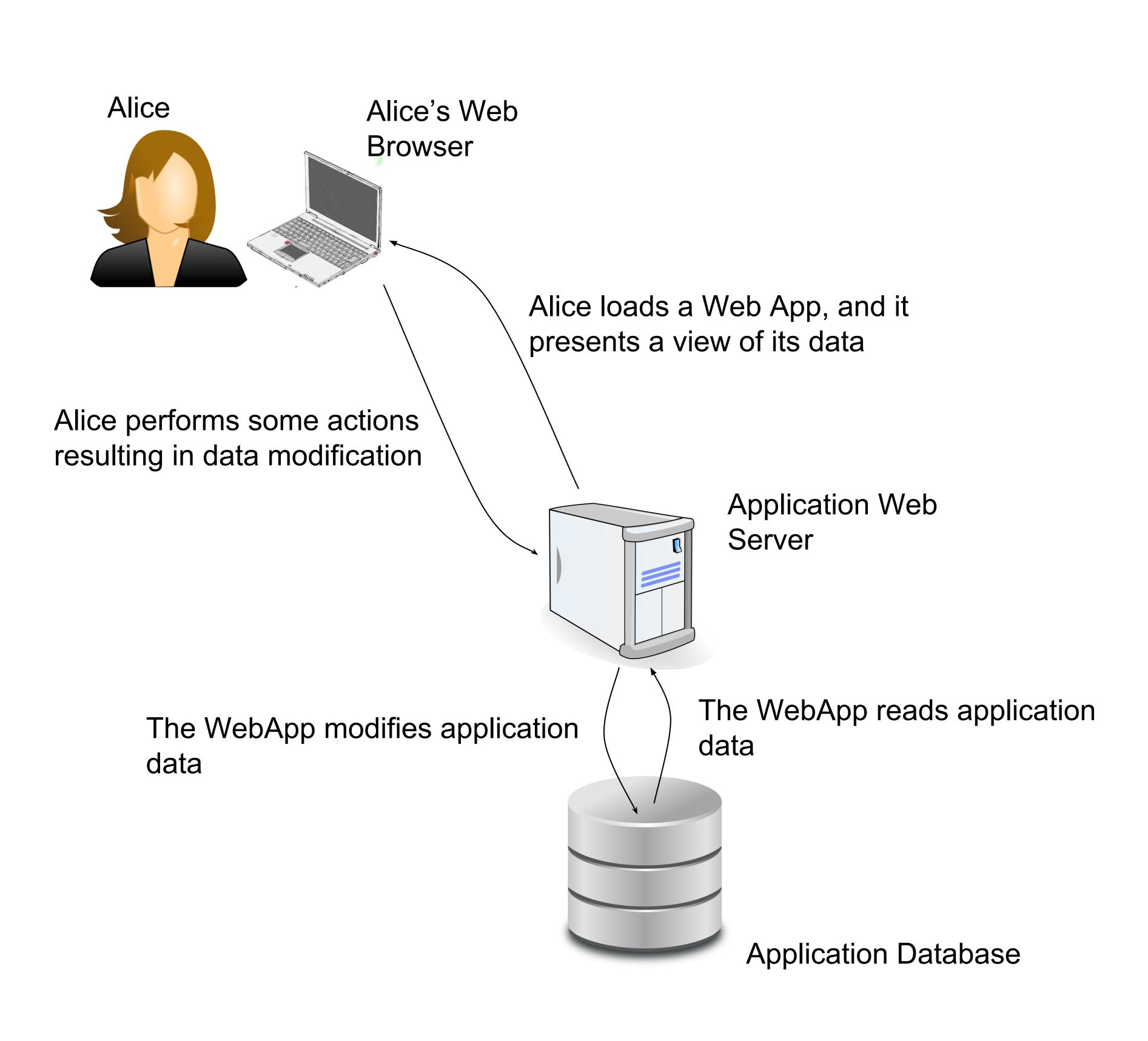


## A "Crosscloud" Social Web Architecture, with CIMBA demo

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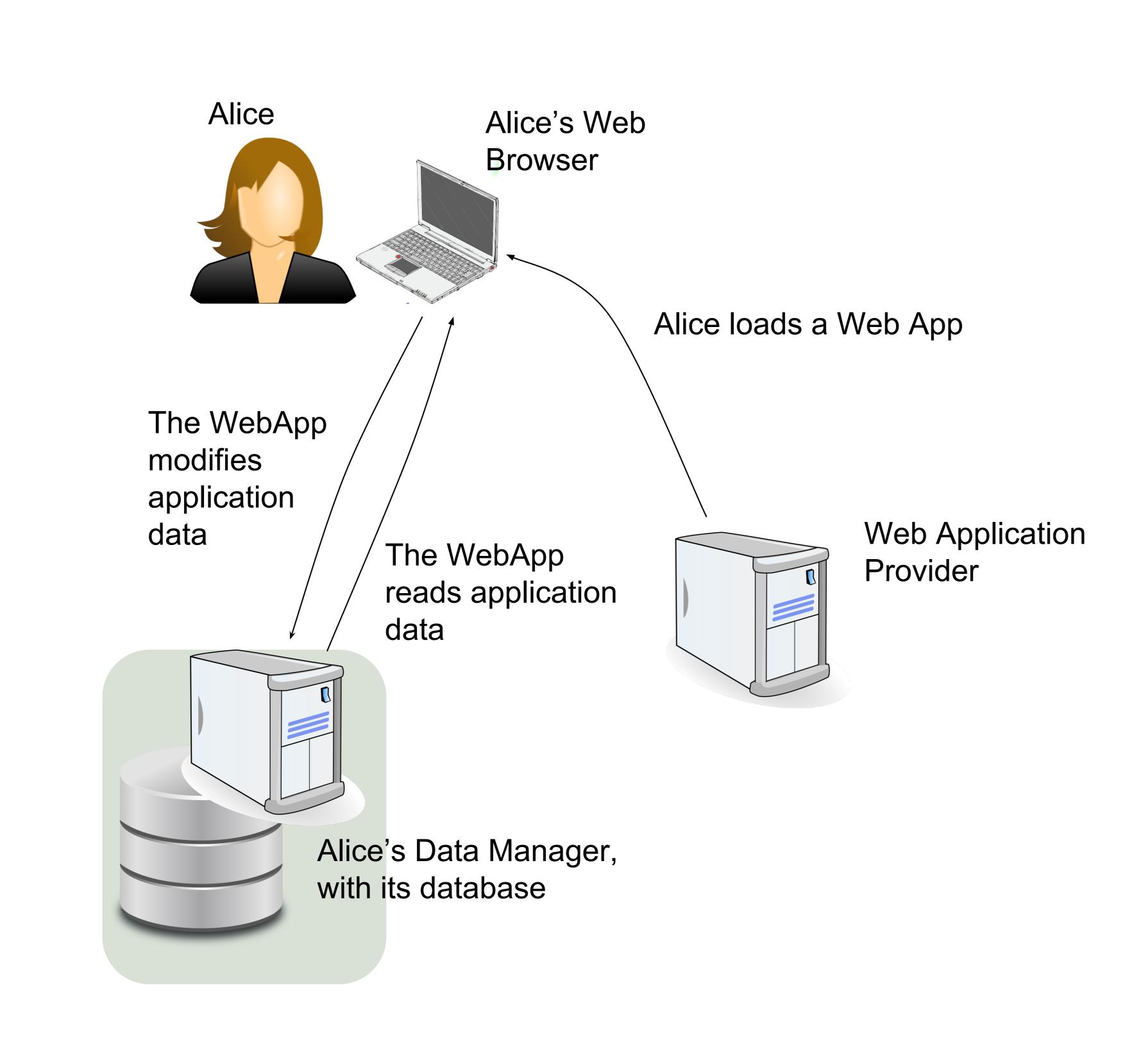
## 1. Today, apps hold user data



Today, more and more software is built around an application-specific back-end database. This makes switching applications problematic. Also, today's business models tend not to reward respecting user's privacy and autonomy.

For software developers, social software today means maintaining a scalable back-end service, relying on other businesses (like Facebook) and building up a critical mass of users before your social features have much use.

