of Singapore) 2. Prof. Madya Dr. Danial Bin Md Nor (Associate Professor Universiti Tun Hussein Onn, Malaysia)																															
11.50 – 13.00	Lunch	Teratai Restaurant																														
13.00 – 15.40	Parallel Session I & II																															
	<table><tr><th>Room A</th><th>Room B</th><th>Virtual X</th><th>Virtual Y</th></tr><tr><td>Chair: Raymond Oetama</td><td>Chair: M. Bima Nugraha</td><td>Chair: Wella</td><td>Chair: Ririn Ikana Desanti</td></tr><tr><td>Track: Platform-Driven</td><td>Track: Advances in Intelligent Systems</td><td>Track: Power of Data</td><td>Track: Web of Things</td></tr><tr><td>CM23-02-01-A-01 1570937709</td><td>IS23-02-01-B-01 1570929378</td><td>CM23-02-01-X-01 1570962000</td><td>CM23-02-01-Y-01 1570941621</td></tr><tr><td>CM23-02-01-A-02 1570964388</td><td>IS23-02-01-B-02 1570964134</td><td>CM23-02-01-X-02 1570964289</td><td>CM23-02-01-Y-02 1570945694</td></tr><tr><td>CM23-02-01-A-03 1570966579</td><td>IS23-02-01-B-03 1570964327</td><td>CM23-02-01-X-03 1570964385</td><td>CM23-02-01-Y-03 1570965710</td></tr><tr><td>CM23-02-01-A-04 1570969552</td><td>IS23-02-01-B-04 1570966144</td><td>CM23-02-01-X-04 1570965987</td><td>CM23-02-01-Y-04 1570968495</td></tr></table>	Room A	Room B	Virtual X	Virtual Y	Chair: Raymond Oetama	Chair: M. Bima Nugraha	Chair: Wella	Chair: Ririn Ikana Desanti	Track: Platform-Driven	Track: Advances in Intelligent Systems	Track: Power of Data	Track: Web of Things	CM23-02-01-A-01 1570937709	IS23-02-01-B-01 1570929378	CM23-02-01-X-01 1570962000	CM23-02-01-Y-01 1570941621	CM23-02-01-A-02 1570964388	IS23-02-01-B-02 1570964134	CM23-02-01-X-02 1570964289	CM23-02-01-Y-02 1570945694	CM23-02-01-A-03 1570966579	IS23-02-01-B-03 1570964327	CM23-02-01-X-03 1570964385	CM23-02-01-Y-03 1570965710	CM23-02-01-A-04 1570969552	IS23-02-01-B-04 1570966144	CM23-02-01-X-04 1570965987	CM23-02-01-Y-04 1570968495			
	Room A	Room B	Virtual X	Virtual Y																												
	Chair: Raymond Oetama	Chair: M. Bima Nugraha	Chair: Wella	Chair: Ririn Ikana Desanti																												
	Track: Platform-Driven	Track: Advances in Intelligent Systems	Track: Power of Data	Track: Web of Things																												
	CM23-02-01-A-01 1570937709	IS23-02-01-B-01 1570929378	CM23-02-01-X-01 1570962000	CM23-02-01-Y-01 1570941621																												
	CM23-02-01-A-02 1570964388	IS23-02-01-B-02 1570964134	CM23-02-01-X-02 1570964289	CM23-02-01-Y-02 1570945694																												
	CM23-02-01-A-03 1570966579	IS23-02-01-B-03 1570964327	CM23-02-01-X-03 1570964385	CM23-02-01-Y-03 1570965710																												
	CM23-02-01-A-04 1570969552	IS23-02-01-B-04 1570966144	CM23-02-01-X-04 1570965987	CM23-02-01-Y-04 1570968495																												
	<table><tr><th>Room A</th><th>Room B</th><th>Virtual X</th><th>Virtual Y</th></tr><tr><td>Chair: Erick Fernando</td><td>Chair: Fahmy R. Saputri</td><td>Chair: Monika Evelyn</td><td>Chair: Nabila Husna Shabrina</td></tr><tr><td>Track: Mining Knowledge</td><td>Track: Optimized Intelligence</td><td>Track: Computing Platform</td><td>Track: Neural Learning</td></tr><tr><td>CM23-02-02-A-01 1570943340</td><td>IS23-02-02-B-01 1570968131</td><td>CM23-02-02-X-01 1570932559</td><td>IS23-02-02-Y-01 1570967482</td></tr><tr><td>CM23-02-02-A-02 1570963572</td><td>IS23-02-02-B-02 1570969495</td><td>CM23-02-02-X-02 1570962410</td><td>IS23-02-02-Y-02 1570967664</td></tr><tr><td>CM23-02-02-A-03 1570969155</td><td>IS23-02-02-B-03 1570969718</td><td>CM23-02-02-X-03 1570963072</td><td>IS23-02-02-Y-03 1570968936</td></tr><tr><td>CM23-02-02-A-04 1570969486</td><td>IS23-02-02-B-04 1570969729</td><td>CM23-02-02-X-04 1570964350</td><td>IS23-02-02-Y-04 1570969403</td></tr></table>	Room A	Room B	Virtual X	Virtual Y	Chair: Erick Fernando	Chair: Fahmy R. Saputri	Chair: Monika Evelyn	Chair: Nabila Husna Shabrina	Track: Mining Knowledge	Track: Optimized Intelligence	Track: Computing Platform	Track: Neural Learning	CM23-02-02-A-01 1570943340	IS23-02-02-B-01 1570968131	CM23-02-02-X-01 1570932559	IS23-02-02-Y-01 1570967482	CM23-02-02-A-02 1570963572	IS23-02-02-B-02 1570969495	CM23-02-02-X-02 1570962410	IS23-02-02-Y-02 1570967664	CM23-02-02-A-03 1570969155	IS23-02-02-B-03 1570969718	CM23-02-02-X-03 1570963072	IS23-02-02-Y-03 1570968936	CM23-02-02-A-04 1570969486	IS23-02-02-B-04 1570969729	CM23-02-02-X-04 1570964350	IS23-02-02-Y-04 1570969403			
	Room A	Room B	Virtual X	Virtual Y																												
	Chair: Erick Fernando	Chair: Fahmy R. Saputri	Chair: Monika Evelyn	Chair: Nabila Husna Shabrina																												
	Track: Mining Knowledge	Track: Optimized Intelligence	Track: Computing Platform	Track: Neural Learning																												
	CM23-02-02-A-01 1570943340	IS23-02-02-B-01 1570968131	CM23-02-02-X-01 1570932559	IS23-02-02-Y-01 1570967482																												
	CM23-02-02-A-02 1570963572	IS23-02-02-B-02 1570969495	CM23-02-02-X-02 1570962410	IS23-02-02-Y-02 1570967664																												
	CM23-02-02-A-03 1570969155	IS23-02-02-B-03 1570969718	CM23-02-02-X-03 1570963072	IS23-02-02-Y-03 1570968936																												
	CM23-02-02-A-04 1570969486	IS23-02-02-B-04 1570969729	CM23-02-02-X-04 1570964350	IS23-02-02-Y-04 1570969403																												

