Libre Services:
Projects for Bootstrapping

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A component of the *Libre Service Manifesto*

This article is one of a broader series articles that we refer to collectively as the *Libre Services Manifesto*. Together these articles describe every aspect of the Libre Services model.

The complete collection of articles is available at:
http://www.LibreServices.org/manifesto/access.html

The *Libre Services Manifesto* is also available at the Free Protocols Foundation website at:
http://www.FreeProtocols.org/libre/manifesto/access.html

This article is available in multiple file formats, including HTML, PDF and PostScript. You can view or download the article in any of these formats from: http://www.libreservices.org/libreManifesto

Contents

1 Introduction **1**

1.1 A project-based model for participation . . . 1

1.2 Immediate mission-critical projects . . . 2

1.3 Next stage projects . . . 2

2 Libre Services Manifesto **3**

2.1 Project description . . . 3

2.2 Priority and schedule . . . 3

2.3 Project sponsor and manager . . . 3

2.4 Project status . . . 4

3 Libre Services Forum **5**

3.1 Project description . . . 5

3.2 Priority and schedule . . . 5

3.3 Project sponsor and manager . . . 5

3.4 Project status . . . 5

4 First-generation Libre Service Engines **6**

4.1 Project description . . . 6

4.2 Priority and schedule . . . 6

4.3 Project sponsor and manager . . . 6

4.4 Project status . . . 6

5 Emacs Office Environment (EOE) **8**

5.1 Project description . . . 8

5.2 Priority and schedule . . . 9

5.3 Project sponsor and manager . . . 9

5.4 Project status . . . 9

6 Libre Mobile Messaging (Operation WhiteBerry) **10**

6.1 Project description . . . 10

6.2 Priority and schedule . . . 11

6.3 Project sponsor and manager . . . 11

6.4 Project status 11

7 Libre Community WiFi **12**

7.1 Project description 12

7.2 Priority and schedule 12

7.3 Project sponsor and manager 12

7.4 Project status 12

8 Libre School (Operation WhiteBoard) **13**

8.1 Project description 13

8.2 Priority and schedule 13

8.3 Project sponsor and manager 13

8.4 Project status 13

9 LSIP software development & documentation **14**

9.1 Project description 14

9.2 Priority and schedule 14

9.3 Project sponsor and manager 14

9.4 Project status 14

10 Foreign language translations of the *Libre Service Manifesto* **15**

10.1 Project description 15

10.2 Priority and schedule 15

10.3 Project sponsor and manager 15

10.4 Project status 15

1 Introduction

In a previous article we have introduced the concept of **Libre Services**, a non-proprietary model for delivery of Internet services.

For a general description of Libre Services and how we propose to turn it from concept into reality, see the article titled *Libre Services: A non-proprietary model for delivery of Internet services*.

The scope of work required for this is far too large to be undertaken by any single organization acting alone, and can only be accomplished as a collective effort by many organizations and individuals.

The key to enabling this collective effort is a coherent framework for participation.

1.1 A project-based model for participation

As part of our strategy for bootstrapping the Libre Services industry into existence, we have established a project-based model for collaborative participation.

We have defined a set of projects representing the major stages of work required to move this initiative forward. Each project is largely independent and self-contained, and ready to be undertaken by an interested group or organization immediately. This project-based model allows efficient, coordinated collaboration on multiple bootstrapping tasks in parallel.

Each project is defined in the form of a Project Document. This provides complete details about the project, including:

- The project title.
- The project description. The project concept and a detailed project specification, including the required project deliverables.
- The project context. How the project fits into the overall Libre Services bootstrapping strategy.
- The project priority and proposed schedule
- The project sponsor. The organization or agency providing financing for the project.
- The project manager(s).
- The current project status.

This article lists the currently defined projects and provides a Project Document for each one. The list of projects and their status is a dynamic thing, changing over time as this initiative moves forward. We will update this article regularly to keep it current.

Note: The current (April 10, 2006) version of this article includes only preliminary descriptions of the first set of projects. We will provide more complete and detailed Project Documents in the next revision of this article, coming soon.

We invite and encourage participation by others in this ambitious initiative. If you are interested in taking responsibility for or working on any of these projects, please contact us directly at the Free Protocols Foundation.

