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EARTH CONNECTED

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A software platform for a global network of connected communities

Contents

1 Introduction and summary of features

We are in a time of growing perception of social and environmental difficulties, and also of growing social movements to engage with them. I and many others see collaboration and communications between these groups as a key to their success. Electronic communications seems to be a necessary medium for part (but not all) of this, and there is a growing number of projects developing such software.

This is my contribution to that, building upon the social visions in my book, *eGaia, Growing a peaceful, sustainable Earth through communications*, and upon many years experience with online learning communities at the Open University.

More specifically, this is a first draft of a specification for a software platform to support a network of local communities seeking sustainability and local resilience, and seeking to work with other similar communities across larger scales, regionally, nationally and globally, as for example, the Transition Network. It describes a set of linked portals: social networking sites enhanced for these purposes.

The principal features are:

1. For individuals, a personal profile page giving basic information about themselves and summarising their contribution to the network, and which can be expanded to a personal website if desired. To enhance the sense of connection, people have

'partners' (who are people who do favours for each other) instead of 'friends' as in conventional social networking sites.

2. Each group/sub-group/region/etc. has their own site that feels individual and has a clear (somewhat customisable) identity, with content created easily by its members (using simple templates), yet is clearly connected with information to and from other groups at the same, larger and smaller scales.

3. Standard facilities are included such as events listings with calendars, news/blogs, resource centre for sharing files, pictures, and media with good indexing and search, map pages. All are individual to the group but with feeds and links to and from other groups as desired.

4. Organisational support such as group editable pages (wiki), member lists with roles, agreement lists, task trackers.

5. Enhanced communication facilities including a discussion system optimised to promote groups coming to agreement, with email notification and online archives, and also group chat, telephone conferencing and community telephone call centres.

6. Exchange/trading system designed to promote exchange on a basis of personal relationship, integrity, quality, need, and environmental soundness rather than simply for money. (But it does include exchange for money.) It includes an innovative moneyless exchange based around favours.

The sections following describe the social dimensions of the system the platform is intended to support, the overall architecture of the platform, its general features and with appendices for extended descriptions of the discussion system and exchange/trading system.

2 The social context

This platform is intended to support the rapidly growing movement of groups, organisations and individuals who are working to create sustainable communities at a local level, linked at larger scales. The key characteristic is the desire to collaborate within and across groups socially and economically.

Typically, as for example in the Transition Movement, local groups will set up an initiating group to engage in a series of awareness raising events for the public in their area. They will then form a set of theme groups to look in detail at such issues as food, transport, health, energy, local government, etc. They will look for help and co-operation from other similar groups locally and to national support organisations. The platform is intended to support all of these activities.

This raises communication needs at the local, regional and national levels.

Enhancing communications at a local level:

• The need for initiating groups and theme groups to communicate with their members and each other, to maximise synergy and handle problems and conflicts.

• The need to keep the local public informed of events, activities, initiatives and encourage engagement and involvement in them.

• The need for initiating groups and theme groups to find out the best and most efficient ways of doing things, learning from the experiences of others, avoiding problems by and through accessing public resources and most importantly through contact with relevant people who can help and advise.

*Within regions or cities where there are several or many local initiatives:*

• The need for nearby initiatives to keep abreast of what each other is doing, to enable them to work together where appropriate, share ideas, share resources, run joint activities, support each other

• The need for newly forming initiatives to get help in starting through the experiences of nearby initiatives.

Within a national context:

• The need to provide a public face for the network that is clear, informative and dynamic, presenting the changing events and activities of the movement.

• The need to create a library of resources to help newly forming and currently active local initiatives.

At all levels - exchange and trading

• The need to develop means of trading and exchange based upon personal relationship, mutual support not competition and environmental soundness.

• The need to put conventional, market-based exchange onto a more ethical basis, driven by well-being and community service rather than money and profit.
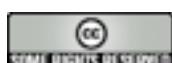
3 Overall architecture and requirements

Centralised or distributed?
A key issue is whether the platform should run on one centralised website or be decentralised at various scales. Centralisation offers simplicity in maintenance and upgrading. However, it also creates vulnerabilities and the possibility that the local is lost within it.

