

HAPLO

Open source platform
for information applications

haplo.org

HAPLO

Named from the Greek 'haplóos', meaning 'single' or 'simple'.

Haplo manages an entire information collection in a *single* container, selecting relevant subsets for the user based on what they're viewing and their permissions.

Within a deliberately *simple* information architecture, complex information can be expressed in an easy to understand manner.

Haplo provides carefully designed building blocks which work together beautifully, building powerful information applications that are incredibly easy to use.

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Haplo provides the complete stack, from database to user interface.

Without any code, you can build a powerful web-based information application with the most flexible database you've ever used.

Extend your application using serverside JavaScript plugins, using the comprehensive API. Plugins scale from small user interface changes to large web applications.

Use Haplo for...

- Information management
- Case management
- Document management
- Sophisticated intranets
- Databases
- Publishing information on the web
- Lightweight 'humane' workflow

Data model

Haplo's data model is a linked data (semantic web) inspired object store.

It's an innovative mix of a graph database, object store, and search engine.

Every field is multi-value, and hierarchical relationships are supported everywhere they're needed.

The permissions system is incredibly flexible, with multiple labels on every object and scriptable rules controlling access.

Platform highlights

- Linked-data style object store, with pervasive multi-values and extensive hierarchy support
- Expressive label-based permissions model
- Extensive API for building server-side JavaScript plugins
- Web interface providing an exceptional user experience
- Customisable full-text search combined with object store graph queries
- File handling, including conversion, previewing and version control
- Workflow support
- Designed to evolve as user needs change, enabling agile application development
- Application user interface for editing and using an information collection
- Management user interface for configuration of the application, including the schema of the object store



An information application manages a living collection of semi-structured information.

Information does not fit into neat columns in a database. Information has a more complex and varied structure which reflects the real world it describes, and requires sophisticated tools to represent it accurately.

The fundamental building blocks of an information application are records which describe an entity. This may be 'things', like people, organisations, books and documents. But these entities are also 'concepts' which describe ideas and ways of thinking about the world.

Just as in the real world, everything is interrelated. These relationships are the most powerful way of describing entities in the information collection.

TECHNOLOGY REQUIREMENTS

- A non-SQL data model
- Prefer to describe entities through their relationships to other entities
- Free-text search layered on top of Linked Data (Semantic Web) understanding of relationships between entities
- A single namespace for all the information managed, with a unique record for each thing or concept



An information application stores all types of information.

Information applications are capable of storing all the different types of information in an organisation: data, information, files, notes and conversations.

It's no longer necessary to use different applications for different types of information.

An information application creates a richer picture, by showing and searching all related information in one place. It removes the errors and uncertainty caused when duplicating information in different systems.

TECHNOLOGY REQUIREMENTS

- User interface capable of clearly presenting all types of information
- File and document handling
- Easy integration with other software, allowing information to be stored or processed elsewhere
- The information application data model is a superset of other systems.



In an information application, users enter information by describing it.

Describing things comes naturally to us. Information applications take advantage of our shared understanding of how to describe things with a data model which represents information in a human way.

With a sufficiently flexible data model, descriptions can be entered in the most natural way, directly without interpretation, just by filling in a simple form. You don't have to memorise rules about how to enter data, or where to store a file, enabling really accurate and consistent description of information.

TECHNOLOGY REQUIREMENTS

- Loosely typed object store, with each object a list of 'facts'
- Multiple values allowed in every field, including the type of the object
- Hierarchy support for things and concepts (eg subsidiary companies, and traditional taxonomies)
- The information forms the structure of the data model, with no hidden management metadata



Workflow processes adapt as information is edited.

Information moves between people as they use it in their work. They may add interpretations, take an action, or send it on to someone else.

Information applications support the day-to-day use of information with lightweight workflow. But unlike systems designed for a command and control organisation, they take the humane approach of letting the information control the process, rather than the process controlling the person.

An information application observes the state of the information, and prompts next actions. Any piece of information can be freely edited at any time, and the workflow adjusts accordingly.

TECHNOLOGY REQUIREMENTS

- An application framework designed around observing changes to information
- A plugin API which encourages functionality to be implemented in small modules, which cooperate to form the whole application
- A data model which allows extensible representations of entities, so modules can share a common description of the world



Everyone who needs the information can use it.

An information application is capable of providing access to everyone who needs to use the information. Instead of preventing access to information, the focus is on enabling appropriate access. This requires a permission system which is sufficiently flexible to describe what every user should be able to see and do.

Flexible access means that everyone in an organisation can benefit from, and contribute to, the organisation's shared knowledge.

TECHNOLOGY REQUIREMENTS

- Expressive permissions system which can describe complex rules in an easily understandable way
- Fine grained access controls with each object descriptively labelled
- User permissions defined in terms of what operations are allowed based on how objects are labelled
- Audit trails and preservation of historical versions to support a 'trust but verify' culture



An information application is easy to change.

Organisations never stay the same. Everything changes, whether because of external pressures, changing markets, or new opportunities. An information application is a living system which can adapt to change.

As an information application describes the world, it is inherently flexible enough to change over time and support new uses of the information. Rather than storing an interpretation of the world for a specific use, it is a collection of information which can be used for any purpose.

TECHNOLOGY REQUIREMENTS

- Flexible data model
- Careful platform design, allowing every decision to be changed
- New workflow and plugins can be integrated at any time



Haplo makes it easy to build and maintain information applications.

We created Haplo because we couldn't make information applications with anything else. By using it to build applications for our clients, we learnt more about information applications, and embedded everything we learnt into the platform.

Out of the box, Haplo provides everything you need to manage a collection of information, with no programming required.

Then, once you understand how people want to use the information, write plugins to implement the functionality which is specific to your organisation.

TECHNOLOGY REQUIREMENTS

- Management user interface for configuring and changing the data model and permissions
- User interface around the data model, including information editing, search and discovery
- Extensive plugin API to implement application specific functionality



Technical details

- Runs on the Java Virtual Machine
- Primarily written in JRuby and Java
- Plugins are written in JavaScript, and run on the server using the Rhino runtime
- Object store is built on the PostgreSQL database and Xapian text indexing library

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Support and professional services

For platform users seeking support, we offer:

- Support contracts for your own installation
- Training
- Consultancy
- Custom development services
- Hosting

We offer a subscription service which includes hosting and application support, and access to development servers for plugin development.

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Built on Haplo

PhD Manager

PhD Researchers play an important role in the academic community, but managing a PhD programme is a challenge for any institution.

PhD Manager provides a holistic, integrated solution to the challenges of effectively managing a Doctoral Research programme.

Taking advantage of the Haplo Platform, PhD Manager enables every piece of information about PhD projects to be gathered together in a single, streamlined system, accessed by everyone involved in supporting PhD Researchers in an institution.



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