Rakontu Architecture

A Rakontu White Paper available at http://www.rakontu.org

Cynthia Kurtz, October 2009

Summary

Rakontu is a free and open source web application that helps people in neighborhoods, families, and other groups share and work with stories together. This white paper describes the architectural layout of Rakontu in systemic terms.

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Basic elements

A Rakontu is simultaneously a web site, a story bank, and a community of members. As of this writing Rakontu runs on the Google App Engine (whose architecture and limitations affect Rakontu's architecture).

An **entry** is the central object in a Rakontu. The **core** of an entry includes one **title** and one body of **text** (plain or with simple HTML or Wiki markup formatting).

An entry can be any of these five types:

- A **story** is a recounting of events. Even though the entry is the central object, the story is even more central: it is the thing around which everything else revolves.
- An **invitation** is a request to tell stories about a particular subject, time, person, place, and so on. Any **member** can post an invitation. An invitation can optionally include one or more questions to which the story is an answer (though it may just mention an event or something instead). Questions used in invitations are traded in discussion groups, and groups of them might evolve for different purposes. **Managers** or **guides** may also post some recommended invitation questions for their community to get their members asking each other for stories.
- A **pattern** is a saved set of **search filters** that recreates a particular view of a particular group of stories. A pattern contains information to recreate the view (filter links).
- A **collage** is a group of stories put together by people for a purpose (collages are *built,* while patterns are *discovered*). In this version of Rakontu all collages are simple annotated lists of stories. Future additions are envisioned in which exercises create collages with more complex structures.
- A **resource** is a non-narrative item that serves as reference material. Some resources might be about the use of the system (ie FAQ, help, tutorials) and some might be about topics important to the community (ie an entry about an important event). Only **guides** can create resources.

All entries can have any number of **answers** (of which there can be one per member) to community-wide **questions** about that type of entry. Answers to all questions in the system are optional and cannot be required. (The reason for this is that having to answer questions to participate will reduce contribution.)

Entries can also have **attachments**, or uploaded files, of several common types (specifiable in the installation, but typically things like JPG, PNG, DOC, PDF, TXT, MP3, MPG, etc). This is mainly to accommodate audio and video versions of entries as well as supporting material such as pictures that can't fit into the simple text field. All members can download attachments locally. The community can set limits to how many attachments are allowed per entry. **(**Note that although the Google App Engine says objects of up to 10MB can be added to the database, in practice the limit is more like 1 MB. Hopefully this will change in the future...)

An **annotation** is a piece of information attached to an **entry**. An annotation can be any of these types:

1. A **tag set** is a set of short text strings submitted by a member to describe an **entry**.
2. A **comment** is something submitted by a member to comment on an **entry**. Each entry has only one set of comments, with no nesting.
3. A **request** is an appeal to members to do something with or to an entry: review or

change the text, clean up an audio clip, transcribe an audio or video clip to text, read a text story aloud to create an audio or video clip, translate a story to another language (in text, audio or video), contact a member, or add nudges, answers, tags and comments. The list of request types is configurable at the site level.

4. A **nudge** is an up or down rating on an **entry** submitted by a **member**. Nudges can be of up to five types, configurable per Rakontu. Some types are recommended (appropriate, important) but any categories can be used. A **nudge point** is a unit of rating. Each member is given nudge points based on their activity in the system (telling stories, annotating, etc). Members use up nudge points on entries, and there is a limit to how many nudge points can be used per member per **entry**. This can be set by managers.

There is a critical difference between entries, which are like documents, and annotations, which are more like utterances. Anyone who adds ("publishes") an entry can also remove it from view by "redrafting" it, or turning it into a draft again. Entry creators can also change their entries after publication (forever), though prior versions appear in a "history" area. The reason for this is that telling stories is a more socially dangerous activity than simply talking, and people need some way to "take back" stories they later decide they did not want to divulge. If some person in authority has to be petitioned to remove a story someone has told, that will make it too risky to add things. In the case of a redrafted entry, all annotations will disappear with it.

