

# Hibernate and JPA on StackOverflow

A preliminary exploration  
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# Context

- Study of data intensive software projects
  - database-centric projects
  - How to support the co-evolution between the source code and the database (schema)?
  - Taking into account the social aspects of software evolution: specialized communities?
- Hibernate
  - Object-relational mapping (ORM) framework for Java
  - XML files associating a class to a table
- JPA
  - ORM specification
  - Java files containing annotations
  - Some frameworks supporting JPA: Hibernate, Enterprise JavaBean, TopLink, ...

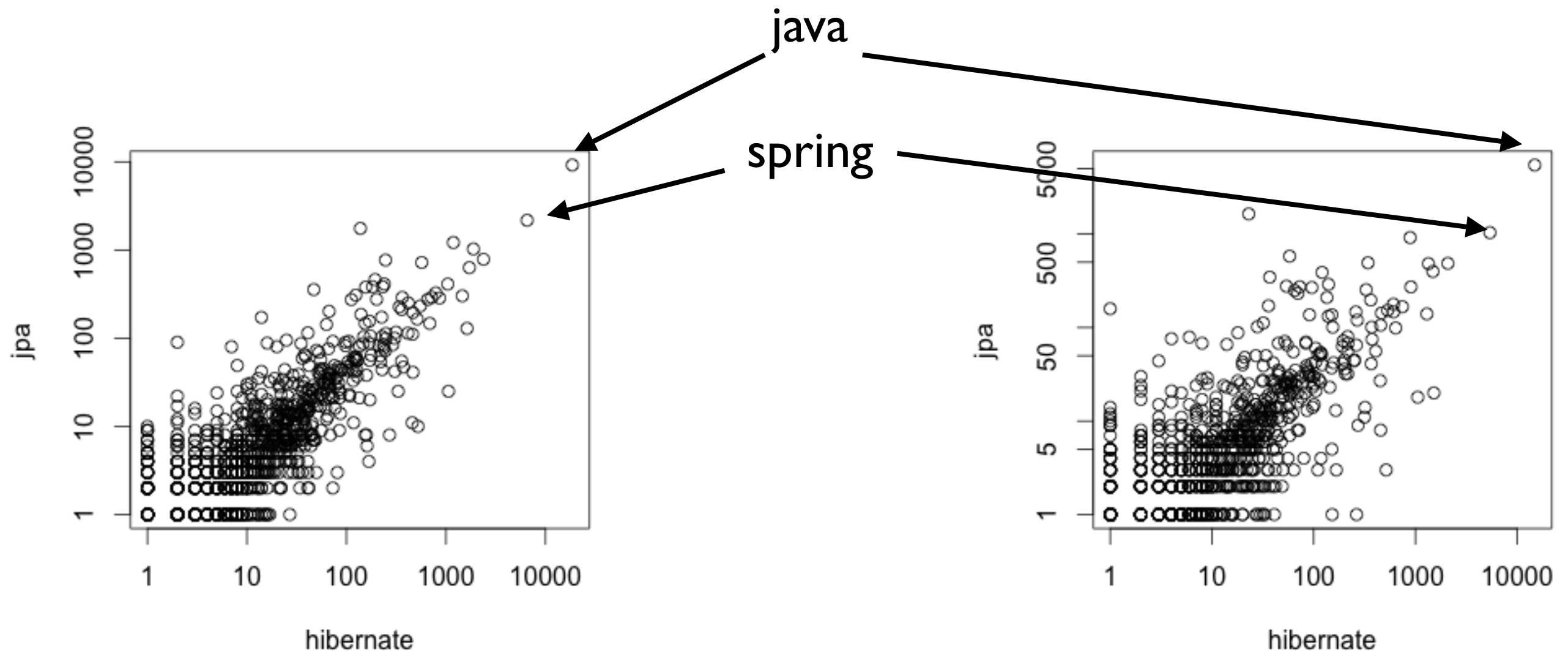
# Questions

1. Can we use StackOverflow for studying (social aspects) of Hibernate and/or JPA projects?
2. In a previous study, we observed that JPA takes over 'xml' Hibernate in studied projects. Is it a general trend?
3. Concepts associated to Hibernate and JPA?

