Defining Halaal Software
And Defining Halaal Internet Application Services

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Contents

1 The Need for this Definition **1**

2 This Essay is in Globish **1**

3 About this Document **1**

4 Introducing Halaal into Globish **2**

5 The Global Nature of Software **2**

6 Applying Halaal to Different Dimensions of Software **2**

7 Responsibilities of the Software Engineering Profession **3**

8 Requirements for Fulfillment of Responsibility **3**

9 The Halaal Manner of Existence of Software **3**

10 Abolishment of the Western Intellectual Property Rights Regime **4**

11 Halaal and Haraam in the Current Software Landscape **4**

12 Halaal Software versus Free Software **5**

13 The Transformation of Software into Services **6**

14 The Halaal Manner of Existence of Internet Services **6**

14.1 A non-proprietary model for Internet services 6

15 Autonomous Halaal Services **7**

16 Federations of Autonomous Halaal Services **7**

16.1 End-to-End Inter-Autonomous Relations 8

16.1.1 Credentials-Based Web Services 8

17 Halaal and Haraam in the Current Internet Services Landscape **8**

17.1 Collaborative Halaal: By* Federation of Autonomous Libre Services 9

18 Economic Consequences of Halaal Software and Halaal Services **9**

18.1 Revenue model for Halaal Software 10

18.2 Revenue model for Halaal Internet Services 10

19 The Halaal Software-Service Continuum **10**

20 Overview of the Full Picture: The By* Halaal Digital Ecosystem **10**

21 Colophon **11**

21.1 Our Halaal Software Tools 11

21.2 Our Halaal Internet Services 11

1 The Need for this Definition

We are Iranian Software Engineers. We are neither ethicists, nor philosophers, nor sociologists.

Our profession, the Software Engineering profession, has a responsibility to society and to humanity. In order to fulfill that responsibility, our profession needs and requires that the global manner of existence of software meet certain requirements.

Software and Internet Services have become an integral and critical component of societal functioning, and the consequences for humanity are enormous. Of fundamental importance in this regard is what we will call the *manner of existence* of software.

In this essay we introduce and define what we will call the *Halaal manner of existence* of software, and we assert this as the correct manner of existence of software for mankind, now and into the future. We require that society respect and embrace the Halaal manner of existence of software that we describe. If it does not, then our profession will not be able to provide the full beneficial potential of software and Internet services. Worse than this, we will not be able to protect society against the vast harm that can result from the incorrect manner of existence of software.

Based on our definitional criteria for Halaal software and Halaal Internet services, we have built a comprehensive set of Halaal Internet services that provide an alternative to the Haraam Internet services that dominate the world today. We seek your support in moving towards consensus on the definitional criteria of Halaal that we present in this essay. We seek your support in rejecting Haraam Internet services, and moving towards widespread usage of Halaal Internet services.

2 This Essay is in Globish

This essay is in Globish. It is not in conventional Anglo-American English.

See the document titled *Introducing Globish into Globish* [**?**] for a description of Globish. That document also includes references to other specific words and concepts relevant to this essay.

The intended audience for this essay is all of humanity.

Some of the concepts developed in this essay stand separate from American and Western values. Some of these concepts specifically reject American and Western values. Western readers need to pay extra attention, as many of their assumptions are likely not ours.

3 About this Document

The primary URL for this document is: `http://mohsen.1.banan.byname.net/PLPC/120041`. The pdf format is authoritative.

Distribution of this document is unrestricted. We encourage you to forward it to others.

This document is in its early stages of evolution and we plan to follow up with further updates and enhancements.

We can benefit from your feedback. Please let us know your thoughts. You can send us your comments, criticisms and corrections via the URL http://mohsen.1.banan.byname.net/contact, or by email to feedback@ our base domain, which is mohsen.1.banan.byname.net.

We thank you for your assistance.

4 Introducing Halaal into Globish

The software industry and Internet landscape of today has been established based entirely on the Western economic model.

One of the purposes of this essay is to place a focus on the moral dimensions of software and Internet services. We are asking a question completely separate from money. We are asking: what is right and what is wrong when it comes to software, society, and the software engineering profession.