Friday, 08 December 2023

Time	Agenda	Room
07.30 - 17.00	One Day Tour Bali	
	Meeting Point at The Patra Resort and Villas	Main Lobby



Organizing Committee



Advisory Board

Lilik Oetama (CEO Kompas Gramedia Group, Indonesia)

Teddy Suryanto (Head of Multimedia Nusantara Foundation, Indonesia)

Ninok Leksono (Rector of Universitas Multimedia Nusantara, Indonesia)

Friska Natalia, Ph.D. (Vice Rector I Universitas Multimedia Nusantara, Indonesia)

Ir. Andrey Andoko, M.Sc. (Vice Rector II Universitas Multimedia Nusantara, Indonesia)

Ika Yanuarti (Vice Rector III Universitas Multimedia Nusantara, Indonesia)

Prof. Dr. Muliawati Gunawan Siswanto, M.Eng.Sc. (Vice Rector IV Universitas Multimedia Nusantara, Indonesia)

Dr. Ir. P.M. Winarno, M.Kom. (Head of Institute for Research and Community Services, Universitas Multimedia Nusantara, Indonesia)

Organizer Committee

General Chair

Dareen K. Halim



General Co-Chair

M. Bima Nugraha
Samuel Hutagalung

Technical Program Chair

Muhammad Salehuddin
Alethea Suryadibrata
Suryasari
Marojahan Tampubolon

Registration & Secretariat

Monica Pratiwi
Fahmy Rinanda Saputri
Irene Larasati

Local Arrangement

Fenina Adline Twince Tobing
Andy Firmansyah

Publicity & Media

Angga Aditya Permana
Christina Flora
Agatha Jovita Indah Kumala

International Program Committee

- Dr. Santoso Wibowo (CQUniversity Melbourne, Australia)
- Seng Hansun (University of New South Wales, Australia)
- Prof. Alexander Pollack (Rheinische Fachhochschule Köln, Germany)
- Prof. Dr.-Ing. Norbert Schwesinger (Technische Universität München, Germany)
- Prof. Cheulwoo Ro (Silla University, South Korea)
- Dr. V Prem Prakash (Dayalbagh Educational Institute, India)
- Sheikh Suhail (Amity University, India)
- Prof. Deepak Choudhary (LPU, India)
- Dr. Mehran Mazandarani (Ferdowsi University of Mashhad, Iran)
- Dr. Layla H. Abood (University of Technology, Iraq)
- Prof. Rosaura Palma-Orozco (Instituto Politécnico Nacional, Italy)
- Prof. Paolo Crippa (Marche Polytechnic University, Italy)
- Dr. Mohd Ashraf Ahmad (Universiti Malaysia Pahang, Malaysia)
- Dr. Norizam Bin Sulaiman (Universiti Malaysia Pahang, Malaysia)
- Wan Hussain Wan Ishak (Universiti Utara Malaysia, Malaysia)
- Dr. Noor Zaman (Taylor's University, Malaysia)
- Ir. Dr. Chan, Cheong-Loong (Universiti Tunku Abdul Rahman, Malaysia)
- Dr. Aun Yichiet (Universiti Tunku Abdul Rahman, Malaysia)
- Dr. Ng, Hui-Fuang (Universiti Tunku Abdul Rahman, Malaysia)
- Dr. Hock Guan Goh (Universiti Tunku Abdul Rahman, Malaysia)
- B.G.D. Achintha Madhusanka, B.Tech.(Eng)(Hons), M.Sc., AMIE, MIEEE (The Open University of Sri Lanka)
- Alvaro Menezes Amaral, PhD (Dili Institute of Technology, Timor Leste)
- Kanisius Karyono (Liverpool John Moores University, United Kingdom)
- Hargyo Tri Nugroho I (University of Birmingham, United Kingdom)
- Prof. Ankit Chaudhary (University of Missouri St Louis, USA)
- Dr. Anthony Kearsley (National Institute of Standards and Technology, USA)
- Prof. Eduard Babulak (Liberty University, USA)
- R. Prasad Kodaypak (AT&T Labs, USA)

0
Shares



- Dr. Hendrik Santosa (Pittsburgh University, USA)

Archives

- [June 2021](#)
- [April 2021](#)

Meta

- [Log in](#)

0
Shares



Copyright © 2024 Conmedia. All Right Reserved.

Theme : emart-shop By aThemeArt



User-centered Approach and Low-Code Framework for Prototyping and Income-based Education

Irwan Alnarus Kautsar
Department of Informatics
Universitas Muhammdiyah Sidoarjo
Sidoarjo, Indonesia
irwan@umsida.ac.id