A major consideration is that many of the groups for whom this platform is aimed are already well advanced with their own communication tools, ranging from simple html websites, through CMSs like Drupal, Wordpress or Plone, to commercial systems such as Google groups and Ning. This creates a double challenge:

1. To create a system that can link to those existing sites that have the ability to give and receive feeds.
2. To be sufficiently attractive that at least some of the groups with existing sites will move over to it.

A major problem for software systems is the need for high-quality professional development teams, for ongoing technical maintenance and upgrading, and then for a social support team that supports and encourages the grassroots members to use the system effectively.

We propose a somewhat decentralised system where the existence of good technical and social support is the main deciding criterion for the scale of a local/regional site.

Resilience and linking
To promote resilience, we propose that each site should also function as a mirror for one or more other sites, organised so that every site has more than one mirror. This is to provide backup and re-building in case of difficulties.

• Sites should mirror the other sites with whom they are most likely to exchange feeds of content.
• The particular feeds selected are to be decided at the level of individual groups and sub-groups within a site.

Site architecture
Each site should be structured as a recursive set of portals, all with a similar structure and function, each supporting a group, sub-group, sub-subgroup, etc, with the lowest levels being the portals of individual users. Thus the home page would appear as a portal for the overall group, and it would prominently list the sub-groups, which themselves would appear semi-autonomous. The overall home page might belong to a national group, regional group, or local group (if it were sufficiently active and had sufficient support).

To create a sense of local ownership at each level of group,
• the home page of that portal would include summaries and links to recent content created by the group (ex. events, news, new pages, documents, media, discussion items, exchanges, etc.)
• the portal would be somewhat customisable, perhaps through an individual logo, choice of colours, choice of content types and feeds to be displayed.

- the navigation system would display the content at that level, but with some links to larger-scale levels.
- It would be desirable to create urls at the level of each group that are subdomains of the higher level: i.e. http://sub-group.group.overallsite.org.
- all content in that portal would be created by members of the group or would be feeds from other places as determined up by the group.

Usability

Our intention is that larger numbers of people will use the platform, many of whom will have relatively little technical sophistication. Thus great attention must be paid to its usability both for casual browsers and people creating content.

For ordinary users creating content there should be simple templates with only the most essential commands, and for ordinary users administering groups there should be simple administration pages to manage them (delete, assign permissions).

4 Overall portal specification

Group areas

At every level, members of a group would be able to create/add a range of standard types of content, such as those in many common CMSs such as Plone or Drupal:

- event listings with an optional calendar display
- news listings in blog format
- images, audio, video (the latter two may possibly simply be embedded from external sites such as YouTube or MySpace)
- descriptive pages that include rich text formatting, images, tables, links
- folders to group content where desired
- file storage for common access
- map pages

In addition, there are some special types of content:

- A discussion system enhanced to encourage people to come to agreement, to promote collaboration. See description below.
- Exchange/trading system designed to promote exchange on a basis of personal relationship, integrity, quality, need, and environmental soundness rather than simply for money. (But it does include exchange for money.) It includes an innovative moneyless exchange based around favours. See description below.
- Organisational support such as group editable pages (wiki), a list of members with fields for roles and responsiblities, a template for lists of agreements, task trackers.

Individual user areas

Individual users should be identified with a user name that normally would be there real name and an avatar. Clicking on either should link to their profile page.

An individual's profile page include a description of them entered through a set of fields including name, location, and a WYSYWIG editable field for general information.

They should be able to create the same types of content as a group, and the profile page should include lists of the content created by them, arranged by content type.

It should also include their exchange 'partners', as described in the exchange section below.

5 Discussion system

Good communication is what makes a community work together effectively. What is important is:
• that people are able to contact each other easily.
• that they know they have been understood and are able to come to agreement.
• that when their views diverge, they are able to resolve conflicts creatively, in ways that satisfy all parties.

Thus we are proposing communication tools that go well beyond standard email and online forums for this purpose.

In addition to the main online discussion tool (described below and in more detail in Appendix 1) we propose to provide
• group chat to allow online simultaneous meetings by groups using text
• telephone conferencing, to allow voice conferences by groups that are easier to attend than face-to-face meetings
• a community call centre, in which a published telephone number can be connected to people who take turns at being on call to provide immediate help or telephone connection to someone else who can help, in a range of different areas. (for example, technical help with computers, rides wanted, emergency help of some kind, etc.).