The concept of halaal does not exist in the Western world. In Anglo-American English, the word halaal is loaded with connotation. More than anything else, it evokes immediate feelings of Islamophobia.

Not only is Anglo-American English weak in regard to expression of morality, but the culturally egocentric Americans (and Westerners generally) are allergic to the expression of morality by others.

Halaal is a fundamental, deep and broad concept among Muslims which addresses the question of right and wrong about everything and about all aspects of life.

The full richness of halaal and haraam are essential for building global consensus about basic issues such as the desired manner of existence of software. Our goal is to address the moral dimensions of software, and for this the concept of halaal is essential. Therefore Globish needs halaal, so that we can all have halaal software.

Readers whose culture does not include the concepts of Halaal and Haraam must first understand these concepts. See the document titled *Introducing Halaal into Globish based on Moral Philosophy of Abstract Halaal* [**?**] for a description and formal definition.

There is a sister essay to the present essay, written in Persian (Farsi) [**?**]. The two essays are not translations of one another. Rather the Persian essay is a treatment of the same topic, but written in the context of Islam and Iran. It also presents an initial formulation of national policy, based on Halaal manner of existence of software.

5 The Global Nature of Software

Thus far, the development and usage of software has been overwhelmingly dominated by Western values; most particularly, the Western proprietary model for ownership and control of software. But it is important to note that this ownership and control model represents only a Western value, not shared among the rest of the world.

Software is a digital construct, and therefore by nature it is a poly-existential [**?**]. Poly-existentials are multi-possessable and digital constructs are easily transmitable. The natural manner of existence of software is such that it can be possessed by everyone, everywhere. Models which do not recognize that software belongs to everyone, everywhere are unnatural.

So, if the manner of existence of software is halaal, then software engineers everywhere can globally collaborate in software development.

6 Applying Halaal to Different Dimensions of Software

There are three dimensions of software relevant to being considered Halaal or Haraam:

- Software manner of existence
- Software capabilities
- Software usage

Software capabilities and usage are not the topic of this essay. By software capabilities, we mean what the software is built to accomplish, for good or ill. Examples of software built for ill might be spying, tracking, invasion of privacy. By software usage, we mean how the software is used, regardless of its intended purpose. Consideration of what constitutes Halaal software based on capabilities and usage is primarily the domain of ethicists.

The topic of this essay is software *manner of existence*. What makes for Halaal or Haraam software manner of existence directly affects and involves the software engineering profession.

7 Responsibilities of the Software Engineering Profession

The software engineering profession has a responsibility to society. It is responsible for providing the full beneficial potential of software, and protecting society against the vast harm that can result from the incorrect manner of existence of software.

Here we are using the term "profession" in the way it is understood in the East.

The notion of a "profession" in the West consists of training and the acquisition of specialized skills, to perform specialized work, to create monetary income. The responsibility of a profession towards society at large does not factor significantly in this. Western society is mostly, if not totally, economically driven. The Western model of economically driven individuals existing within an industrial context considers only money and self-interest. Such broader concepts as society, profession, responsibility and respect are very weak in the Western model.

In the East the word "profession" carries a greater meaning. It includes the Western meaning of a specialized skill set to perform work of value to others. But it also includes an agenda of trust and responsibility. The professional person is entrusted by society to maintain guardianship over an important aspect of life. Based on proper execution of this responsibility, the profession is respected.

For me as an engineer it is only in Iran that I am called "Mr. Engineer Banan." That has never happened to me in America, Canada, England, France, or anywhere else in my travels throughout the Western world.

So it is in this Eastern sense that we are here speaking of "professional responsibility."

We are first-generation software and Internet engineers, and as such we have a unique responsibility to maintain the integrity of the Internet on behalf of the public. We stand at a technological inflection point, and what we do today, or do not do, will have a profound effect on the direction and evolution of the Internet for generations to come.

8 Requirements for Fulfillment of Responsibility

In order for the Software Engineering profession to fulfill its responsibility to society, we have certain requirements for the *manner of existence* of software.

For my profession to fulfill its responsibilities, the profession and society at large must respect and embrace the *Halaal manner of existence* of software.

We invite ethicists to participate in this fully, by formalizing the definition and convergence on this manner of existence.