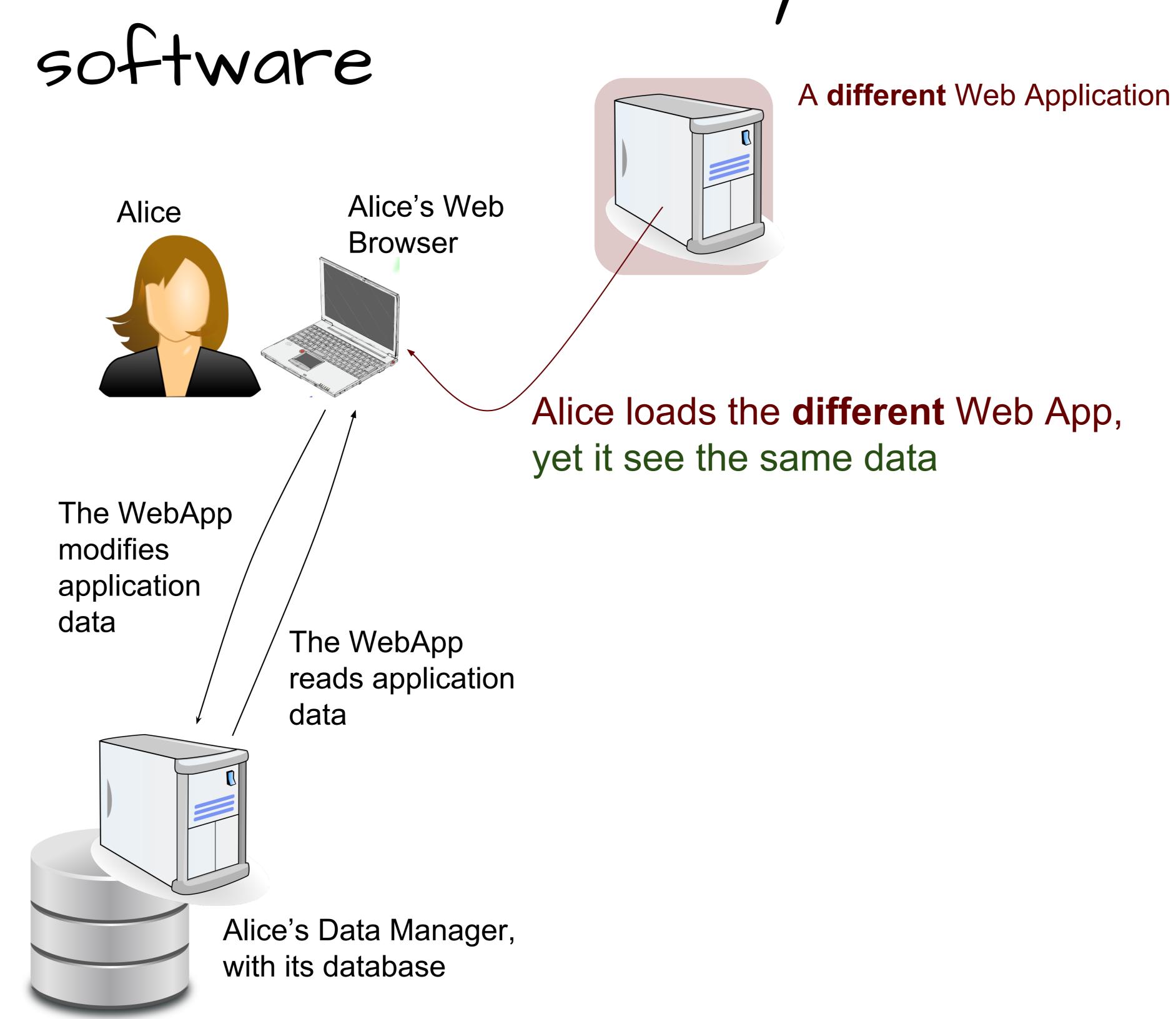
2. Let's move data under user control



With the data under user control:

- Users can pick a storage manager they feel good about
- Users can switch to a different storage manager which might offer better service (eg better privacy guarantees)
- Developers can produce large scale apps without needing to support any backend operations