1.2 Immediate mission-critical projects

The following are the three most important mission-critical projects. These tasks have the highest priority and must be accomplished as quickly as possible to move this initiative forward.

- The *Libre Services Manifesto*.
- Libre Services Forum (LibreService.org distribution center).
- First-generation Libre Service Engines.

1.3 Next stage projects

Other currently defined projects are the following. Though of lower priority, all these projects are ready for immediate implementation.

- Libre Emacs Office Environment (EOE)
- Libre Mobile Messaging (Operation WhiteBerry)
- Libre Community WiFi
- Libre School (Operation WhiteBoard)
- LSIP software development & documentation
- Foreign language translations of the *Libre Service Manifesto*

2 Libre Services Manifesto

2.1 Project description

The *Libre Services Manifesto* is the fundamental defining document for the Libre Services model, providing a comprehensive description of every aspect of the model. It will include the following major content:

- **Conceptual definition**. Underlying philosophy; historical background; technological context; benefits to society.
- **Bootstrapping strategy**. An explicit description of how Libre Services will be moved from concept to reality. Viability of Libre Services from both engineering and business perspectives; required resources; models for collaborative development and business deployment.
- **Criteria for Libre Services branding**. A definitive set of criteria for what constitutes a Libre Service. Just as the GPL defines free software, a precise definition is required for Libre Services. This allows providers to brand their service unequivocally as a genuine Libre Service, and prevents proprietary service providers from claiming this brand.
- **The Libre Services Social Contract**. Libre Services will be based on a written social contract. In the same spirit as the *Debian Social Contract*, this will consist of a set of ethical commitments made by Libre Services developers towards the free software community and the public.
- **Libre Services reference model**. Definitions of terminology; how Libre Services relates to existing technology and practices; general software architecture; definitions of usage models; definitions of the franchise and other delivery models.

It is anticipated that the *Libre Services Manifesto* will take the form of a series of articles, each of which stands on its own and can be read independently of the others.

The *Libre Services Manifesto* will be published electronically at the LibreServices.org website. In addition it will be published as a physical book with an ISBN number.

2.2 Priority and schedule

The *Libre Services Manifesto* is an essential requirement for communicating the concept to others. It is a highest-priority mission-critical project.

The manifesto is scheduled to be largely complete by March 2007.

2.3 Project sponsor and manager

Initial work on the *Libre Services Manifesto* has been started by the Free Protocols Foundation.

We are currently seeking sponsors to complete this work.

The current project manager is Andrew Hammoude.

2.4 Project status

The first article, *Libre Services: A non-proprietary model for delivery of Internet services* is complete.

The second article, *Libre Services: Projects for bootstrapping* (the present article) is in progress.

All other articles remain to be written.

3 Libre Services Forum

3.1 Project description

The Libre Services Forum at LibreService.org is the central framework and resource center for collaborative engineering development. It will provide various resources to assist organizations and individuals who wish to participate in the Libre Services movement. These will include:

- **Information**. The *Libre Services Manifesto*, links to related websites, project areas currently undergoing development, etc.
- **Software repository and distribution centers**. A central repository and distribution point for Libre Services software. The software repository will include automated mechanisms to allow developers to access and retrieve software components in both source and binary form, and resubmit modified software back into the repository.

  LibreServices.org will be the distribution center for all FPF-sponsored Libre Services software. Other developers may also use LibreServices.org as the distribution point for their software; alternatively they may use their own website for this, or they may use LibreServices.org as a mirror repository for their own website.
- **Policies and procedures**. Definitions of the policies and methodologies to be used for effective and orderly collaboration.
- **Communications**. Automated mailing lists, discussion forums, and other facilities for communication. These will include a general interest mailing list, a mailing list oriented towards engineering development, and a mailing list oriented towards business development. These will provide a means for organizations and individuals to announce their participation in Libre Services projects, seek out partners, and coordinate cooperative effort.

3.2 Priority and schedule

The Libre Services Forum is an essential requirement for the success of this initiative. It is a top-priority mission-critical project.

A schedule for this project has not yet been established.

3.3 Project sponsor and manager

We are currently seeking sponsorship for this project.

A project manager has not yet been assigned.

3.4 Project status

All the above capabilities remain to be implemented. We have established the LibreServices.org domain, and put in some descriptive placeholder text. But all the above structures and mechanisms remain to be built.