As a starting point we propose the following as the definition of the Halaal manner of existence of software.

9 The Halaal Manner of Existence of Software

By "manner of existence" of software we mean everything relating to how the software exists within society. This includes but is not limited to:

- Is copying the software restricted by local law?
- Is copying the software restricted by other methods?
- Is use of the software restricted by local law?
- Is use of the software restricted by other methods?
- Is the software internally transparent?
- Is the software modifiable and enhanceable?

The following criteria are required for software to be considered Halaal, and so to allow the Software Engineering profession to fulfill its responsibility to society and humanity:

1. **Halaal Criterion 1**. Abolishment of any general restrictions on ability to copy the software.
2. **Halaal Criterion 2**. Unrestricted access by all (software engineers and all other users) to run the software, for any purpose.
3. **Halaal Criterion 3**. Unrestricted access by all software engineers to examine the software, study how it works, and change it. Access to the complete primary source code is a requisite for this.

10 Abolishment of the Western Intellectual Property Rights Regime

Halaal Criterion 1 demands rejection of the Western copyright regime.

Halaal Criterion 2 demands rejection of the Western patent regime.

The Western so-called Intellectual Property Rights regime is immoral and unethical in its entirety because it is in fundamental conflict with nature.

The West has used and continues to use the Intellectual Property Rights regime as an instrument of neocolonialism. By means of coercion and repetition the West has portrayed and continues to portray the Western Intellectual Property Rights regime as a universal law. But it is not. Other nations and societies throughout the world are free to define their own laws, based on their own values, and are free to submit to the Intellectual Property Rights regime, or reject it. The Intellectual Property Rights regime is a local law, conceived in the West, and now promulgated as global law. But global laws require global consensus, and in the case of Intellectual Property Rights, this consensus is absent. The idea that a local law originating in a local value system can be applied globally is nonsense.

See the essay titled *The Nature of Poly-Existentials: Basis for Abolishment of the Western So-Called Intellectual Property Rights Regime* [**?**] for an analysis and discrediting of the Intellectual Property Rights regime, based on the inherent nature of what it seeks to control and restrict.

For a description of the basis for rejection of the Intellectual Property Rights regime by ethicists, see *Iran's Theological Research on Intellectual Property Rights* [**?**].

Imam Khomeini's Fatwa in particular is succinct in declaring the fundamental invalidity of Western Copyright and Patent law.

11 Halaal and Haraam in the Current Software Landscape

Most people today use Microsoft software. Based on the above definition, Microsoft Windows is Haraam Software. This is because it is proprietary and closed source, and thus internally non-transparent.

Few people today use GNU/Linux software. Based on the above definition, GNU/Linux is Halaal Software.

12 Halaal Software versus Free Software

The defining criteria for free software are as follows. This is reproduced from http://www.gnu.org/philosophy/free-sw.html, current as of July 2011.

> Free software is a matter of the users' freedom to run, copy, distribute, study, change and improve the software. More precisely, it means that the program's users have the four essential freedoms:
>
> - The freedom to run the program, for any purpose (freedom 0).
> - The freedom to study how the program works, and change it so it does your computing as you wish (freedom 1). Access to the source code is a precondition for this.
> - The freedom to redistribute copies so you can help your neighbor (freedom 2).
> - The freedom to distribute copies of your modified versions to others (freedom 3). By doing this you can give the whole community a chance to benefit from your changes. Access to the source code is a precondition for this.
>
> A program is free software if users have all of these freedoms.

This definition is consistent with our own definition of Halaal software. So why have we taken the trouble to define Halaal software, when it turns out to be consistent with free software?

The reason is that the two definitions are ideologically different. They exist in ideologically different contexts, and this ideological difference is reflected in their phrasing.

The term "Free Software" was coined by Richard Stallman in the early 1980s in America. His culture and language lacked the word and "Halaal". So "Freedom" as the pinnacle of American values became the key word. The label "Free Software" has proven problematic in many respects. Free in English has two meanings, "gratis" and "liberty". For the public at large the "gratis" meaning is dominant, so the "Free Software" label never worked well. To address this, the word "Libre" has been introduced into Globish and "Free Software" and "Libre Software" have become synonyms. But, "Libre Software" is also not a good label because it does not focus on the ethical, moral and societal manner of existence of software. The focus of the label needs to be on morality and society. Once "Halaal" is properly introduced into Globish [**?**], the label "Halaal Software" will prove more crisp and more on the mark.