Abstract— Entering the Society 5.0 era, the role of Higher Education level has increased as high demand for innovation. As part of it, agility in software development is primarily a skill set required when the student needs to “make real” their innovation. For first-year students, developing software or prototyping some software as a product is complex and hard to implement. Collaboration among students to learn to solve real problems as early as possible will be beneficial. On the other hand, designing software with attention to the Human Factor is necessary. This paper presents the implementation of User-centered Design Canvas and Low-Code Framework to support students conducting Rapid Prototyping as part of Income-based Education. As a result, an integration of UX design supportive tools and a low-code framework rapid prototyping platform has been developed. And 63% of students from 58 participants expressed that the developed platform helps the prototyping process

Keywords— *low-code, prototyping, user-centered design, case-based learning, supportive tool*

I. INTRODUCTION

Software prototyping usually involves the implementation of raw ideas into coding. However, when some ideas are directly into Minimum Viable Products, the MPVs are always missing the vital component of the software as a product. The vital component is the Human Factors (HF). Such questions: “Should software as the system follows humans or vice versa (human follow systems)?” When humans as the users have been forced to “follow” the software, the software itself will be extinct. Those principles are the reason why curricula containing User-centered design are required. The importance of User-centered software development could be learned through discussing existing systems, whether analyzing some

“hype” apps or just adding some feature that is not yet available on the current systems.

The best learning style to analyze existing systems is Case-based learning. Therefore, there is an urgent need to have prototyping formulas (in software engineering) that could adapt to not only students in computer science majors but also students unfamiliar with code who could contribute to software development.

From this point of view, there is something substantial about designing software that is user-centric and how to implement it using minimal efforts of coding. This paper presents the implementation of User-centered Design Canvas and Low-Code Framework to assist students while prototyping as part of learning activities.

This paper is presented as follows: Section 2 will discuss the related work and the proposed method. The experiment result and discussion are presented in Section 3. In Section 4, we drive to a conclusion.

II. MATERIAL AND METHODE

A. Income-based Education

For competitive advantage, the Ministry of Education Indonesian Government (MoE) proposed a curriculum called “Merdeka Belajar - Kampus Merdeka” [1], [2]. This curriculum encourages students as learners to have the flexibility to learn outside their major and even learn outside their classroom. Such as Contributing to social activities, becoming interns in industry, and conducting independent study/research with lecturers as the supervisors. Also, MBKM regulates universities

to adopt Case-based Learning (CBL) or Project-based Learning (PBL) as part of Outcome-based Learning (OBE) [3], [4].

Furthermore, the newest regulation from MoE (No: 53 2023 about Higher Education Quality Assurance) states an alternative final project as the prerequisite for graduation. Students do not need to write a thesis to graduate, and students can build a prototype or product. In the computer science department context, the final project could be some software as the prototype. For this condition, lecturers strongly recommended implementing learning styles such as CBL, PBL, and OBE. In this paper, we enhance those learning styles into Income-based Education (IBE). It is not the opposite of Outcome-based Education (OBE), but bolding the “outcome” into “income.” Students are not only creating prototypes, but also obligated to sell the product or have an actual client willing to pay for the developed product as the outcome. Based on the outcome, we implemented IBE with the proposed metrics evaluations shown in Table 1.

