

Developing an AI tool for Journalists and Fact-checkers through Human-Centered Design Approach¹

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1. Background

The rapid rise of misinformation has heightened the need for effective tools that can assist journalists and fact-checkers in identifying and verifying false information. “... at any given point in a crisis, the potential volume and velocity of misinformation far outstrips the ability of even large organizations to counter it. At a technical level this is a prime use case for artificial intelligence (AI)” (Wijeratne and Attanayake, 2021). This paper explains a project, which involved development of an AI driven tool (Dissect) by Appendix Pvt. Ltd (Watchdog Sri Lanka) and end-user testing process carried out by LIRNEasia.

The Dissect tool is developed for journalists, fact-checkers, and anyone interested in exploring news published online. The tool’s development engaged journalists and fact-checkers as end-users throughout the process to ensure that it addresses their real-world needs. By analyzing their feedback, this paper outlines the key design considerations, challenges, and opportunities for creating AI tools that seamlessly integrate into journalistic workflows and emphasizes the importance of adequately considering end-user needs.

This paper explains the activities carried out by key project partners (i.e. Appendix Pvt. Ltd., - Watchdog Sri Lanka- and LIRNEasia) to understand end-user needs. The explanation follows the three phases of the Human-Centered approach: Inspiration, Ideation and Implementation (UNDP, 2015).

2.1 Inspiration

The Inspiration phase focuses on understanding the problem, gathering insights, and empathizing with users to uncover their needs and challenges. In the case of Dissect tool development, this phase involved AI algorithm testing and interviewing fact-checkers.

In 2020, LIRNEasia explored whether South Asian countries, can leverage technology to enhance the speed and efficiency of fact-checking. This exploration had two primary objectives. The first was to explore the feasibility of using commonly known AI algorithms to enable more efficient fact-checking in languages that have limited computational resources. The second objective was to understand the operational context of fact-checking organizations in the region to determine whether they could integrate AI into their workflows. To achieve the first objective, LIRNEasia focused on two under-resourced languages, Sinhala and Bengali. Collaborating with local journalists and fact-checkers, LIRNEasia assembled and trained teams in both countries to create new datasets necessary for the task. The AI models developed for Sinhala achieved over 80% accuracy when compared to trained human researchers. For Bengali, the models performed even better, surpassing expectations with an accuracy rate of over 90%, which was also the benchmark set for English. Upon completing

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the project, LIRNEasia made the datasets freely available under open access, allowing other researchers to build on this work (Jayawickrama et al, 2022; Wijeratne et al, 2022).

For the second objective, LIRNEasia conducted interviews with fact-checkers in Sri Lanka and Bangladesh to evaluate their capacity to adopt AI tools. Out of the 11 organizations interviewed, 8 expressed interest in testing such tools. Many of these organizations face resource limitations, with a need for additional personnel, time, and funding to manage multiple tasks such as content writing, translation, and graphic design. Despite limited understanding of AI and its technicalities, the fact-checkers saw potential in AI tools to automate repetitive tasks, thus streamlining their operations.

The exploration of AI use in journalism and fact-checking in Sri Lanka and Bangladesh inspired the LIRNEasia team with thought-provoking questions, such as whether the existing fact-checking infrastructure could accommodate the implementation of AI technologies and, even if the technology itself is viable, whether journalists and fact-checkers have the capacity, resources, and willingness to integrate these tools into their workflows. Therefore, understanding the operating context of journalism and fact-checking was essential to assess the overall feasibility and potential impact of AI-driven journalism and fact-checking. LIRNEasia moved to the phase two of the project (Ideation) with those inspiring questions.

2.2 Ideation

The Ideation phase generates creative solutions to explore, and the solutions are brainstormed, evaluated, and refined based on the insights gathered previously.

For the Ideation phase of the project, LIRNEasia partnered with Appendix Pvt Ltd; (Watchdog Sri Lanka) to prototype their solution: Dissect. The prototyped solution was based on the phase one findings and Watchdog Sri Lanka's years of fact-checking experience. The objectives of the second phase were twofold: first, to evaluate the usability and scalability of the Dissect tool, and second, to refine the tool based on feedback from journalists and fact-checkers before launching it to the public.

LIRNEasia conducted several activities to achieve those objectives. First, a workshop was conducted in 2023 to introduce Dissect to journalists and fact-checkers in Sri Lanka. The workshop provided hands-on guidance and ensured that users were comfortable with the tool's features and capabilities. One of the significant feedback from the workshop participants was to transit Dissect from a mobile app to a web-based platform. This request indicated the need for a more accessible and efficient platform. The web version allowed for a broader user based and improved ease of use, making it more convenient for journalists and fact-checkers to access the tool across various devices according to the users.