The free software definition exists in the context of Western copyright law, and implicitly accepts that as a reality. The key to free software is the GPL (General Public License), a form of licensing intended to preserve the four definitional freedoms. But this is of course a form of copyright, and so the free software definition resides within and submits to the Western copyright conventions.

The free software definition is rooted in the context of Western values and assumptions:

- It is centered on the individual (individual freedom), as opposed to being centered on society (ethics and morality). The concepts of profession and society are absent. The definition is based entirely on the individual, and the individual's freedom.
- It exists in the context of the Western Copyright and Patent regime. Freedom 2 and freedom 3 are written in response to this, and implicitly accept this as a reality. There is is no explicit assertion that the ability to copy is a natural law and a human right.
- It does not recognize the Software Engineering profession as a guardian. Freedom 1 makes no distinction between ordinary users (i.e. almost everyone), and software engineering professionals. The implication is that anyone can exercise freedom 1, without need for guardianship by the Software Engineering profession.

The Halaal software definition on the other hand makes no concession whatever to Western Intellectual Property Rights. We view the Western Intellectual Property Rights regime as a fundamental misconception, and fundamentally invalid.

While operating in countries where Western Intellectual Property Rights regime are law of the land and have deep roots, we subject our own work to the most stringent forms of the General Public License that is available.

While operating in countries where Western Intellectual Property Rights regime have not taken root or are not valid (e.g., China, Iran) we also work towards rejection and abolishment of Western Intellectual Property Rights regime and work towards requiring that all software entering the country and used is Halaal Software.

We invite our "Free Software" brothers and sisters to recognize that the "Halaal Software" model is a more complete model and that the "Halaal Software" label is a better label.

13 The Transformation of Software into Services

The success and widespread usage of the Internet has caused a major shift in the model for software usage. It is now common for software to take the form and be accessed in the form of Internet Services.

A rigorous definition of Internet Services includes a number of criteria and dimensions. For the moment we take this as a basic definition: **Internet Services** consist of *software execution accessed through a network*.

14 The Halaal Manner of Existence of Internet Services

The following criteria are required for Internet Services to be considered Halaal, and so to allow the Software Engineering and Internet Engineering professions to fulfill their responsibility to society and humanity:

1. Every software component included in the service must be Halaal software.
2. The software for the entire service must be Halaal software. The entire primary source code for the entire service must be available to all software engineers, so that the entire service can be reproduced.
3. All protocols used by the service must be transparent and unrestricted.

14.1 A non-proprietary model for Internet services

The above definition represents a non-proprietary model for Internet services.

The existing proprietary regime is the wrong model for provision of Internet services. Wrong in that it allows control of the service by the provider, and exploitation of the user's data, in a way that is detrimental and unknown to the user. The solution to this is an entirely different model for Internet services, where service ownership is placed squarely in the public domain.

We have formulated a radically new, non-proprietary model for delivery of Internet services. We call this the **Libre Services** model. In the document titled, *Libre Services: A non-proprietary model for delivery of Internet services* [**?**], we describe a roadmap for promoting widespread usage of Halaal services, as an alternative to existing Haraam services. Libre Services are an extension of the principles of free software into the Internet services domain. They are Internet services that can be freely copied and reused by anyone. Any company or organization can reproduce and host any Libre Service, either for its own use, or for commercial or non-commercial delivery to others. The Libre Services model exists in relation to the proprietary Internet services model of AOL, MSN, Yahoo and Google, in an analogous way to how GNU/Linux exists in relation to Microsoft Windows.

The Halaal/Libre model represents a negation of the existing proprietary ownership model. Specifically, it represents a complete rejection of patents and restrictive copyright as these apply to Internet services. These are business paradigms, advantageous to commercial interests, but acting against engineering creativity and the broader interests of society.

15 Autonomous Halaal Services

Internet services come in all shapes and sizes, serve all manner of purposes, and interact with each other and with societal entities in all manner of complex ways.