The need for moderators
Skillful facilitation is important in any group discussion that has a more serious purpose than casual chat, whether face-to-face or online. A good facilitator will help keep the discussion on track, ask leading questions to move the discussion on, make sure everyone is heard and acknowledged, and summarise important points and decisions.

At the Open University, with large numbers of students online working collaboratively, each small group had a moderator, who was trained in moderation skills. The moderators had a discussion which was well used and very valuable. If we expect our community discussions to work well, we will need to do something equivalent.

There will also need to be a well constructed set of help files, and pop-up hints created for users and especially for moderators.

Summary of features of the discussion system
This proposal builds on best practice in existing online forums and builds on long experience at the Open University:

• Flexible email notification of new messages but fullest display online.
• Discussions available wherever needed: in groups at all levels, in individual folders for small private discussions
• Simple linear chronological display, but with ways to display comments on given messages.
• Special message types: 'summary' messages, message type for 'sensitive' issues, and polls for checking agreement
• Clear indication of new messages in a discussion (since last logged in)
• Facilities to support moderators to keep discussions effective.

See Appendix 1 for a more detailed specification.

6 Exchange system

The essence of a Connected Community is people doing things for each other on an organised basis: seeing each other as partners rather than in competition or against each other. The exchange supports the practical, daily embodiment of this: helping people to obtain their food, transport, childcare, services, goods, etc. and enabling them to ask for help or support for themselves or for a group.

The exchange consists of 3 parts:

1. **Current listings** of offers and wants for money or as favours. These will be one-offs, short-term, or transitory. It could include such things as goods that are no longer needed that are offered for free (a Freecycle function), special offers from a business, help or services needed by an individual or group, etc.

2. the **Directory**, of shops, tradespeople, or other businesses made up of entries that record ongoing offers of goods or services. The entries may ask for monetary payment or may offer favours, perhaps only to specified people or groups. The entries may have feedback attached from previous recipients.

3. a **Partner Network**, which enables people to see their connection to others in terms of exchanges given and received. This is built out of a Feedback record system, containing acknowledgments for favours and other exchanges received and given. With it, if they are asked for a favour by someone they do not know, they can see if there is an indirect link: that person has done something for a group or a person that has done something for them, perhaps through more than one step.

See Appendix 2 for a more detailed specification of the exchange system.

7 Development process

The specification in this document is large and rich. Building it in full and then trying to recruit communities to use it is likely to be an expensive, slow and perhaps futile exercise. It is better seen as a vision, a pointer to possibilities. Implementing it should be a process working together with target communities, starting with some limited functionality, seeing what works for them, and building from there.

Ideally, this platform should be entirely an open source project, freely available to all with further development by whomever wants to do so. The most suitable starting point would thus be some well supported open source CMS like Plone or Drupal.

In practice, the starting points and development process are likely to be more pragmatic. We will need to investigate what existing platforms can easily put together a starting point that incorporates much of this specification and allows further development.

It may even be necessary to build prototypes out of commercial software such as Ning, with mashups to add extra features, as a quick start that tests the functionality.

At this stage, I welcome comments and suggestions, especially for suitable starting points and teams that want to implement this.

Appendix 1 - Detailed specification for discussion system

Overall structure:
The discussion system should consist of 'conversations' that in turn are made up of 'threads' that in turn are made up of 'messages'.