In the proposed IBE, to get a final grade of “A,” students must submit all requirements, such as a document report, uploaded presentation video, and prototype. Also, some clients have tested the prototype. If the client is interested and willing to pay or agree to fund the project, then each team gets a potential A score for the assignment.

TABLE 1. INCOME-BASED EDUCATION METRICS

Grade	Requirement				
	<i>Doc. Report</i>	<i>Video</i>	<i>Prototype</i>	<i>Client Testes</i>	<i>Paid >IDR 500K</i>
A	Yes	Yes	Yes	Yes	Yes
A-	Yes	Yes	Yes	Yes	No
B+	Yes	Yes	Yes	No	No
B	Yes	Yes	No	No	No
C	Yes	No	No	No	No
E	No	No	No	No	No

In IBE, we classify the outcome, which is the final product, into commercial or social value. If the proposed product is a commercial app, students must sell it or get a contract with a minimum IDR 500.000 (equivalent to US\$ 32). For the theme of Income-based Education, we use the following topics: 1) Digital platforms are needed by college students as the users themselves; 2) Digital platform for mitigating pandemics or other emergencies; 3) Digital platform that people with disabilities need; 4) A digital platform that enhances some features from any existing apps; 5) A digital platform that supports sharia compliance on commerce transactions.

When students graduate with building software as the prototype, as educators, we need to supply the student with the importance of the Human Factor. We introduce a user-centered design canvas as part of the User Experience (UX) design framework.

B. User Experience (UX) Design Frameworks

When students graduate with building software as the prototype, as educators, we need to supply the student with the importance of the Human Factor. We introduce several studies that proposed UX frameworks to ensure that Human Factors (HF) are the priority in software development. Fraser [5] provide a UX maturity model that incorporates HF for technological manifestations. Kuusinen [6] proposes a UX framework for integrating UX in agile development that employs the within-iteration technique. Kremer [7] suggest the ExodUX model (Experience Oriented Disciplines to User Experience), which includes several practitioners from disciplines other than engineering design. Zarour [8] and Alharbi present a UX framework that may combine discoveries about UX features and dimensions and recognized measurement methodologies into a single streamlined UX theoretical framework. However, such frameworks have characteristics intended for practitioners, not first-year students learning to establish the app features required for designing human-centered apps.

Alina et al. propose using a canvas style for UX Design called User-centered Design Canvas. User-Centered Design Canvas is a framework inspired by Business Model Canvas [9], [10]. Therefore, it was claimed that the UX Tool combined user needs with the business goals [11]. Using UCDC will help UX designers to 1) Understand the targeted user and market needs; 2) Make a definition of product/market fit; 3) Align the business goal for the competitive advantages; 4) Define Unique Value Proposition as the brand communication strategy. Several researchers have discussed the details of the UCDC field that was adapted from Business Model Canvas [12], [13]. The offers from UCDC are that students will have a deep understanding of what users need along with business aspects. However, the results of UCDC implementation are half-baked ideas only. It needs to be developed into some prototype when discussing Minimum Viable Product (MVP). For this matter, we proposed our integration and developed supportive tools that support UCDC implementation and low-code framework. The following section will discuss integrating the Supportive tool and Low-Code Framework.

C. Supportive Tool and Low-code Frameworks

Developing supportive tools is essential to support both lecturers and students in implementing learning activities. From a student's perspective, the supportive tool helps to collaborate with their peers and as their artifacts/portfolio. From the lecturer's perspective, it helps to track, evaluate, and grade the learning activities. The development of the supportive tool is in line with the MoE regulation No. 53 2003 about Quality Assurance in Higher Education. In chapter 48, verse (3), point (a) states that universities must provide digital platforms for supporting learning activities and resources. In addition to that, in chapter 49, verse (1), the platform of the supportive tool should have provided accountability.

On the other hand, low-code development platforms (LCDP) are getting wider since they offer prototyping acceleration [14][21]. LCDP offers software development processes more efficiently, including those with less coding expertise to participate in application development [15]–[17]. This advantage can be especially beneficial for organizations that want to develop and respond rapidly to changing market needs. Several works combining existing software development methods with LCDP. For example, model-driven engineering methodologies, as well as industrial low-code and no-code platforms, are being developed to aid with the creation of blockchain-based applications [18]. Lourenco [19] proposes OSTRICH, a strongly typed rich templating language for a low-code platform (OutSystems) based on metamodel annotations and facilitates accurate template instantiation. Amato [20] had presented LCDP to configure and experiment with quantum machine learning pipelines. Nonetheless, the low code platform dominates with data-driven platforms. This means that this is the opposite of a user-experience perspective, which uses the user journey as the driver.