In some cases a service may be associated exclusively with a particular societal entity, such as an individual, an organization, or a corporation. Such entities enjoy a high degree of autonomy within society, and so we refer to these as autonomous entities. When a service is associated uniquely with particular autonomous entity, we refer to the entity as the owner of the service.

When a service is associated with a unique owner, certain characteristics of the service are of particular concern to the owner. The service may include information of a personal or private nature, and the owner may wish to ensure that his/her/its privacy is protected. It is also important that the service reflect and maintain the autonomy of the owner, providing parallel freedom of action to that which the owning entity enjoys at large.

Certainly, the privacy and autonomy of the owner are fully guaranteed if the owner exercises direct control over the functioning and provision of the service. In practice, an owner may or may not choose to exercise such direct control of the service. In many cases the owner of the service will leave the service provisioning in the hands of a second-party service provider. Nevertheless it is sufficient to guarantee the autonomy of the owner if the nature of the service is such that the owner could in principle take control of the service himself.

We define an **autonomous halaal service** as an Internet service associated with a unique owner, that the owner could in principle and at his option take control over and provide for himself.

As noted, in many or most cases the service will be provided by a second-party service provider, who runs and administers the service on behalf of the owner. The autonomy of the owner requires that he is in no way tied to this or any other service provider. The general societal autonomy of the owner means that for any other type of service—banking, legal, medical—the owner is free to move from one provider to another, leaving no trace of himself behind with the previous provider.

In the case of Internet services, similar principles apply. For a service to be an autonomous halaal service, it must satisfy the twin requirements of **portability**, and **non-retention**. Portability, meaning the owner can transport the entire service to a different service provider. And non-retention, meaning the previous provider must retain no trace of the owner's information.

Specifically, when a second-party provider is providing the service on behalf of the owner, the service is an autonomous halaal service if the provider meets the following requirements:

1. **Service and Data Portability**. At the instruction of the service owner, the entire service can be transfered to a different service provider. This could be another second-party provider, or the service owner himself.
2. **Service and Data Non-Retention**. At the instruction of the service owner, the service provider must destroy all service-related information (i.e. all owner data and log files).

16 Federations of Autonomous Halaal Services

Autonomous services may wish to engage in end-to-end interactions with other autonomous services. Preserving the integrity of such end-to-end interactions between autonomous services is the responsibility of the Software and

Internet Engineering professions.

Many interactions between autonomous services involve only the two interacting entities, with no other entities or services involved. However, some interactions between Halaal autonomous services require coordination by other Halaal services. Examples would be dating, auctions, classified advertizing, etc., where a non-autonomous service is required to enable participation by multiple autonomous entities. We refer to such enabling non-autonomous services as **federated services**, and we refer to the association of a federated service plus its subscribing autonomous services as a **federation of autonomous services**.

The Halaal aspects of functionality and usage of federations of autonomous services are primarily the domain of ethicists.

16.1 End-to-End Inter-Autonomous Relations

The purpose of a federation is to enable end-to-end inter-autonomous relations. Broadly speaking this encompasses two capabilities. The first is to enable the ends to find each other. The second is to enable complex and comprehensive transactions between the ends.

16.1.1 Credentials-Based Web Services

Current web services generally have two distinct modes. First, there is a public information access mode, whereby anyone can view the website information. Second, there is a privileged information access mode, subject to a login process.

This current services model leads to the creation of disjunct islands of service functionality. Competing islands are now being created indiscriminately, where interactions between people is controlled by the island owners. There is Facebook and there is Myspace, each an island, each controlled by the island owner, and many others. Haraam software and haraam internet services inevitably leads to the creation of islands. The proprietary model is island-oriented.

To enable equally convenient end-to-end Halaal inter-autonomous relations, the base of web services technology needs to be augmented so that privileged information access is enabled based on presentation of credentials by the browser.

This augmentation requires a trusted credentials infrastructure. Halaal federations are well positioned to build the necessary trusted credentials infrastructure. From that point enhancement of web services protocols can proceed in an evolutionary manner.

17 Halaal and Haraam in the Current Internet Services Landscape

The Internet has become a critical global resource, with far-reaching consequences for the welfare of society. But there is something amiss with the existing model for creation and delivery of Internet services. And as a result, there is something gravely amiss with the direction the Internet is presently taking. There is cause for concern.