Conversations:
1. A conversation can be created by any registered user in the context of any group of which they are a member or the user's personal folder.
2. A conversation has a list of members. By default, the members of a conversation created in a group folder are all the members of that group.
3. Members of a conversation have rights to create new threads, write messages to existing threads, and edit and delete messages they have previously written.
4. The creator of a conversation is its owner. The owner has additional permissions to delete the conversation, to remove and edit threads and messages in threads, and to remove members.
5. The owner of a conversation also can create and remove additional owners, and can create and remove 'moderators', who are members with additional permissions to remove and edit threads and messages in threads, and to remove members. (So there are three classes of member: owner, moderator, member.)
6. A conversation is normally visible to anyone who can access it, whether or not logged in, but non-logged in users cannot write to it.
7. When a conversation is created, the owner can adjust the usage and membership: it can be made private, so it can only be viewed by users who are members of the group containing it. If it is created in a group folder, it can be made open to other groups. If it is created in the owners personal folder, the owner can specify groups or individuals to whom it is open.
8. Upon creation, a conversation should be given a short description.
9. Display of a conversation: A conversation should be displayed on a portal-like front page of the place where it is created: a group folder, or a user's personal profile page. Each conversation displayed should first show the owners' avatar, its description and creation date. It should then show a sequence of small avatars of the members who have created messages in it, in order of most recent contribution, up to a maximum limit of members. It should then show lines giving summaries of each thread (see threads).
10. Before the list of threads there should be an 'add new thread' button, which should appear greyed out to users without suitable permissions (i.e. not logged in, or not in group).
11. Upon creation a thread should be automatically created called 'moderation' which is visible and writable only to members who are moderators or owners.

Threads:
1. A thread has a creator, a creation date, a subject and an initial message. (Individual messages that make it up do not have their own subject.)
2. The creator of a thread has no special privileges in it. Only moderators and owners have additional privileges.
3. A thread can be displayed as a summary (in the display of a conversation) or in full.

4. The summary display of a thread should include its subject and creation date, the number of messages, the avatar and date of the most recent message.
5. For logged in members of a conversation, the summary display of each thread should be preceded by the number of messages that were created since their last login, to give an indication of how much new content has been added.
6. The full display of a thread should consist of a linear, chronological sequence of the messages in it, oldest first, so it can be read in sequence. For logged in members, there should be a suitable symbol in front of each message added since they last logged in so they can easily scroll to what is new.
7. At the beginning of the full display there should be buttons for 'new message' and 'delete thread', which should be greyed out for users without suitable permissions. (For other controls, see below.)

Messages:
1. Messages have creators, creation dates, and a body.
2. When a message is created or edited a standard WYSIWYG editor such as Kupu, TinyMCE or FCKeditor should appear, but with a fairly limited set of styles.
3. In addition, the editor should have buttons for three types of special message: 'summary', 'poll', 'sensitive', intended to promote convergent conversations, where people are encouraged to come to agreement.
4. A 'summary' message, is an ordinary message, indicated in some fashion, such as a different coloured border. It's use (purely social, no attempt to enforce it through software controls) is to summarise recent messages. Thus users wishing to get an overall sense of the thread can scroll through, looking for the summaries. At the head of a thread should be a 'show summaries' button, changing to 'show all' when pressed. When pressed, all messages that aren't summaries should be greyed out to make summaries stand out clearly.
5. A 'sensitive' message is meant to used in situations where there is an actual or possible conflict between users. It is an ordinary editable message with three fields defined headed, respectively: 'Your view as I understand it', 'Where I agree', 'Where I disagree'.
6. New messages in a thread can be created simply as an addition to the thread, or as a comment on an earlier message in the thread. Each message should have a 'comment on this' button (greyed out if the user doesn't have suitable permissions.) Messages that are comments are still displayed in linear, chronological sequence.
7. Each message should have a 'display comments' button, greyed if there are no comments. Pressing it should grey out all subsequent messages that are not comments on that message, making them stand out. (It should change to 'display all' when activated.)
8. Quoting text: If a user selects text either in the initial message of a thread, or any other message, the new message created will include that selected text, indicated stylistically as a quotation.
9. Each message should have a 'report to moderators' button (greyed out to those without suitable permissions). When pressed, an editor should appear with a field headed 'reason for reporting this message'. When sent, the message will appear in the moderators thread.

Email notification
Email is still the dominant application for most people, many of whom don't check it that often, and would not be likely to check a website to find out if there are new messages in a

conversation. Thus, we need to offer an option of email notification of new messages in an online discussion.

1. There should be a control at the level of a conversation and each thread saying 'email on off' with the 'on' and 'off' buttons highlighted as appropriate.
2. Switching email on at the level of a conversation switches it on for all threads in that conversation and for all new threads created. Switching email off on a thread overrides this. If email is off for a conversation, it can be switched on or off for each thread separately.
3. If email is on for a thread, then when a new message is created, a mail message is sent to that user that includes the full body of the message. The sender of the message should be the creator of the message, the subject should be the subject of the thread. The body of the message should be preceded by a statement such as "You have requested email notification of this message. You can see it in context, reply to it, or switch off email notification at: [URL]." The body of the message should then follow.