4 First-generation Libre Service Engines

4.1 Project description

Libre Service Engines are a key technological component of the Libre Services model. A service engine is a complete, fully integrated package of service features and capabilities, ready for deployment and delivery by a service provider. It is part of the definition of a Libre Service that such an engine exist, ready for deployment without requiring any further software integration work.

As described below, a starting-point set of reference service engines has been created. However these are far from being complete and mature enough for deployment as usable services.

The goal of this project is to create a complete and coherent set of service engines, ready for deployment as usable first-generation Libre Services.

4.2 Priority and schedule

First-generation Libre Service Engines are an essential requirement for the success of this initiative. This is a top-priority mission-critical project.

A schedule for this project has not yet been established.

4.3 Project sponsor and manager

This project is currently being financed by the Free Protocols Foundation.

The current project manager is Mohsen Banan.

4.4 Project status

Substantial architectural and engineering development work has already been invested in this project.

We have done the intellectual work to define the requirements for a coordinated set of services, allowing highly generalized interactions among each other. We have identified the key abstractions that must be represented within such a set, including such things as individual persons, businesses, physical locations, and events. We have then designed a family of services to represent these abstractions, and to allow rich and complex interactions among them. The result is a coherent and powerful model for generalized Internet services.

Based on this general conceptual architecture we have created an initial set of starting-point Libre Service Engines. These include service engines to provide the following functionality:

- A service for named individual persons.
- A service for individual persons referred to by a numerical ID, and allowing usage via numeric devices.
- A service for individual persons referred to by an alias.
- A service for preserving the memory of deceased individual persons.

These are reference implementations only, not yet ready for deployment as usable services. They are available for examination, evaluation and reuse by the software engineering community, and provide a starting-point for collaborative engineering development.

In addition to bringing these service engines to maturity, it will be necessary to create service engines based on the other abstractions and usage models in our general conceptual architecture. These include services based on the generalized abstraction of business entities, physical locations, and events; services for publication of information; and services allowing complex interaction among the various types of abstracted entities.

5 Emacs Office Environment (EOE)

5.1 Project description

About Emacs

Emacs is a highly sophisticated text editor, and much more besides.

Emacs contains an entire Lisp system inside it. It includes a Lisp interpreter, and most of its functionality is written in Lisp. For this reason Emacs is highly customizable and extensible—almost any part of its functionality can be modified, and additional functionality incorporated, by editing and/or writing Lisp code.

Though originally conceived as a program editor, Emacs has now evolved into something much bigger. It has been extended to provide many programming and general productivity features, such as facilities to run compilation subprocesses, and a complete integrated e-mail system.

The functionality of Emacs has been extended to the point that it now provides a very rich and complete environment for general purpose computing. In effect it has now become a complete user environment.

Many software professionals now do almost all their work inside Emacs. No longer just a program editor, it is now more accurate to refer to Emacs as an **editor-based user environment**.

Emacs as the user environment for Libre Services

Emacs remains largely the province of the sophisticated technical user. However it has the potential to become a much more widespread tool for sophisticated users everywhere.

As discussed in the article titled *Libre Services: A non-proprietary model for delivery of Internet services*, users interact with services via a user environment on their own computer. This is typically a web browser running under Windows.

The goal of this project is to establish Emacs as a complete user environment for interaction with Libre Services. We call this the *Emacs Office Environment*, or EOE.

All computer users require a basic set of office services and productivity tools. These office services includes such things as e-mail, time management tools, on-line dictionary, thesaurus, personal phone book, and corporate phone book. These are common requirements, independent of the user's particular profession and work environment.

Using Emacs as a general-purpose environment for all of these services provides several important advantages:

1. Uniformity of access to office services through a consistent user interface across many diverse hardware and software platforms.
2. Hardware/software vendor independence.
3. High degree of openness and extensibility
4. Highly integrated and consistent.
5. Portability.
6. Conservation of skill sets.

Emacs runs on hundreds of hardware and software platforms, including almost all versions of UNIX.

Technical requirements

The standard distribution of Emacs must be augmented to a complete office environment.

What is needed to accomplish this is a set of cooperating software components that are available on various FTP sites on the Internet.

5.2 Priority and schedule

This is a medium-priority project.