Today the Internet Services industry is a proprietary construct, almost entirely owned and controlled by proprietary commercial interests. Google, Yahoo, MSN, AOL, YouTube, Facebook, MySpace, LinkedIn, and virtually every other Internet service—these are all for-profit proprietary American corporations, with no responsibility to the public welfare. This represents a significant hazard to the broader welfare of society. Under the existing proprietary Internet regime, critical societal freedoms are being seriously compromised by narrow commercial self-interests.

Today, the world is largely unaware of this. The public is completely oblivious to the perils of the proprietary Internet model, and happily entrusts its personal data, its privacy, its freedoms and its civil liberties to proprietary business interests. And the people whose responsibility it is to safeguard the public interest—government, and the engineering profession—are asleep at the wheel.

Based on the definition of Halaal manner of existence of Internet Services, Facebook is Haraam, Google is Haraam, Yahoo is Haraam, MSN is Haraam, and many others.

Some isolated and rudimentary Halaal Informational and Collaborative Services are Halaal Internet Services. For example Savannah can be considered Halaal because of Savane.

The grave danger presented by the existing proprietary Internet Services industry is beginning to be understood even by some Westerners. And primitive efforts to address this such as "The Freedom Box" are being initiated. But these efforts remain rooted in the individualistic Western model, and do not have the Halaal manner of existence of Internet Service as a guiding principle.

17.1 Collaborative Halaal: By* Federation of Autonomous Libre Services

The Halaal/Libre model is not just theory. We have built a set of real, working, demonstrable Libre Services. We call these the **By* Federation of Autonomous Libre Services**. By* (pronounced "by-star") is a unified services model, unifying and making consistent a large number of services that currently exist in functional isolation. It is a coherent, integrated family of services, providing the user with a comprehensive, all-encompassing Internet experience.

The By* Federation presently includes ByName, ByAlias, ByMemory and BySMB/ForSMB. In the works and coming soon are additional services for individuals (ByFamily, ByNumber), services for personal and business interaction (ByWhere, ByEvent, ByTopic, ByInteraction, ByLookup, ByHookup), and software distribution services (BySource, ByBinary).

The By* services are based on 100% free software and patent-free protocols, and are thus completely transparent and reproducible by anyone. They are a communal public resource, not owned by anyone, freely available for use by society at large. Their widespread deployment and usage is in the direct interests of the general public welfare.

The best way to redirect the Internet Services industry is by supporting initiatives such as the By* Federation of Autonomous Libre Services. In contrast to the current economically-driven Internet Services model, such initiatives reflect the guardianship role of the Software Engineering profession, and are truly directed towards the best interests and welfare of society. For more information see the document titled, *By* Federation of Autonomous Libre Services: The Concept* [**?**].

For this initiative to be viable, it must have an economic and business model that can compete with the existing proprietary services. See the sections below for the Open Business Plan of the By* Federation of Autonomous Libre Services.

18 Economic Consequences of Halaal Software and Halaal Services

The economic and business consequences of Halaal software and services are a fundamental shift of business operations from the **for-profit, proprietary quadrant** into **for-profit, non-proprietary quadrant**. See the document titled *The For-Profit and Non-Proprietary Quadrant* [**?**] for details.

The notion of a non-proprietary construct, residing and operating within the for-profit sector, is new and different. Historically, the for-profit sector has been closely associated with proprietary ownership of assets. Hence the Internet Services industry as we see it today. Also historically, management of non-proprietary or public assets has been primarily associated with the non-profit sector. Hence the current orientation of the Free Software Movement, operating largely within the non-profit sector.

The Halaal/Libre Services deployment model breaks both these traditions. It represents a radical shift of the Internet Services industry from the for-profit, proprietary quadrant, to the for-profit, non-proprietary quadrant. In this space the entire software for an Internet service remains a communal public resource in the trust of the engineering profession, while service deployment is driven forward by the full force of for-profit commercial motivations.

18.1 Revenue model for Halaal Software

The Haraam software model, operating under Western copyright restrictions, includes a highly effective recurring revenue generation model: the proprietary software licensing model.