Appendix 2 - Detailed specification of the exchange system

Preamble:

The essence of a Connected Community is people doing things for each other on an organised basis: seeing each other as partners rather than in competition or against each other. The exchange supports the practical, daily embodiment of this: helping people to obtain their food, transport, childcare, services, goods, etc. and enabling them to ask for help or support for themselves or for a group.

It is designed to promote exchange on a basis of personal relationship, integrity, quality, need, and environmental soundness rather than simply for money. (But it does include exchange for money.)

The major innovation of the exchange is that it sets up a system of money-less exchange based around 'favours', which, unlike a currency, are not measured or denominated. This is a simpler alternative to complementary/community/local currencies that are denominated in hours or arbitrary units. Favours are acknowledged with feedback and recorded so that people's contributions to each other, to a group or organisation or to the community can be seen and appreciated. [Appendix to be written fully explaining and justifying this.]

Where conventional social networking sites have 'friends' with no real function other than some sort of play, with the exchange we have 'partners', people who do 'favours' for each other. Through the exchange in a connected community you can build up a network of people for whom you have done favours (directly or indirectly) and from whom you can reasonably expect favours in return.

An important function of the favours-based exchange is to encourage voluntary contributions to a group or the community, as these will be recognised with feedback.

To improve conventional (money-based) exchange the exchange provides a Directory of local services and businesses that includes opportunities for customers to post feedback, recommendations and reviews. Customers can post Feedback indicating satisfactory completion of a transaction. Also, Directory entries should include some way of commenting/indicating environmental soundness and community participation. Note that this is a directory only, not an online trading system. Contacting, agreeing, carrying out the transaction and paying for it are outside of the system.

A secondary purpose of the exchange is to create a social mechanism for promoting integrity and quality in transactions and to handle disagreements and conflicts. For this to work effectively, the exchange needs to be supported by a team of mediators. The feedback of transactions, whether favours or paid, must either be positive or if not, should be passed through the mediation team.

Overall structure

The exchange consists of 3 parts:

4. **Current listings** of offers and wants for money or as favours. These will be one-offs, short-term, or transitory. It could include such things as goods that are no longer needed that are offered for free (a Freecycle function), special offers from a business, help or services needed by an individual or group, etc.

5. the **Directory**, of shops, tradespeople, or other businesses made up of entries that record ongoing offers of goods or services. The entries may ask for monetary payment or may offer favours, perhaps only to specified people or groups. The entries may have feedback attached from previous recipients.

6. a **Partner Network**, which enables people to see their connection to others in terms of exchanges given and received. This is built out of a Feedback record system, containing acknowledgments for favours and other exchanges received and given. With it, if they are asked for a favour by someone they do not know, they can see if there is an indirect link: that person has done something for a group or a person that has done something for them, perhaps through more than one step.

Current Listings
1. A summary list of current listings should appear in several places:
    1. On the front page of the portal there should be a limited number of entries, including the most recent urgent wants, and the most recent other additions.
    2. In a dedicated Listings folder, similar to the front page but with more entries displayed by default.
    3. In a Group's front page, but restricted to entries indicated as visible only to that group.
    4. On a user's home page, but restricted to listings the user has created.
2. The summary list should be displayed as a table that enables a choice of displays: ordered by date available, by name of person entering it, by urgency (i.e. listings marked urgent first), by key word clickable from a tag cloud, through a search field.
3. The summary of a listing should include:
    1. date available
    2. name and avatar of creator linked to their profile,
    3. offered or wanted,
    4. favour or paid and if paid, a price,
    5. option of 'urgent',
    6. a descriptive title with a small character limit,
    7. a thumbnail picture.
4. The summary listing should be accompanied by a tag cloud of key words of the listings included.
5. The summary listing should include buttons
    1. to go to a separate page with the complete, or longer summary table of listings
    2. to allow a user with suitable permissions to add a new listing. Activating this should open a template allowing creation of the full listing.
6. Full display of a listing: Two possibilities should be considered: 1) That a full listing be displayed on a page of its own or 2) That a listing in full should be displayed in place, with the following listings sliding down to make room for it when it is selected.
7. The full listing consists of the following fields to be filled out by the creator:
    1. The name and avatar of the creator should be inserted by default,
    2. Categories: Key words displayed as a tag cloud.