Annotations, on the other hand, cannot be changed or taken back once they are published. (However, the user can still become a curator and flag them for deletion.)

People

All Rakontu **members** must join using a **Google account**, and they must be **added** to the system by a **manager** (more on those roles below). They are asked to choose a **nickname** to be shown in the Rakontu, which can be their real name or a **pseudonym**. There is also a simple profile area, and a picture can be added.

When a Rakontu member enters a story (or any other entry) into the system, they can choose whether they want to **attribute** it to their **nickname** or to a fictional **character**. Managers might set up some fictional personifications, perhaps as the result of a startup **emergent constructs** exercise, to which people could attribute stories. Or such personifications might be culturally useful wisdom personifications or trickster personifications like "Brer Rabbit" or "Anansi" or "Coyote" or "Monkey King." Managers can also choose to turn off this option so that no anonymous posting is available.

Anonymity using characters is partial. Administrators can view which member told a fictionally entered story (but only by querying the database directly, so it is not easy). There are two reasons for retaining identifying information about members (instead of not collecting it at all): first, it gives site administrators some help in cases of system abuse (trolling, spamming, obscene entries, attacks on others, etc); and second, it provides a way for people to get emails from the system (and eventually do other things like connect to cell phones).

One of the goals of Rakontu is to bring together people who use computers with those who don't. People who want to tell and hear stories but can't (or don't want to) join the Rakontu web site are called **off-line members** and interact with the system through **liaisons**. A liaison collects stories (and other things) from off-line members and enters them into the system, and prints lists of stories and other outputs for people to read or have read to them. Entries and annotations entered by a

liaison show this and link to an off-line member's **nickname**, which is the off-line member's only identification in the system (though member questions also apply to off-line members). People who send messages to off-line members send them through the liaison's email.

Roles

Governance roles

There are two **governance roles** in a Rakontu: **manager** and **owner**. The only difference between a manager and an owner is that an owner can inactivate (but not delete) the Rakontu. Otherwise owners can do everything managers can do. Typically there will be one or two owners and several managers in a Rakontu.

Managers (and owners) have four duties that they need to cover between them:
1. They need to maintain community-wide **settings** for the Rakontu, like how nudge points are allocated and whether anonymous entries are allowed.
2. They need to manage **memberships** for the community.
3. They need to keep **watch** over the whole system to see if there are any human issues (flame wars, spamming, etc) taking place.
4. They need to handle **technical** things like backing up the data and answering technical questions (though the site admin will do some of that).

Because often people can handle either the people side or the technical side, but not both, managers and owners can choose to see any of several panels/screens, some more people oriented and some more technical. It is the task of all the combined managers and owners of the Rakontu to make sure that *somebody* is handling all of the tasks between them. Sometimes one person will do all of these things; sometimes three people will do them; sometimes ten people will.

The site administrator is the person who installed the site (probably). All new Rakontus must be created by the site administrator. This person can look over all community installations on a site and change global (all-community) options. They are also responsible for site backup (if that is done). This person or people may be able to look over all communities in the installation and see if they need anything. If they are for example customizing the application for a particular community or set of communities, they may need to see error messages and things like that.

Helping roles

There are three named **helping roles**:

1. A **curator** pays attention to Rakontu's accumulated **data**. Curators add information, check for problems, create links, and in general maintain the vitality of the story bank.
2. A **guide** pays attention to the Rakontu's on-line human **community**. Guides answer questions, write tutorials, encourage people to tell and use stories, create patterns, write and respond to requests, set up and run (off-line) exercises, and in general maintain the vitality of the on-line member community.
3. A **liaison** guides stories and other information over the barrier between on-line and **off-line** worlds. Liaisons conduct external interviews and add the stories people tell in them, read stories to people and gather comments, nudges, and other annotations, and in general make the system work for both on-line and off-line community members.