But the Halaal manner of existence of software eliminates all restrictions on the distribution and use of software. Thus the Haraam recurring revenue model is also largely eliminated. Recurring revenues under the Halaal software model are much less than under the Haraam software model.

18.2 Revenue model for Halaal Internet Services

The Halaal manner of existence of software creates a powerful generative development model for Halaal Internet Services. This generative model is absent from Haraam Internet Services. Thus Halaal Internet Services have a major advantage and can compete directly with Haraam Internet Services in terms of development.

The basic recurring revenue models for Halaal Internet Service providers are essentially the same as for Haraam Internet Service providers. Thus in terms of revenue generation, Halaal and Haraam services are on an equal footing.

As part of our responsibility to create a viable implementation construct we have fully analyzed the business dimension, and we have formulated the business model in the form of an Open Business Plan, titled:

The By* Federation of Autonomous Libre Services
An Inversion to the Proprietary Internet Services Model
An Open Business Plan

The Executive Summary of Neda Communication, Inc's Open Business Plan [**?**], and the full business plan, are available at: http://www.neda.com/StrategicVision/BusinessPlan.

19 The Halaal Software-Service Continuum

Usage of Internet services involves a combination of software and services functionality: there is an interaction between software running locally, and service software running at the remote service site.

Close integration between the software and the service is an important factor in terms of service capability.

The internal transparency of Halaal software and Halaal services enables unlimited, total integration. This total integration between Halaal Software and Halaal Internet Services creates a Halaal Software-Service continuum, far superior in capability to any possible Haraam Software/Service combination.

20 Overview of the Full Picture: The By* Halaal Digital Ecosystem

This essay is part of a bigger picture. Our goals are broader than just defining Halaal Software.

We want the world to move towards Halaal Software and Halaal Internet Services.

The totality of our work is towards creation of **The ByStar Halaal Digital Ecosystem**, as a moral alternative to the proprietary American digital ecosystem. An overview of this is provided in [**?**], available on-line at: http://www.bycontent.net/PLPC/180016

If you believe that the concepts of Halaal Software and Halaal Internet Services as we have defined them have merit, we invite you continue to read. In the overview of The ByStar Halaal Digital Ecosystem [**?**] we draw a vast picture for putting in place a model and process that can redirect Internet services and safeguard humanity.

In that document, we also describe the frameworks that are in place for collaboration and we invite you to participate in this work.

21 Colophon

This document was produced entirely with Halaal Software, and is published using Halaal Internet Services. All tools used to produce and distribute this document conform fully to the definition of Halaal Software and Halaal Internet Application Services as specified in [**?**] and [**?**].

21.1 Our Halaal Software Tools

This document has been created based exclusively on the use of Halaal software tools. We make use of a comprehensive and well-integrated set of tools, including:

- Debian GNU/Linux is our base platform
- Emacs is our editor-based user environement
- TeX, LaTeX, XeTeX, XeLaTeX is our document processor
- The Emacs bidi (bidirectional) capability is used to write in mixed Persian and Globish
- The xepersian LaTeX package is used to process Persian documents
- The LaTeX beamer package is used to prepare presentation slides
- The Emacs auctex mode is used to create documents in LaTeX
- Aspell via Emacs is used for spell checking in Persian/Farsi and Globish/English
- Dict via Emacs is used for dictionary and thesarus lookup in multiple languages
- Conversion from LaTeX to html is accomplished through HeVea and tex4ht
- Libre Office is used for creating figures and illustrations
- CVS via Emacs is used for version control
- The Emacs Gnus and qmail facilities are used for emailing out drafts and receiving feedback
- Integration with ByStar Services is through BLEE (the ByStar Libre Emacs Environment)

These Halaal software tools collectively represent a deeply integrated environment that is far superior in capability to any Haraam software. We question why so many people continue to use the clumsy and ineffective Microsoft Haraam software when such a vastly superior alternative is available.

21.2 Our Halaal Internet Services

The publication and distribution of this document has been accomplished exclusively by means of Halaal Internet Application Services. We make use of a comprehensive and well-integrated set of services, including:

- The ByName Autonomous Libre Service (part of the By* family) is used for autonomous web publication of this document by the author himself

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