For this reason, we take advantage of Frappe Framework REST API to integrate with our developed supportive tool. Another reason is that the Frappe framework uses a database-driven system that supports users in defining their database schema. Fig. 1 shows the architecture of the proposed supportive tool.

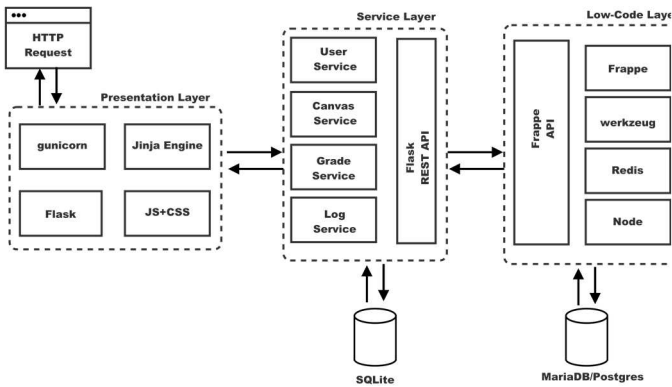


Fig. 1. Proposed architecture

We separate the presentation, service, and low-code layers. All layers communicate using HTTP. Users mainly access the presentation layer. Then, the presentation layer pushes data to the service layer. Authentication and user management are serviced by user service.

When students input the User-centered Design Canvas (UCDC), It accesses Jinja HTML, JS, and CSS served by the Jinja templating engine. When students save the inputted UCDC, all inputted data is sent to the canvas service and saved into SQLite DB. For the sake of evaluation, all users' activities are recorded by Log Service. Along with what page has been accessed, Fig. 2. shows the example log service that has been recorded.

Show	10	entries	Search:	
#	ACTIVITIES	TIME	SUBJECT	IP
1	/home:100	07-09-2023 05:54:49	...	139. ... 1.52
2		07-09-2023 05:54:49		139. ... 1.52
3	/getin	07-09-2023 05:54:24	GUEST	139. ... 4.52
4	/getinvited	07-09-2023 03:51:22	GUEST	66.24... 197
5	/getinvited	07-09-2023 03:11:43	GUEST	109.2... 13.23
6	/getin	07-09-2023 03:11:27	GUEST	212. ... 56
7	/welcome	07-09-2023 03:11:17	GUEST	109. ... 23
8	/welcome	07-09-2023 03:10:57	GUEST	46.2 ... 42
9	/welcome	07-09-2023 02:39:47	GUEST	34.2 ... 211
10	/getinvited	07-09-2023 02:21:23	GUEST	66.24... 197

Showing 1 to 10 of 13,991 entries

Previous 1 2 3 4 5 ... 1,400 Next

Fig. 2. Log services

The Log Service is crucial because it provides data that lecturers can validate whether the learning process is on track. For example, when a Student is designing UX with UCDC, with Log Service, the lecturer could aggregate data and know that students are following the correct path. Also, it records the IP Address of the students. The Log Service is not designed to do surveillance. However, it provides information for the lecturers about the collaboration conducted honestly, or some students access several accounts that impersonate other members.

Another important layer is the Low-Code layer. The low-code layer is using Frappe API to regenerate web pages that will be served to Frappe-Werkzeug. This API will be requested when students define what page to build from our developed supportive tool. Fig. 3 shows GUI from a developed supporting tool.

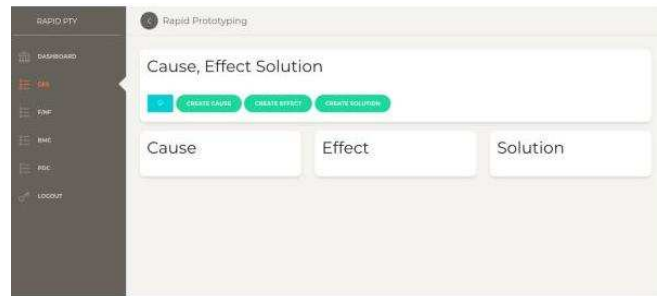


Fig. 3. The GUI of developed supportive tools

The first step is for students to finish their UCDC entry. The UCDC entries are part of a prototyping journey implementing raw ideas into UX Design. Next, students must select which UCDC part to develop into a web page. After selection, users need to define the DocType.

DocType is a requirement parameter that Frappe Framework requires to generate the Create, Read, Update, Delete form. Fig. 4. shows DocType entries.