# Methodology

1. question post  $\rightarrow$  (date, tags)
2. Manual inspection to identify Hibernate-related and JPA-related tags
3. Visualisation

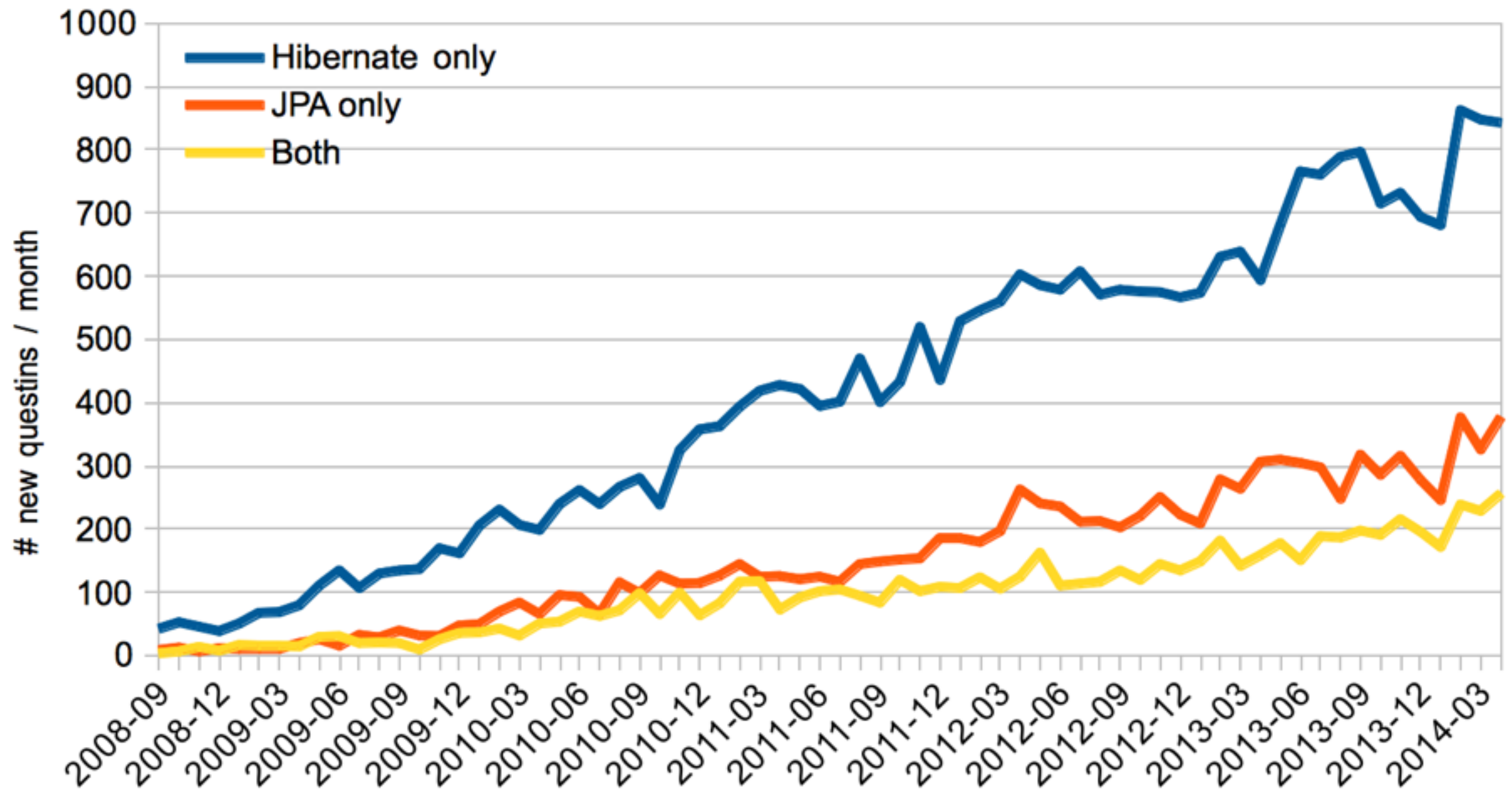
# co-occurrences



Hib OR JPA

Hib XOR JPA

# Popularity evolution



# Conclusion

- Increasing ‘popularity’ of Hibernate and JPA on SO
  - No decrease of Hibernate’s popularity despite the presence of JPA (since 2006)
- Tags are active enough for considering SO as an interesting datasource in our future studies
  - Hibernate: ~1100 questions/month
  - JPA: ~700 questions/month
- A lot of co-occurring tags: need to dig deeper

# References

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- A. Cleve, T. Mens, J.-L. Hainaut, *Data-Intensive System Evolution*, IEEE Computer 43(8): 110-112 (2010)
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