A schedule for this project has not yet been established.

5.3 Project sponsor and manager

We are currently seeking sponsorship for this project.

The current project manager is Mohsen Banan.

5.4 Project status

Initial work on EOE has been started by the Free Protocols Foundation.

A starting point has been established. EOE now needs to be packaged and subjected to wider usage.

6 Libre Mobile Messaging (Operation WhiteBerry)

6.1 Project description

The mobile messaging landscape

The mobile messaging landscape of today is dominated by a number of closed and proprietary solutions, such as the well-known BlackBerry system.

The components of these competing systems do not interoperate, and they cannot build on each others assets. The result of this is the fragmentation of the mobile messaging market into a number of isolated islands of consumers, each limited to a particular closed solution.

All these closed solutions are heavily defended by patents, and competition among them often takes the form of aggressive patent litigation. We have already seen a number of highly public patent fights between RIM and various other litigants.

Operation WhiteBerry

These costly and embarrassing patent fiascos are an inevitable consequence of the existing closed and patented competitive environment. In the long run the existing situation is is untenable. Sooner or later the industry must abandon the closed competitive model, and instead adopt a single set of open protocols that guarantee industry-wide interoperability.

In a previous article we have described how equivalent mobile messaging functionality to the existing closed systems can be provided in the form of a completely open solution, based on existing protocols and technologies. For complete details see *Operation WhiteBerry: Creation of a truly open mobile messaging solution*, available at:
http://www.leapforum.org/operationWhiteberry/index.html

The key component of WhiteBerry is a set of open mobile messaging protocols. These exist already, are complete, fully satisfy all necessary technical requirements, are truly open and patent-free, and have been published as RFCs.

An open paradigm is the right model for the mobile messaging industry. An open industry model provides the greatest benefit to the end user and the industry at large, by allowing free market entry and competition at any point within the mobile messaging solution domain. This in turn results in greatly increased business opportunities, more and better solutions for the end user, and unrestricted industry growth.

Libre Mobile Messaging

The WhiteBerry solution requires implementation of the protocols in both end-user devices (the front end) and message centers (the back end). In particular an Internet service must be created to support WhiteBerry users.

The WhiteBerry service can be implemented using end-to-end free software. Thus the end-user device can run entirely on free software, and the message center service can be implemented entirely in free software—in other words it can be a Libre Service. We refer to such an implementation of WhiteBerry as **Libre Mobile Messaging**.

Scope of project

The purpose of this project is to create the WhiteBerry back-end service.

The evolution of PDA software is already moving towards a free software implementation, and we expect that eventually end-user devices will run on pure free software. The scope of this project is limited to the back end only.

As described below, the WhiteBerry solution has already been implemented in the form of message center software. The goal of this project is to turn the WhiteBerry message center software into a complete Libre Service.

6.2 Priority and schedule

This is a medium-priority project.

A schedule for this project has not yet been established.

6.3 Project sponsor and manager

We are currently seeking sponsorship for this project.

A project manager has not yet been assigned.

6.4 Project status

Open-source software implementations of the WhiteBerry solution are already available for all major device and message center platforms.

Reference Procotol Engines have been implemented in the form of portable code, which has been ported to a wide variety of platforms and end user devices. On the device side, software has been implemented for pagers and cell phones; for palmtop devices (Windows CE, Pocket PC, Palm OS, EPOC); for Windows 2000, Windows 98/95, and Windows NT; and for Pine (UNIX, Windows, DOS). On the message center side, software is available for Windows NT, Solaris, and Linux.

All this software is freely and publicly available at the **MailMeAnywhere** open-source software distribution center. The software is available as free software, subject to the General Public License (GPL). For complete details visit MailMeAnywhere at http://www.MailMeAnywhere.org.

7 Libre Community WiFi

7.1 Project description

WiFi is currently being deployed in a disorganized and *ad hoc* manner.

The evolution of WiFi is being driven primarily by commercial interests, and this is resulting in the deployment of isolated islands of WiFi connectivity.

A community-based WiFi model would enable much more widespread deployement, and would enable true WiFi mobility. We refer to this model as **Libre Community WiFi**.

7.2 Priority and schedule

This is a medium-priority project.

A schedule for this project has not yet been established.

7.3 Project sponsor and manager

We are currently seeking sponsorship for this project.