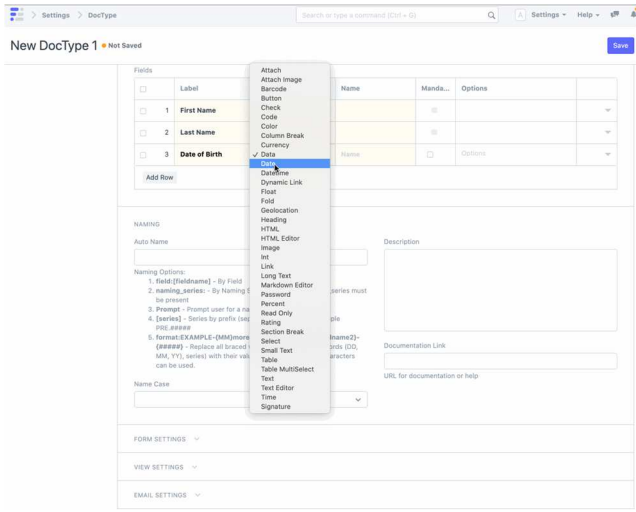


Fig. 4. Doctype entries on low-codes service

The GUI from Frappe Frameworks for the Doctype setting is similar to designing some database tables. The difference between conventional database entries is that the CRUD web page is automatically generated in the proposed framework. When a user saves the Doctype, it will create a table in a low-code layer and several files needed to serve the web page. For example, when a student defines “Person” in Doctype, a table in the database will be created with the name “tabPerson”, and the columns in those tables are converted to snake cases automatically. Along with database table creation, low-code framework make: person.json (JSON file that defines the doctype attributes); person.js (Form view as the client-side controller); person.py (Python controller for “Person” page); test_person.py (Python Unit Test boilerplate for writing tests). This automation will help students accelerate the development process.

D. Experiment Method

58 students participated in the experiment. All students are divided into three groups (Groups A, B, and C). Groups A and B gave the designated topic: developing crowdfunding platforms. Group C was assigned to prototype some payment gateways. The experiments themselves were conducted in three phases. Phase 1, conducted for 2 weeks straight, tested the usability of the proposed method. Phase 2 tests the concept of income-based learning. The assessment of proposed framework had been conducted with phase that shown at Table II.

Next, as part of the third phase, we had asked students to fill out the questionnaire to gather the students' perceptions. The questionnaire item designated to understanding the students acceptance for the proposed methods. Table III shows the questionnaire items for students after conduct the experiments. The questionnaire had scales with such as "Strongly Agree," "Agree," "Neutral," "Disagree," and "Very Disagree," with points 5, 4, 3, 2, and 1, respectively. Also, using Likert scales Eq. (1) for understanding the respondents' acceptance.

$$P = \frac{N \times R}{I} \times 100\% \quad (1)$$

Where:

P = Each question percentage value

N = The value of each instruments response

R = The frequency of answered value

I = The number of participants multiplied by the highest value of the answer ($58 \times 5 = 290$)

TABLE II. EXPERIMENTAL PHASE

Description	Experiment Phase		
	Phase 1	Phase 2	Phase 3
Test Model	Usability	Income-based Learning	Perceptions
Duration	2 weeks	2-4 weeks	1 week
Participants (students)	15 (3 groups)	48 (8 groups)	58 (10 from Phase 1, 48 from Phase 2)
Method	Perform prototyping with designated topics Group A, B crowdfunding. Group C payment gateway. Group A without Supportive Tool. Group B, C: use Supportive Tool.	Perform prototyping with designated topics (mentioned) and using proposed framework	Likert Scale
Task	1. Build CRUD Form for Users Dashboard 2. Build CRUD Form for needed feature	Implement Income-based Education (Build prototype and sell it or get the real client)	Questionnaire Form from Table III.

TABLE III. QUESTIONNAIRE ITEMS

#	Description
1	Income-based Learning helps to practice solving real-world problems.
2	UX design must be done before code implementation.
3	UCDC helps understand user experiences.
4	UX Design Supportive Tool is easy to use
5	UX Design Supportive Tool helps implement UCDC
6	Low-code Supportive Tool is easy to operate
7	Low-code Supportive Tool helps accelerate prototyping
8	UX Design and Low-code Supportive Tool for the next project

III. RESULT AND DISCUSSION

In this section we discuss the experiment results. For Phase 1, the time experiment results are shown in Table IV.

TABLE IV. PHASE 1 RESULTS

Groups	Task 1 (days)	Task 2 (days)
A	3	1
B	2	1
C	2	1

From Table IV, it shows their acceleration when using the proposed framework. Both group B and C sent the report before noon. Group A reports the accomplishment in the evening. Even though all groups finished task 2 on the same day. But results showed the acceleration also happened in Task 2. For the results from phase 2, shown on Table V.

TABLE V. PHASE 2 RESULTS

Groups	Durations (days)	Get Paid
1	13	No
2	11	Yes
3	12	No
4	12	No
5	10	Yes
6	13	No
7	14	No
8	10	No

Table V shows the average time students need to accomplish the experiments from raw ideas to finished product when implementing Income-based Learning is 12 days of work. Two groups have been paid for their prototype. Fig. 5 shows the example the poster of the Student's Project that has been successfully receive an income.



Fig. 5. Example student success project

We adapted the Likert scale for knowing the user perception of the proposed method. The results are shown in Fig. 6.