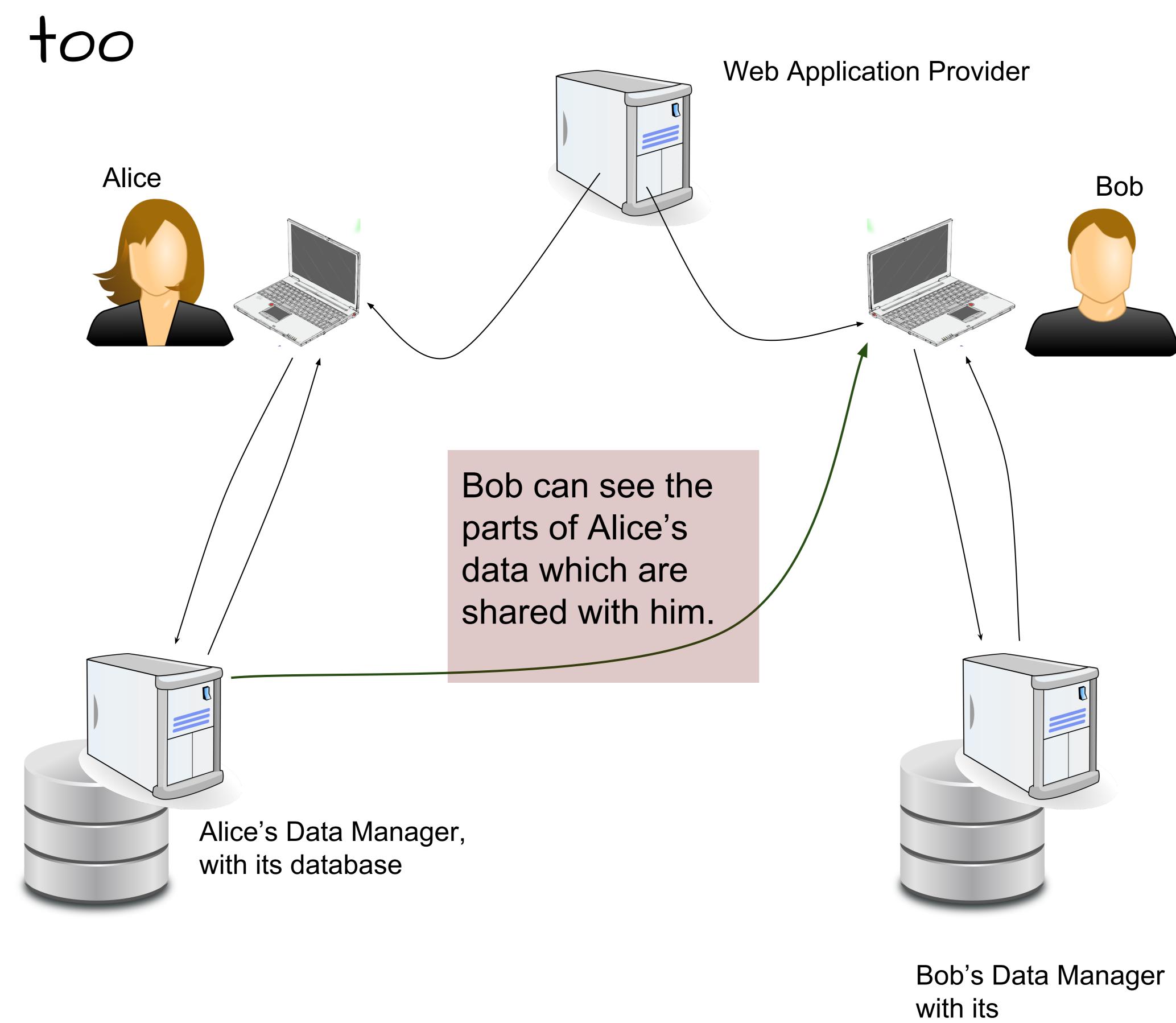
3. Then users can try other



With the data also kept in a standard model (RDF Triples):

- Users can switch applications without losing any data
- Integrated Apps become possible, working with data from multiple domains
- Developers can use and interoperate with data from other apps
- Data management tools (revision control, access control, provenance management) can work across all apps.