All helping roles are **volunteer**, meaning that any member can be a curator, guide or liaison simply

by saying they would like to be one. The community can optionally have "role readmes," which are simply etiquette descriptions that people should read before agreeing to become one of these roles. Even though becoming a helping role is volunteer, all managers and owners can *ban* members from helping roles. This is mainly a check in case people take on the roles to do things like wreak havoc.

Each helping role has a special privilege that no other members (except managers and owners) have, as follows:

1. **Curators** can set **inappropriate flags** on any entry, annotation or answer. Only managers can delete things permanently.
2. **Guides** are listed when people click on "Help" or "I have a question." They can see a screen of help requests, and they can get question messages sent to them via email. Only guides can enter resources - this is to keep the Rakontu from becoming a file dumping ground (as many community sites tend to become).
3. **Liaisons** can create and enter information for **off-line** members.

The helping roles can't change community-wide settings or memberships; only managers can do that.

System settings

Settings that affect the whole Rakontu are:

1. the Rakontu **appearance**
2. **questions** (for entries, members and characters)
3. **nudge categories and nudge system rules** - what activities build nudge points and how quickly; how many nudge points can be assigned to an entry
4. **characters** for story attribution, and whether stories (and other entries and annotations) can be attributed to characters

Managers are responsible for setting up and maintaining all of these community-level preferences. They can join central discussion groups where people can help each other with Rakontu setup and maintenance.

Questions

There are three types of **question** in Rakontu. **Entry questions** are about entries, like "How do you feel about this story?" (or pattern, collage, invitation, resource). These questions are answered by Rakontu members during their interaction with the system. Entry questions should ideally be set when the Rakontu is created and never changed (so that all stories have the same sets), but in practice that will be difficult and so some entries will sometimes be missing some answers.

Member questions are questions about members, like age, location, profession, family size, opinion on issues of common interest, and so on. These can be queried on, so for example someone could want to see stories told by people over 60 in which the storyteller reported feeling sad about something.

Character questions are those about characters. These are selected and answered by managers for the purpose of finding stories told by characters with particular characteristics.

All of these types of question can be created and edited by managers. Normally this will only be done once, at the start of the community, since any later change will not match already entered

answers; but questions can be changed at any time. Managers can copy **sample questions,** or they can **import** questions from CSV files. In this way people can trade questions for use in different Rakontus.

Interface

The main Rakontu page (the "home page") shows a **story timeline,** with **time** on the X axis and **nudge depth** on the Y axis. The third dimension is shown by the size of fonts showing entry titles. Settings on the time axis depend completely on member preferences, which are saved with a member's account. Settings on the depth axis also depend on member preferences. The page for each member or character and for each entry shows the same time/nudge/activity grid.

Rakontus support offline backup and restore, and also import and export of some (but not all) elements of the system using simple data formats (like CSV and simple HTML markup of stories).

Additional data items

A **search filter** is a saved search for entries. Filters can select based on text, tags, and answers to questions about entries and/or their creators. Filters can be private (to each member) or shared. Only shared filters can be linked to patterns.

A **link** is a connection between elements of the system (usually entries, but not always). Links are created when a member connects two things. This is always intentional. Each link contains a comment field others can see. There are five types of links:
1. **retold** (the member picks "I'd like to tell my version of this story")
2. **reminded** (the member picks "I'd like to tell a story this one reminds me of")
3. **related** (the member clicks "This story is related to this other story")
4. **included** (the member refers to stories in a collage)
5. **referenced** (the member refers to a search filter in a pattern)

There are two types of system **pruning**: for entries and for the larger class of "items" (entries, annotations, and answers).

1   The **nudge floor** is a value below which entries become hidden if they receive a lot of negative nudges. This is a display option, and the user can manipulate it depending on their needs of the moment. Because all display options are saved in the member's preferences, each member will probably keep this at a constant level most of the time.

2   Entries, annotations, answers and filters can be given a flag by any curator, which marks the item as possibly requiring deletion. Things that have comments in them (mainly links) can have just the comment flagged for removal. Items that receive flags can be deleted by managers. Curators cannot delete the items, but they can send a "notification" message to managers if they think something should be removed quickly.