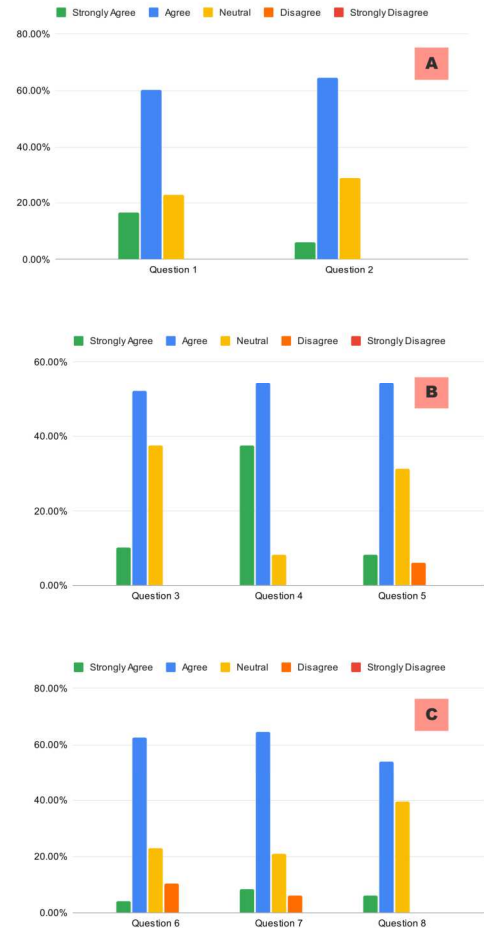


Fig. 6. Students perceptions

Fig. 6(A) showed that more than 71% of students express that Income-based Learning helps to practice solving real-world problems and UX design is required for software development. Fig. 6(B) showed that 62% of students agree that UCDC helps understand user experience, 82% of students felt it was easy to use supportive tools, and 60% more students thought it was helpful designing UX using supportive tools. Fig. 6(C) showed that more than 62% of students state that the Low-code Supportive Tool is easy to operate and helps accelerate prototyping. And 60% of students will use UX Design and Low-code Supportive Tools for the next project.

IV. CONCLUSION

The integration of developed UX design supportive tools and low-code framework for rapid prototyping are proposed. Along with a new approach to Outcome-based Education called Income-based Education. Even Though only two groups succeeded in getting income, the proposed method for combining prototyping and "Income-based" learning is promising. Whether paid or not, both students express that "income-based" brings many benefits, such as having a

portfolio, learning to collaborate and experience managing some projects.

ACKNOWLEDGMENT

The authors thank Kementerian Pendidikan, Kebudayaan, Riset, and Teknologi and Universitas Muhammadiyah Sidoarjo for funding this work with contract number 0217/E5/PG.02.00/2023,027/SP2H/PT-L/LL7/2023, and 098.02/II.3.AU/14.00/C/PER/IV/2023.