3. Time limits of availability: A choice between various times, probably with a maximum of one year, and 'until date....' with available now as the default.
4. Quantity limits: Unlimited, or number.
5. Contact information: (phone, email, address)
6. Availability: (ex: direct from address, through shops, markets, mail order, etc.)
7. Display to: all, specified group(s).
8. General description. This should be a full WYSIWIG editable field, with formatting, pictures, links.
9. Field for 'Comment on environmental soundness' (or equivalent).

8. Listings created in a group folder are a special case. In addition to being offered by an individual they should offer the option of coming from the group as a whole although they are created by a member of the group. This enables people to give to or receive from a group, or the overall community, and be acknowledged for that.

The Directory and its Entries
The most important aspect of the Directory is ease of finding relevant entries when people have specific interests, but the default view should also present some serendipitous entries such as recent additions or changes.

1. The Directory displays a tabular summary view of entries, which contain links to each full entry.
2. The summary view of an entry should contain some keywords or categories, the name and avatar of its creator, a location, a title, a short description (limited number of characters).
3. The table of summary views of entries should be displayed with a heading row that gives display options in each column. So clicking on the keyword column orders the entries in alphabetical order of keyword (or reverse alphabetical order), and similarly with name of creator, location, title.
4. Searching: a 'live search' facility should be included, with entries appearing as letters are typed in. Alternatively, the search results should appear in the same format as the full summary table. A third alternative should be a tag cloud of keywords.
5. The directory entries should be displayed in full on their own page, with facilities for feedback (see below).
6. The directory entry should start with the summary view, and be followed by a body consisting of fields for:
    1. Contact information: phone, email, address, map
    2. General description. This should be a full WYSIWIG editable field, with formatting, pictures, links
    3. Fields for the creator to put in comments on environmental soundness and community connection, with suitable instructions.
7. Once published, a directory entry should have a button to enable people to create comments on their experience with that business.[To be elaborated]
8. When creating a directory entry the creator should be able to specify its visibility: i.e. to all, to specified groups.

The Partner Network
[Note: I see this as both the least formed and the most important part of this specification. I need people's reactions to the concepts and the terminology.]

The Partner Network is meant to create a direct sense that people are connected and support each other in practical ways. It is also meant to encourage them to be clear that transactions, whether favours or for money, have been completed to mutual satisfaction.

1. For each participant in the exchange, there should be a personal partner network that consists of a set of other participants and for each of those, a set of transaction records. Each transaction record gives a summary of a past transaction between the two participants.
2. A person's current set of partners should be displayed on their public profile page. For each, clicking on the avatar or name should link to the partner's profile page.
    1. For each partner there should be an avatar and a name, a 'satisfaction rating' which is the average of the satisfaction ratings for all the transactions with that person, and a button that displays the set of transaction records for that partner.
    2. They should be able to be listed either in order of most recent transaction or by name, up to a specified number of entries. There need to be mechanisms to find those not shown in the default listing, including a live search, and 'view more' control.
3. A transaction record describes the results of a transaction which might either be a favour (done without monetary payment) or something done for monetary payment. It may be the outcome of a Current Listing offer or want, a listing in the Directory, or completely independent of these.
    1. Controls to 'create a transaction record [better terminology?]' should appear both in the Current Listings and the Directory.
    2. A control to create a transaction record should also appear with the partner listing, to enable records of independent transactions to be created.
4. A transaction record should include the following fields:
    1. The person giving and the person receiving
    2. Whether this was a favour or for money, and if the latter, how much.
    3. The date
    4. Brief description of the transaction (limited number of characters).
    5. Fields for both people to record their satisfaction, on a simple scale (1-5, 1-10?) or a star rating.
5. When creating a new transaction record as much information should appear by default as is possible from the context: giver, receiver, description, favour/money. If there are no previous transactions between the creator and the other person, then that other person is added to the set of partners.
6. Transaction records can be created by the giver or receiver but displayed in the partner records of both. When completed by one, a message should be sent to the other inviting them to complete their satisfaction rating.