

**ANALYSIS AND DESIGN OF A WEBSITE FOR ORGANIC
PRODUCTS; A CASE OF NATIONAL ORGANIC
AGRICULTURAL MOVEMENT OF
UGANDA**

By

Andersen, Kirsten Marianne


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DECLARATION

I Andersen Kirsten Marianne here by declare that this graduation project proposal is original work and has never been submitted to any University or Institution for an academic award. Any resemblance to any other project proposal is therefore a fluke of ideas.

Signature.....

Andersen Kirsten Marianne

Date.....

APPROVAL

This report has been submitted to the school of computer Studies for examination under my supervision and guidance as the University supervisor

Signature.....

Date.....

ACKNOWLEDGEMENT

I acknowledge my parents that have brought me into this world and always supported me, even when I chose to live far away from them. Their upbringing and good example in living has been a source of encouragement and strength always. I also acknowledge my friends and my Supervisor that have been of support during this time of finishing the project, some who attend KIU themselves and others who are part of my life otherwise.

ABSTRACT

This project has the purpose of making a website as a tool for advertising for NOGAMU, a shop that sells organic products. First the researcher contacted the manager of the establishment and asked permission to interview staff and customers alike and use NOGAMU as a case study. They were very cooperative and discussed at length the system they are using at present and how it works. A mail sent to prospective customers every week and it contains information about the products that are there at the particular time. They have the option of getting goods delivered if they want to save themselves the journey to Kabalagala and the heavy traffic on Ggaba Road. The customers and staff also expressed what they felt was relevant to include in the website. From the research it was established that although the current system is working well and the number of customers have been increasing, the advertising could be improved by a website. It will reach a wider audience and many people that did not know about NOGAMU will be able to get information about the products and services of the shop.

The website has been designed with clear information about the shop, where it is located and what products are to be found in the shop. It also has some information about organic products in general and there is a link to a page that tells more about the background of the shop and about the organization of NOGAMU. The website combined with the mail and delivery service that is already being used by NOGAMU will be able to reach many more with information about the possibility of getting organic products from NOGAMU.

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CHAPTER ONE

INTRODUCTION

1.0 Introduction

A website is a collection of related web pages, images, videos or other digital assets that are addressed relative to a common Uniform Resource Locator (URL). A web page is a document, typically written in plain text interspersed with formatting instructions of Hypertext Markup Language (HTML). A web page may incorporate elements from other websites with suitable markup anchors. It can be used for many things, among them to advertise. To make a website for NOGAMU will be done to advertise the products of the shop.

National Organic Agricultural Movement of Uganda (NOGAMU) Organic Shop is situated on Plot 268 Ggaba Road in Kabalagala, (opposite Deep Supermarket which is whole sale shop).

1.1 Background

NOGAMU is an organization that unites farmers, producers, processors, exporters and other key stakeholders in the promotion of organic agriculture in Uganda. In addition the organization represents partner Community Based Organisations (CBOs) and Non Government Organisations (NGOs) throughout the country and abroad to achieve its goals and objectives. First some background why the organization was started. According to Ministry of Agriculture, Animal Industry and Fisheries agriculture remains the backbone of the economies of most African countries and Uganda is no exception. 85% of the population is engaged in Agricultural production which contributes 42% of the national gross domestic product and employs 90% of the labor force. Uganda is among the least users of artificial fertilizers and other chemicals in Africa. It uses less than 14% or 1 kg of fertilizer per ha compared to sub-Sahara average of 9 kg per ha. It is also less than the 3% that is used in East Africa. This makes Uganda a good candidate for producing organic products.

NOGAMU was founded by Organic Agriculture stakeholders in 2001 and NOGAMU has kept the stakeholders together. The developments of OA (Organic Agriculture) has been spearheaded under

the coordination of NOGAMU. It has provided an institutional base of stakeholders. The developments in the OA sub sector is greatly influenced by the development in the international markets and trade and there is an increasing interest of consumer concerns for health and safety and also an increased consciousness regarding the environmental and social issues of production and marketing. (www.unep-unctad.org) NOGAMU has made efforts to develop local markets for organic products, and started the Organic Shop in 2002. There is a box delivery service scheme and has links with local supermarkets. Sales have been growing at a very high rate and many Ugandans also appreciate organic products. (<http://www.ifoam.org>) At the local level, NOGAMU mobilizes small holder farmers into groups, focuses them towards particular enterprises and equips them with the necessary skills and knowledge to allow sufficient production for marketing. NOGAMU then identifies suitable markets for these groups in form of local organic outlets, supermarkets, local exporters, schools, other traders and markets, and links them to these markets. (http://www.ifoam.org/growing_organic/2_policy/case_studies/uganda_market_development.php)

1.2 Motivation

Although NOGAMU has a delivery service the researcher objects that a web site with information about the shop and examples of products from the shop will greatly help with the marketing. Your typical buyer is someone who has money and will also have access to the internet. It is the better end of the population that has been educated that is traditionally interested in buying organic products. Many more people can be made aware of NOGAMU shop and products if there is a webpage for the shop. It will need to present the shop; give the exact location and how to get there and then present some of the products. It will also need to give details about possible delivery service and be updated as the range of products change.

1.3 Statement of the Problem

The problem is that it is not easy for people to access information about the shop. NOGAMU has a delivery service and once a month they send out emails detailing products for sale for their customers. This service is good, but you have to know about it and how will you get to know when there is no website describing the shop. The location can also be a problem because although Ggaba

1.6 Objectives

1.6.1 General Objective

The main objective is to develop a website for NOGAMU that will be able to advertise their products very widely.

