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[InCIT 2025] Notification on your paper (1571197296) A Repository-First Framework for Democratizing Chatbot Development

1 ข้อความ

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ถึง: Rashan Boonsri <167480322002-st@rmutsb.ac.th>, Utharn Buranasaksee <utharn.b@rmutsb.ac.th>

Dear Rashan Boonsri and Utharn Buranasaksee,

Congratulations! We are pleased to inform you that your paper (1571197296) titled "A Repository-First Framework for Democratizing Chatbot Development" has been accepted and will be presented at InCIT 2025.

Registration instructions:

At least one author must register and present the paper at the conference for it to be eligible for publication in the IEEE Xplore Digital Library. Early bird registration opens on *25 September 2025.* Authors can register through the following URL: https://payment.fujurtx.com/

Camera-ready paper instructions:

When preparing your camera-ready manuscript, please take into account the reviewers' feedback (see below). Ensure that the author names and affiliations are included in the final version.

All camera-ready papers must pass the pdfXpress check before uploading to EDAS. For detailed instructions, visit: https://incit2025.computing.psu.ac.th/camera-ready/

Conference ID for pdfXpress: 66780X

If you encounter any issues with pdfXpress, please contact PDFSupport@ieee.org directly with a screenshot of the error. The conference committee may not be able to address technical issues related to pdfXpress.

Camera-ready submission deadline: *16 May – 6 October 2025*

You will also be required to complete the IEEE Copyright Transfer Form via EDAS.

Important Notes:

1. The similarity index of the final paper must not exceed 25% (checked via iThenticate).
2. The author names and order in the final version must match those in the EDAS submission system, unless prior approval is granted by the InCIT 2025 Chair.

Communication Note:

The conference organizer will continue to update you with important information via email. Please ensure that you check your email regularly, including your Spam or Junk folders, to avoid missing any deadlines or announcements.

Best regards,

InCIT 2025 General Chair

Reviewers' comments:

InCIT 2025 Review 1

Detailed comments for Authors:

The paper , "A Repository-First Framework for Democratizing Chatbot Development," presents a highly valuable and interesting approach to address the challenges of chatbot development. By integrating a repository-first framework with an AI coding agent, the study offers a practical solution to democratize chatbot creation while maintaining portability and code ownership. The meticulously conducted within-subjects experiment clearly demonstrates that this

proposed approach can reduce development time by 56% and costs by 43% compared to using an AI agent alone. Furthermore, it maintains comparable code reliability and error rates, token efficiency, and latency while requiring fewer human interventions. The study also reported strong usability with a System Usability Scale (SUS) mean of 70.6, exceeding the common benchmark of 68. These are significant insights that support participatory chatbot development and code ownership. A key strength of this research lies in its presentation of a practical solution to empower "Citizen Developers" and its clear demonstration that AI alone is insufficient without supportive architectural scaffolding. However, to further enhance the completeness and broader impact of future research, we would like to offer opportunities for improvement and further development in the following key areas: • Enhancing Statistical Power: ◦ It is understood that the current study was limited by the number of paired microtasks to eight, a constraint imposed by the 90-minute session budget. This resulted in limited statistical power for detecting a 20% time reduction (approximately 44% power) and moderate power for a 25% reduction (approximately 65% power). ◦ To increase the confidence in detecting smaller effect sizes and reduce reliance solely on p-values, future research should consider increasing the number of microtasks in the study, as it is generally noted that approximately 12–20 paired microtasks are typically required for 80% power to detect a 20–25% reduction. • Broadening Generalizability / External Validity: ◦ The tasks used in the current study were focused on developing chatbots for the LINE platform and integrating with Google Sheets, using C#/.NET language, and involved professional developers as participants. ◦ To broaden the scope of generalizability, future work should consider expanding task diversity and testing the framework with other technologies (other stacks) or platforms, as well as studying participants who are novice developers (novice workflows). This would help confirm the robustness and applicability of the framework more effectively. • More Comprehensive Code Quality Measurement: ◦ The paper acknowledges that measuring "time to completion" and "cost" alone does not fully capture code quality. Although secondary metrics such as error rates, human interventions, and token efficiency were used to complement the reliability and effort measures. ◦ To gain a deeper understanding of the quality of the outputs generated by the AI agent, future research could explore more sophisticated and standardized metrics for code quality (e.g., code complexity, maintainability).

InCIT 2025 Review 2

Detailed comments for Authors:

The 9th International Conference on Information Technology Summary: In this paper, the authors evaluate the integration of an AI coding agent within a repository-first chatbot development framework. The study is structured around three application-level scenarios drawn from LINE chatbot business use cases—personalized greeting, location echo with greeting, and Google Sheet–based nearby places lookup—decomposed into eight atomic microtasks in total. Nine developers participated in a controlled experiment comparing two conditions: framework plus agent (F) versus agent-only (A). Results show that the framework+agent condition outperformed the agent-only approach in six of eight tasks, reducing task completion time by 56% and development cost by 43%, while maintaining comparable reliability and usability. To complement this, a usability study with 50 participants reported a mean System Usability Scale (SUS) score of 70.6, exceeding the standard benchmark of 68. Strength: The paper presents a well-designed experimental framework with comprehensive evaluation measures, including task completion time, development cost, reliability, and usability. The study design covers multiple application-level scenarios decomposed into fine-grained microtasks, ensuring both breadth and depth in evaluation. Results clearly demonstrate that incorporating the AI coding agent within the repository-first framework improves developer performance across several dimensions—most notably efficiency and cost-effectiveness—while preserving reliability and usability. The inclusion of both controlled developer studies and a large-scale usability study (50 participants) adds further credibility and robustness to the findings. Weakness:

- While the paper presents an interesting and valuable evaluation framework, the writing suffers from numerous typographical and formatting issues.
- Tables and figures are inconsistently referenced (e.g., “Table I” vs. “Tab. II,” “Figure 4” vs. “Fig. 4”).
- Subsections use incorrect punctuation, such as “Notation.:” instead of “Notation:,” an error that appears repeatedly throughout the paper.
- Minor typographical errors remain, for example, “90min.” on Page 4 should be written as “90 mins.”

InCIT 2025 Review 3

Detailed comments for Authors:

In this paper, the authors proposed a repository-first chatbot framework paired with an AI coding agent. For non-developers to contribute high-level specifications and evaluate by developer time, cost, reliability, and usability.

1. Manuscript Title The title reflects the content of the paper.
2. Abstract The abstract provided properly information.
3. Introduction The introduction gets right to the point of the motivations. 4.Related Work The references are covered, relevant to the main idea of the paper.
4. Methodology The proposed method gives appropriate information.
5. Experiments and results The authors presented a proper experiment and comparison method.
6. Conclusion The conclusion provided accurate information.