Team 81 – Analyzing the Implicit Social Network from Github Activities

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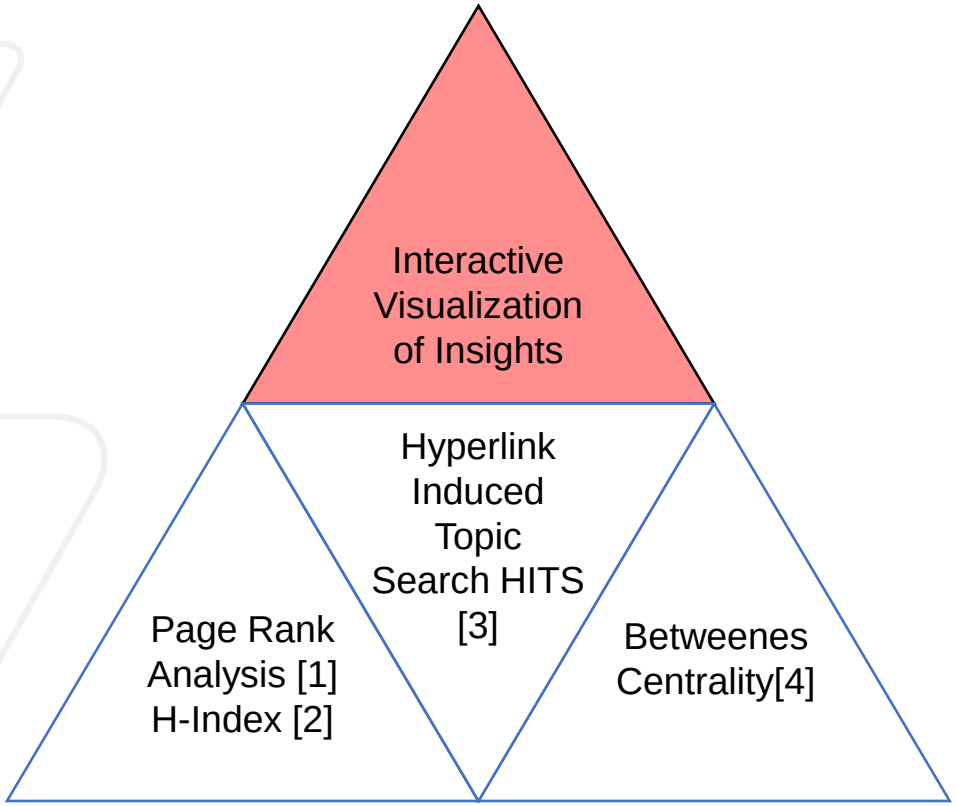
How is it done today? Limits

Several **statistical procedures** to rank influence networks and users showed in **static graphs**



What are you trying to do?

Interactive graph UI that allows to find:

- **shortest paths** between users through project **co-activity**
- **most influential users** in a specific technology scope
- **rate users** based on social developer distance to influencers developers.

Based on **Github Data**

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What's new in the approach?

Why will it be successful?

- Interaction **accelerates** insights discovery.
- **Earlier detection** of emerging communities for business headhunters
- Better assessment of **user contribution** in Github community

Who cares?

- **Business headhunters** and marketing specialists to convince software developers influencers
- Users for **personal branding**
- **GH developers**

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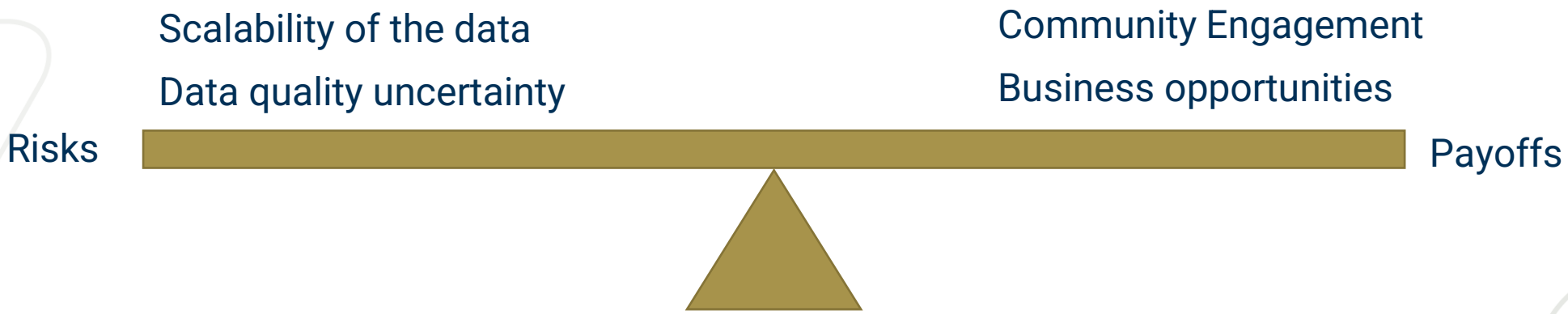
Difference and impact. Impact measurement.

- Project UI **interaction enables** to attract more users to make the **tool popular** for influence network analysis purposes.
- The tool can be fundamental to **evidence social prerequisites** in big projects in software development [5]
- **Project mentions** in social networks as key to measure the **impact over the community**

Risks and payoffs



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How much will it cost?

Requirements:

- **Data storage** in a solution suited for graphs, like Neo4j
- **Data processing** on Python or Spark (feasibility analysis)
- **User Interface development**

On commercial mode, the solution could cost around $150- $ 1150/month approximately (quick estimation) depending of the scale, to serve database and UI web server

How long will it take?

Considering some parallelization of tasks:

- **Data collection:** 4 weeks
- **Data processing / analytics:** 3 weeks
- **UI development:** 4 weeks

Midterm and final check and progress measurement

Milestone set up and peer review to guarantee the successful implementation of the project.

Work item	Main responsible	Start	Duration
Raw Data Collection	Jonathan del Campo	November 1	4 weeks
Data Augmentation / Analytics	Ruzvidzo Ngulube	November 7	3 weeks
Web and UI	Ran Tavory	November 1	4 weeks

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References

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- [3] Yan Hu, Jun Zhang, Xiaomei Bai, Shuo Yu, and Zhuo Yang. 2016. Influence analysis of Github repositories. https://doi. org/10.1186/s40064-016-2897-7
- [4] Linton C. Freeman. 1977. A Set of Measures of Centrality Based on Betweenness. Sociometry 40, 1 (1977), 35–41. http: //www.jstor.org/stable/3033543
- [5] Casey Casalnuovo, Bogdan Vasilescu, Premkumar Devanbu, and Vladimir Filkov. 2015. Developer Onboarding in GitHub: The Role of Prior Social Links and Language Experience. In Proceedings of the 2015 10th Joint Meeting on Foundations of Software Engineering (Bergamo, Italy) (ESEC/FSE 2015). Association for Computing Machinery, New York, NY, USA, 817–828. https://doi.org/10.1145/2786805.2786854

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