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INTERNATIONAL JASIN MULTIMEDIA & COMPUTER SCIENCE
INVENTION AND INNOVATION EXHIBITION (I-JaMCSIIIX) 2023

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Universiti Teknologi MARA Cawangan Melaka Kampus Jasin
77300, Merlimau, Melaka

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Tools for Critical Thinking in IT

M. Hamiz¹

¹ Universiti Teknologi MARA Cawangan Melaka Kampus Jasin

hamiz9620@uitm.edu.my

Abstract— In the dynamic world of Information Technology (IT), critical thinking is indispensable. IT professionals are frequently confronted with intricate problems, user-centric design challenges, and consequential strategic decisions. This abstract introduces a diverse toolkit for critical thinking in IT, including empathy maps, user experience maps, use case exploration canvas, 5Ws1H, affinity diagrams, fishbone diagrams, flowcharts, and mental maps (thinking maps). These tools empower IT professionals to enhance problem-solving abilities and prioritize user-centric thinking. Empathy maps and user experience maps, for instance, foster a deep understanding of end-users by mapping their thoughts, feelings, needs, and pain points, facilitating the creation of more effective solutions. The use case exploration canvas assists in defining system functionalities from the user's perspective, aiding in the identification of essential use cases and feature prioritization. The 5Ws1H approach ensures comprehensive information gathering, leaving no critical aspects overlooked. Affinity diagrams and fishbone diagrams categorize vast information into reasonable clusters, streamlining brainstorming and ideation. Flowcharts provide visual representations of processes and system workflows, aiding in understanding complex structures. Mental maps (thinking maps) visually organize thoughts, concepts, and relationships, making them valuable for structuring complex information or brainstorming. By incorporating these tools into their critical thinking toolkit, IT professionals can foster innovation, efficiency, and user satisfaction. This abstract underscores the importance of these tools in IT, empowering professionals to make informed decisions, create user-centered solutions, and excel in the ever-evolving IT landscape.

Keywords—critical thinking, tools, IT, empathy, 5Ws1H



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Kampus Jasin

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Email: jamcsiix@uitm.edu.my

Web: <https://jamcsiix.uitm.edu.my/>

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