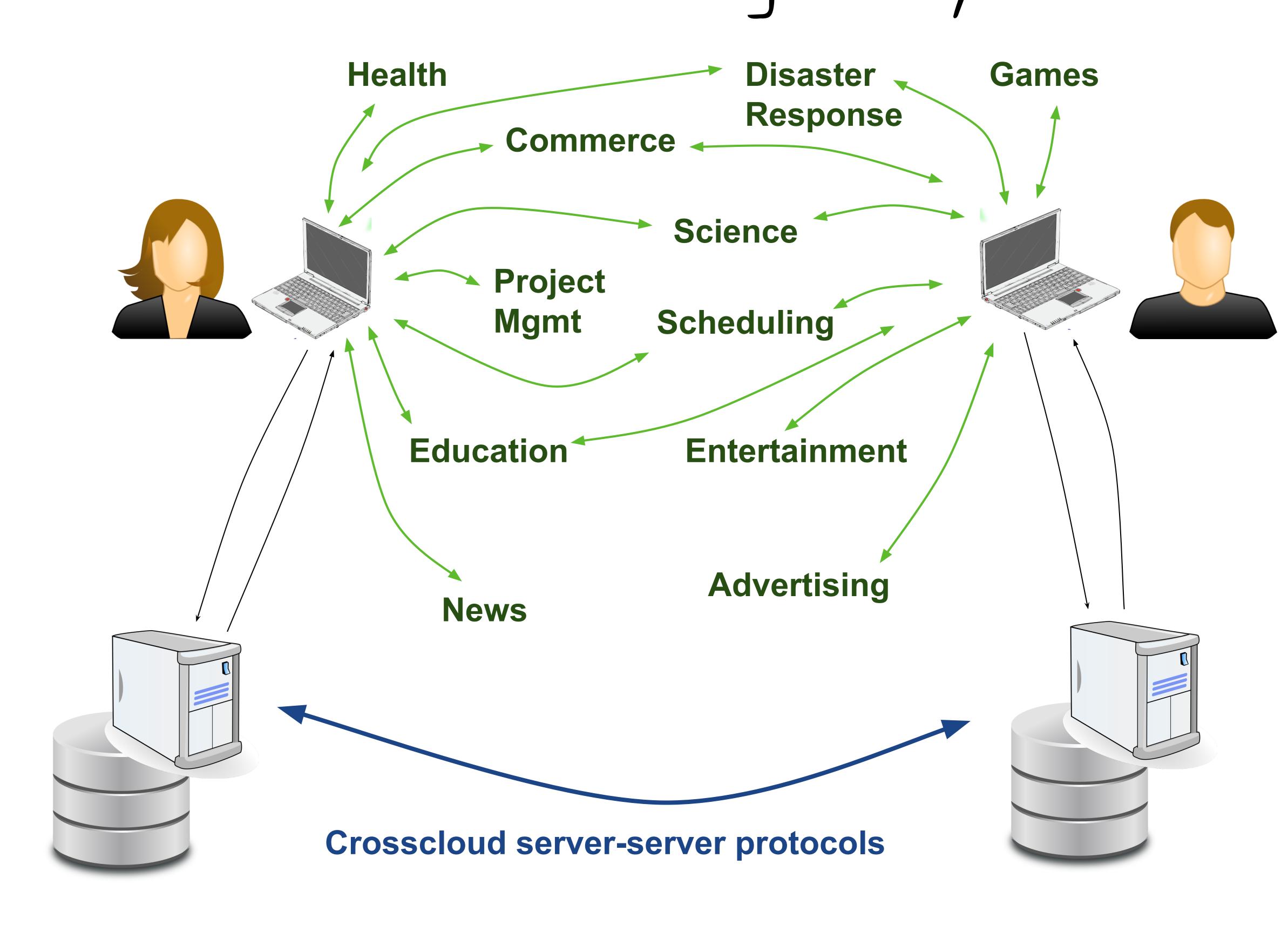
4. Social connections can move



By using WebIDs (URLs for people, which they control):

- Social connections (eg following, friending, photo tagging, granting access) are just more data, owned by the users involved
- People can switch apps without affecting who they can work with online
- Developers can produce powerful social software without first accumulating a critical mass of users

5. A Social Ecosystem can flourish, connecting everyone



With many of today's constraints removed, we expect to see a blossoming of new social software, such as:

- Media sharing that can keep up with the explosive growth of camera use
- Health data collaboration among patients, caretakers, scientists
- Ad hoc, situationally appropriate, disaster relief systems
- E-Commerce that keeps up with today's mobile society

## Research Agenda and the Linked Data Platform (LDP)

This vision requires technology which not only works in a lab, but will actually be adopted in industry, so we are working closely with relevant standards bodies, especially the W3C Linked Data Platform (LDP) Working Group. As this group completes its basic initial version and begins to plan for future versions, we are using CIMBA to validate the group's decisions and help show what features are needed next. The standardization context gives us rapid technology transfer and strongly favors active participation, simple designs, and "running code".



In order to make CIMBA and other crosscloud apps competitive with centralized software, standards are needed which provide:

- Fast and scalable distribution of data and queries, along the lattice from data producers to data consumers
- Trust management for data sources, including applications and software modules
- Vocabulary Conversion, so software written for one vocabulary can interoperate with software written for equivalent but different vocabularies
- Multilingual data management, so the non-English-speaking world can fully participate
- Flexible **Read Access** Control, so people can grant the access needed for collaboration without extra loss of confidentiality
- Flexible **Write/Notify Access** Control, so people can provide new information/updates to each other, without undue exposure to unreliable or malicious participants
- A personal **Identity** system such as WebID, where identifiers for people are part of Linked Data
- Viable **Business Models**, allowing the infrastructure to grow, with all participants being suitably

The power of your own blog combined with the ease of Twitter. With CIMBA (Client-Integrated Micro Blogging Application) we have begun to demonstrate and validate our proposed Social Web Architecture.

The code is open source, and the architecture actively encourages forking and enhancement while maintaining interoperability.

Some planned features: (patches welcome)

- \* Notification of new postings
- \* Notification of new subscribers, mentions
- \* Connection to legacy microblogging systems
- \* Instant Messaging features (presence, typing-in-progress)
- \* Inline viewing of images, video
- \* Inline viewing of linked web pages
- \* Search through your subscription content
- \* Search through all public postings (requires external search engine/registry)
- \* Search for users (requires external search engine/registry)
- \* Scale to large number of subscribers

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