The prototyped tool was subsequently tested with the journalists and fact-checkers in 2024. Feedback provided by them was taken into consideration to finalize the tool. Monthly feedback was collected through questionnaires and telephonic interviews from the users over a period of 6-8 months. This feedback focused on the Dissect user experience, assessing its usability in terms of reliability, replicability, relevance, and accuracy. End-users' insights were crucial in identifying areas for improvement and ensuring the tool met their needs.

The usability of Dissect was evaluated based on several criteria, including ease of navigation, user interface design, and the accuracy of the outputs. The overall satisfaction with the tool's interface was rated at 3.6 out of 5, with 73% of users expressing satisfaction with its navigation.

However, a simple and intuitive user interface was requested to ensure that users with varying levels of technical expertise could easily navigate the tool. During the telephonic interviews one user noted, "The interface is intuitive but could use a search feature [key word search] to handle large articles more effectively".

The users appreciated the tool for its ability to generate useful outputs, such as claims, assumptions, and entities based on the online news text insert to Dissect. However, according to the users the accuracy of the outputs varied. For instance, 60% of users were satisfied with the accuracy of the generated entities, while 40% expressed concerns about the accuracy of sources provided by Dissect. Some users reported inconsistencies, especially when the tool processed local content in Sinhala.

Given that misinformation in Sri Lanka often appears in multiple languages, Dissect was designed to support content in Sinhala, Tamil and English. However, user feedback indicated further localization was needed to improve the tool's accuracy in processing non-English content. "The tool could not accurately verify some Sinhala articles because it lacked access to locally relevant archives", said one user, highlighting the need for enhanced language processing. Users noted that the tool often relied on outdated sources for entity verification, which was less reliable for local content. This points to the need for improved language processing capabilities and more comprehensive local data sets to develop AI driven tools like Dissect.

In parallel, data from Dissect backend was analyzed to track key metrics such as usage frequency, and the types of information being fact-checked. This data provided a quantitative view of how the tool was used and its overall effectiveness in streamlining the journalism process.

The feedback from the end-users and the backend data were then collated and analyzed by LIRNEasia. Based on this information, recommendations were made to Appendix Pvt. Ltd; (Watchdog Sri Lanka) for refining the AI tool over the project period. This iterative process ensured that the tool evolved to better meet the needs of its users. Once the refinements were complete, an updated version of the Dissect tool was launched to a wider community consisted with journalists, fact-checkers, government offices, and civil society organization representatives.

2.3 Implementation

The implementation phase involves transforming the prototype from the ideation phase into a functional and scalable product. With related to this project, implementation includes launch of Dissect for public use. The implementation phase of the tool will need to build on the successes identified while addressing the challenges in the previous phases. The ideation

phase identified three main challenges, which require prioritizing local language capabilities, improving performance, and ensuring scalability of the tool.

The limitation in local language processing, including Sinhala and Tamil was noted by the users. For instance, the tool provided outdated and inconsistency outputs in local languages. This limitation underlines a significant gap between the user intention and the technical implementation. Another implementation issue highlighted was related to performance of the tool. Users reported slow processing times, particularly when analyzing long-form content. This is a critical implementation limitation, as one of the main purposes of the tool was to reduce the time spent on verifying information.

The other implementation issue relates to the scalability, which is essential for making the tool more accessible and effective. The Ideation phase revealed a gap in the technical understanding of AI among many journalists and fact-checkers, which limited the depth of feedback they could provide on the tool's performance. This lack of technical fluency among users also points to the need for better training programs to help journalists and fact-checkers fully leverage the capabilities of AI tools, a government officer mentioned at the launch event.

3. Conclusion

Human-Centered Design approach is beneficial in creating AI-driven solutions like Dissect. By engaging end-users throughout the inspiration, ideation, and implementation phases, the project was able to identify key challenges such as limitations in local languages, performance issues, and the scalability of the tool. The Human-Centered design approach ensured that Dissect evolved into a solution that meets the needs of the users: journalists and fact-checkers. However, the project also highlighted the necessity for further improvements in the implementation phase. The improvements are required particularly in enhancing local language processing. As misinformation continues to grow, tools like Dissect, designed through Human-Centered approach, can play a vital role in supporting journalists and fact-checkers who use local languages.

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