REFERENCES

- [1] S. M. Indrawati and A. Kuncoro, "Improving Competitiveness Through Vocational and Higher Education: Indonesia's Vision For Human Capital Development In 2019–2024," *Bulletin of Indonesian Economic Studies*, vol. 57, no. 1, pp. 29–59, Jan. 2021, doi: 10.1080/00074918.2021.1909692.
- [2] S. Taridala, Samdin, E. Sukotjo, and S. Rahmiani, "Implementation of the Merdeka Belajar Program in Improving Teacher Performance and the Quality of Educational Services," *International Journal of Membrane Science and Technology*, vol. 10, no. 2, Art. no. 2, Jul. 2023, doi: 10.15379/ijmst.v10i2.1495.
- [3] Z. Matondang, R. Mulyana, R. Putra, H. Sitompul, and S. Siregar, "Evaluation of 'School Experience' course in online setting as an implementation of Merdeka Belajar (freedom to learn)," *AIP Conference Proceedings*, vol. 2590, no. 1, p. 030001, May 2023, doi: 10.1063/5.0107266.
- [4] T. Triwiyanto et al., "Digital Technology Transformation and Empowerment of Technology: A New Paradigm of Classroom Management for an 'Merdeka Belajar' Policy in Indonesia," in *2022 8th International Conference on Education and Technology (ICET)*, Oct. 2022, pp. 293–297. doi: 10.1109/ICET56879.2022.9990725.
- [5] J. Fraser and S. Plewes, "Applications of a UX Maturity Model to Influencing HF Best Practices in Technology Centric Companies – Lessons from Edison," *Procedia Manufacturing*, vol. 3, pp. 626–631, Jan. 2015, doi: 10.1016/j.promfg.2015.07.285.
- [6] K. Kuusinen, "BoB: A Framework for Organizing Within-Iteration UX Work in Agile Development," in *Integrating User-Centred Design in Agile Development*, G. Cockton, M. Lárusdóttir, P. Gregory, and Å. Cajander, Eds., in *Human-Computer Interaction Series*. Cham: Springer International Publishing, 2016, pp. 205–224. doi: 10.1007/978-3-319-32165-3_9.
- [7] S. Kremer and U. Lindemann, "Learning from Experience Oriented Disciplines for User Experience Design," in *Design, User Experience, and Usability: Design Discourse*, A. Marcus, Ed., in *Lecture Notes in Computer Science*. Cham: Springer International Publishing, 2015, pp. 306–314. doi: 10.1007/978-3-319-20886-2_29.
- [8] M. Zarour and M. Alharbi, "User experience framework that combines aspects, dimensions, and measurement methods," *Cogent Engineering*, vol. 4, no. 1, p. 1421006, Jan. 2017, doi: 10.1080/23311916.2017.1421006.
- [9] S. Evans et al., "Business Model Innovation for Sustainability: Towards a Unified Perspective for Creation of Sustainable Business Models," *Business Strategy and the Environment*, vol. 26, no. 5, pp. 597–608, 2017, doi: 10.1002/bse.1939.
- [10] A. Barni, E. Montini, S. Menato, M. Sorlini, V. Anaya, and R. Poler, "Integrating Agent Based Simulation in the Design of Multi-Sided Platform Business Model: A Methodological Approach," in *2018 IEEE International Conference on Engineering, Technology and Innovation (ICE/ITMC)*, Jun. 2018, pp. 1–9. doi: 10.1109/ICE.2018.8436360.
- [11] Alina Prelicz-Zawadzka and Leszek Zawadzki, "User Centered Design Canvas — First UX tool combining user needs with business goals," 2016. <https://ucdc.therecangles.com> (accessed May 06, 2023).
- [12] M. Carrión-Toro, M. Santorum, P. Acosta-Vargas, J. Aguilar, and M. Pérez, "iPlus a User-Centered Methodology for Serious Games Design," *Applied Sciences*, vol. 10, no. 24, Art. no. 24, Jan. 2020, doi: 10.3390/app10249007.
- [13] I. A. Kautsar and M. R. Maika, "The use of User-centered Design Canvas for Rapid Prototyping," *J. Phys.: Conf. Ser.*, vol. 1764, no. 1, p. 012175, Feb. 2021, doi: 10.1088/1742-6596/1764/1/012175.
- [14] D. Di Ruscio, D. Kolovos, J. de Lara, A. Pierantonio, M. Tisi, and M. Wimmer, "Low-code development and model-driven engineering: Two sides of the same coin?," *Softw Syst Model*, vol. 21, no. 2, Art. no. 2, Apr. 2022, doi: 10.1007/s10270-021-00970-2.
- [15] E. Elshan, E. Dickhaut, and P. A. Ebel, "An Investigation of Why Low Code Platforms Provide Answers and New Challenges. 2023. Accessed: Sep. 06, 2023. [Online]. Available: <https://hdl.handle.net/10125/103380>
- [16] P. M. Gomes and M. A. Brito, "Low-Code Development Platforms: A Descriptive Study," in *2022 17th Iberian Conference on Information Systems and Technologies (CISTI)*, Jun. 2022, pp. 1–4. doi: 10.23919/CISTI54924.2022.9820354.
- [17] S. Käss, S. Strahinger, and M. Westner, "Practitioners' Perceptions on the Adoption of Low Code Development Platforms," *IEEE Access*, vol. 11, pp. 29009–29034, 2023, doi: 10.1109/ACCESS.2023.3258539.
- [18] S. Curty, F. Härer, and H.-G. Fill, "Design of blockchain-based applications using model-driven engineering and low-code/no-code platforms: a structured literature review," *Softw Syst Model*, Jun. 2023, doi: 10.1007/s10270-023-01109-1.
- [19] H. Lourenço, C. Ferreira, J. Costa Seco, and J. Parreira, "OSTRICH: a rich template language for low-code development (extended version)," *Softw Syst Model*, Dec. 2022, doi: 10.1007/s10270-022-01066-1.
- [20] F. Amato et al., "QuantuMoonLight: A low-code platform to experiment with quantum machine learning," *SoftwareX*, vol. 22, p. 101399, May 2023, doi: 10.1016/j.softx.2023.101399.
- [21] K. Rokis and M. Kirikova, "Challenges of Low-Code/No-Code Software Development: A Literature Review," in *Perspectives in Business Informatics Research*, E. Nazarkina, K. Sandkuhl, and U. Seigerroth, Eds., in *Lecture Notes in Business Information Processing*. Cham: Springer International Publishing, 2022, pp. 3–17. doi: 10.1007/978-3-031-16947-2_1.

CERTIFICATE of APPRECIATION

is hereby granted to

Irwan Alnarus Kautsar

in gratitude for the outstanding contribution as **PRESENTER** during the
International Conference on New Media Studies 2023

on December 6th - 8th, 2023 | The Patra Bali Resort and Villas, Kuta Bali



CONMEDIA
2023

Dareen Kusuma Halim

General Chair
Universitas Multimedia Nusantara