

Enhancing Team Collaboration through a Software Project Recommender System

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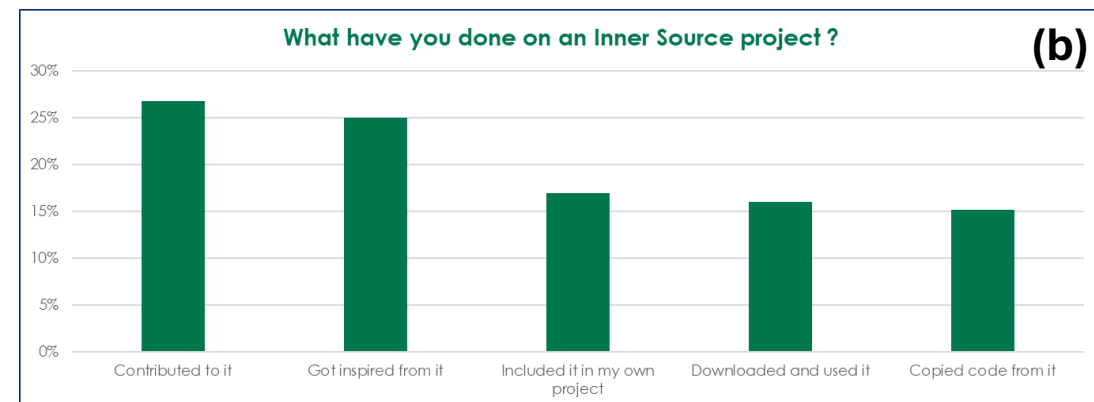
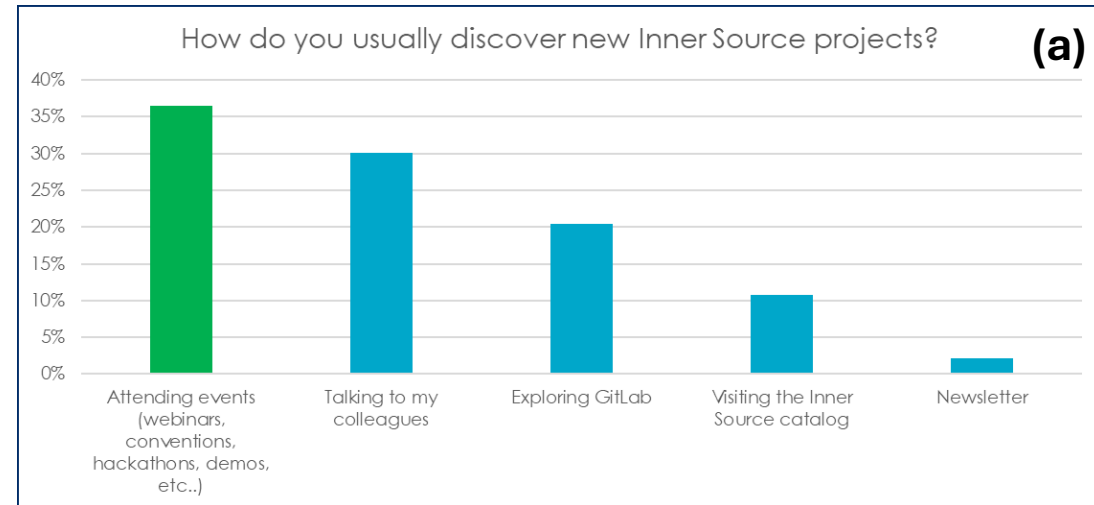
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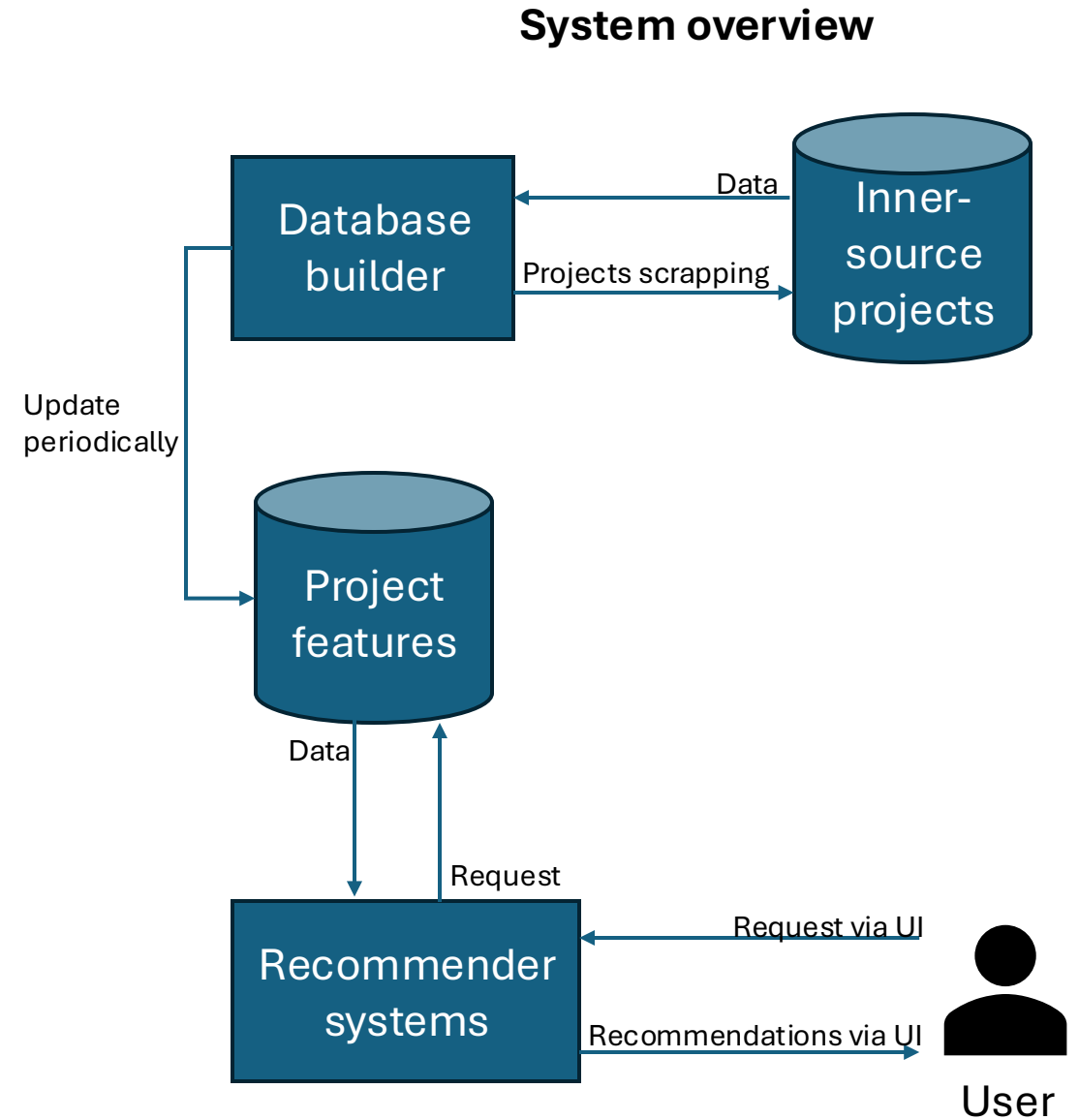
Motivations

- **Inner-source:** strategy that applies open-source practices to proprietary code.
- **Limitation:** Only 30% of software users and developers discover new projects through the GitLab catalog (a).
- **Opportunity:** 75% of user interactions with inner-source projects have contributed to the development of other projects (b).



Proposed solution

- Develop a recommendation system that matches user interests with inner-source projects.
- Technologies:
 - Automation: Gitlab runners
 - DB: CosmosDB



Results

- Evaluation Methodology
 - 7 inner-source expert users
 - 5 predefined scenarios; 5 customized user scenarios
 - 10 recommendations are proposed for each scenario
 - Each user judges whether each recommendation is: "Relevant" or "Not Relevant"
 - Score: Arithmetic Mean
- Results
 - %: Relevant recommendations [min-max]
 - Predefined scenarios = [79%-84%]
 - Customized scenarios = [68%-83%]

Conclusion

- The proposed system now enables specific recommendations that significantly surpass the existing limitations of the existing catalog.
- Testing has shown highly relevant recommendations by the system.
- To scale, the system must transition from requiring users to manually input their interests to automatically collecting user interests.
- Additionally, the extraction of project features can be enhanced through the use of neural network text embeddings, such as BERT or GPT models.