A project manager has not yet been assigned.

7.4 Project status

No work has been done on this project.

8 Libre School (Operation WhiteBoard)

8.1 Project description

The Libre Services model has an important application in the context of learning environments.

Schools (primary, high school, colleges and universities) have a particular set of computing and communications requirements. As well as the usual productivity tools, students, faculty and staff in a school environment also need specialized services for posting class schedules and class notes, turning in homework, automated grading, posting grades, etc.

Thus far the provision of these services has largely been based on the traditional hardware/software model, consisting of multiple PCs running proprietary software. Typically each student, teacher or classroom is provided with his/her/its own fully equipped desktop client PC.

This traditional model results in very high cost of ownership for both hardware and software.

The high cost of hardware ownership can be addressed by the ultra-thin client model. In this model the fully equipped desktop PC is replaced by a very simple I/O station running only a remote client application. The I/O station consists of little more than a display, keyboard and mouse, plus sufficient computing power required to run the remote client. The client application connects to a host application running on a server PC, which runs all the computing and communications services.

This ultra-thin client model greatly reduces the hardware costs for large-scale distributed computing.

Adoption of this centralized computing model has been held up by the lack of a suitable software environment to deliver the necessary services. The Libre Services model is ideally suited to satisfy this need.

We call the development of a specialized Libre Service for the school environment as **Libre School**, or **Operation WhiteBoard**. This model consists of the combination of the ultra-thin client hardware model, together with the Libre Services software model, thereby greatly reducing both hardware and software costs of ownership.

As a first step in this project we propose the definition of an additional abstract entity to represent the generalized abstraction of a student. This will be an extension of the abstraction of an individual person, with specialized attributes to cater to the specific needs of students.

8.2 Priority and schedule

This is a low-priority project.

A schedule for this project has not yet been established.

8.3 Project sponsor and manager

We are currently seeking sponsorship for this project.

A project manager has not yet been assigned.

8.4 Project status

No work has been done on this project yet.

9 LSIP software development & documentation

9.1 Project description

The Libre Services Integration Platform (LSIP) is a generalized framework for developing Libre Services. All the starting-point Libre Service Engines are based on LSIP.

LSIP is a consistent set of tools, policies and conventions for services development and deployment. It provides a uniform, disciplined environment for transformation of software into services, integration, and service aggregation. It is the basis for efficient integration of free software components into coherent services.

LSIP is a key technological component of the Libre Services model. It is the component that makes generalized, large-scale services development practical and efficient.

As described below, we have completed initial development of LSIP. The goal of this project is continued development, augmentation and documentation of LSIP.

9.2 Priority and schedule

This is a low-priority project.

A schedule for this project has not yet been established.

9.3 Project sponsor and manager

We are currently seeking sponsorship for this project.

The current project manager is Mohsen Banan.

9.4 Project status

We have done the initial engineering development work to create a starting-point, reference implementation of LSIP. LSIP is now sufficiently complete and mature for use as a general industry resource.

LSIP is available as free software licensed under the GPL. It is freely available for examination, evaluation and reuse by the software engineering community. It can be used as a reference implementation, or as a starting-point for continued engineering development.

The Free Protocols Foundation is actively continuing development of LSIP.

10 Foreign language translations of the *Libre Service Manifesto*

10.1 Project description

The *Libre Services Manifesto* is the fundamental defining document for the Libre Services model, providing a comprehensive description of every aspect of the model. The *Manifesto* is the natural starting point for anyone wishing to participate in the Libre Services movement.

Work on the *Manifesto* is currently taking place. The initial defining article, *Libre Services: A non-proprietary model for delivery of Internet services* is complete.

All *Manifesto* articles are initially being written in English. However, Libre Services knows no national boundaries, and it would be very desirable for the *Manifesto* articles to be available in other languages. The most important article to be translated is the initial defining article, *Libre Services: A non-proprietary model for delivery of Internet services*.

The purpose of this project is to create foreign language translations of this and other *Manifesto* articles.

10.2 Priority and schedule

This is a low-priority project.

A schedule for this project has not yet been established.

10.3 Project sponsor and manager

We are currently seeking sponsorship for this project.

The current project manager is Andrew Hammoude.

10.4 Project status

No work has been done on this project yet.