1.6.2 Specific Objective

- i. To investigate the mode of advertising of the NOGAMU products in the country of residence
- ii. To assess the different ways of advertisement of NOGAMU and plan for its improvement.
- iii. To design and develop a website to advertise the shop and its products.
- iv. To evaluate the effectiveness of the website as a tool to advertise,

1.7 Research Questions

- i) How are the products of NOGAMU advertised?
- ii) How effective are the various forms of advertising for NOGAMU?
- iii) What can an effective way of advertising be shown?
- iv) How effective is a website as a tool to advertise?

CHAPTER 2

LITERATURE REVIEW

2.0 Introduction

A literature review is an account of what has been published on a topic by accredited scholars and researchers. The purpose of literature review is to convey to the reader what knowledge and ideas have been established on web sites and organic food. Literature review will be got from books and mainly from the Internet.

2.1 Traditional Advertising

Advertising is a non-personal form of communication intended to persuade an audience (viewers, readers or listeners) to purchase or take some action upon products, ideals, or services. Different types of media can be used to advertise. There is the traditional media that includes: Billboards. These are viewed by anyone that passes the board. Magazines, newspapers. They are easier to use to target a particular group. Usually the magazine is looked at by someone that has an interest in the general subject being discussed in the magazine. TV and Radio advertising. It can get peoples attention when they are focused and seated to be informed or entertained.

(<http://www.ghotibait.com/internet-marketing/internet-adversiting-vs-traditional-advertising>)

2.1.1 Limitations

It is not so easy to target the likely customers. When you advertise a certain product traditionally, many people who are not potential customers will see your product and not be interested.

You cannot know how many reads the advert, when you advertise through traditional means. If you advertise on bill board or in a newspaper you do not know who has read your add and out of those who read it who responded to the advert.

It is expensive. An advert in a newspaper can easily cost a lot of money and you do not necessarily get a result that makes it worth while in terms of money.

Your audience is limited to (for example) where the newspaper is distributed.

Many customers first look on line when they want to look for a service or a new product. This is a big draw back for traditional advertising.

(www.implicitbydesign.com/.../the-advantages-of-internet-advertising-vs-traditional)

2.2 Website

A website is a site (location) on the World Wide Web. Each Web site contains a home page, which is the first document users see when they enter the site. The site might also contain additional documents and files. Each site is owned and managed by an individual, company or organization.
(www.answers.com/topic/website)

It can be defined as: A website is a collection of related web pages, images, videos or other digital assets that are addressed relative to a common Uniform Resource Locator (URL), often consisting of only the domain name, or the IP address, and the root path ('/') in an Internet Protocol-based network. A web site is hosted on at least one web server, accessible via a network such as the Internet or a private local area network. A web page is a document, typically written in plain text interspersed with formatting instructions of Hypertext Markup Language (HTML, XHTML). A web page may incorporate elements from other websites with suitable markup anchors.
(<http://www.wikipedia.org/wiki>)

2.2.1 Background of WWW

The World Wide Web (WWW) was created in 1989 by CERN physicist Tim Berners-Lee. On 30 April 1993, CERN announced that the World Wide Web would be free to use for anyone. Before the introduction of HTML and HTTP, other protocols such as file transfer protocol and the gopher protocol were used to retrieve individual files from a server. These protocols offer a simple directory structure which the user navigates and chooses files to download. Documents were most often

presented as plain text files without formatting or were encoded in word processor formats. In 1980, physicist Tim Berners-Lee, who was a contractor at CERN, proposed and prototyped ENQUIRE, a system for CERN researchers to use and share documents. In 1989, Berners-Lee wrote a memo proposing an Internet-based hypertext system. Berners-Lee specified HTML and wrote the browser and server software in the last part of 1990. In that year, Berners-Lee and CERN data systems engineer Robert Cailliau collaborated on a joint request for funding, but the project was not formally adopted by CERN. The first publicly available description of HTML was a document called *HTML Tags*, first mentioned on the Internet by Berners-Lee in late 1991. It describes 20 elements comprising the initial, relatively simple design of HTML. Except for the hyperlink tag, these were strongly influenced by SGML guid, an in-house SGML based documentation format at CERN. Thirteen of these elements still exist in HTML. HTML is a text and image formatting language used by web browsers to dynamically format web pages. (<http://www.wikipedia.org/wiki>)

2.2.2 The meaning of HTML?

HTML, which stands for Hyper Text Markup Language, is the predominant markup language for web pages. It provides a means to create structured documents by denoting structural semantics for text such as headings, paragraphs, lists, links, quotes and other items. It allows images and objects to be embedded and can be used to create interactive forms. It is written in the form of HTML elements consisting of "tags" surrounded by angle brackets within the web page content. It can embed scripts in languages such as JavaScript which affect the behavior of HTML web pages. HTML can also be used to include Cascading Style Sheets (CSS) to define the appearance and layout of text and other material. (<http://www.wikipedia.org/wiki>)

2.2.3 Elements of HTML

Structural markup describes the purpose of text. For example, `<h2>Golf</h2>` establishes "Golf" as a second-level heading, which would be rendered in a browser in a manner similar to the "HTML markup" title at the start of this section. Structural markup does not denote any specific rendering, but most Web browsers have standardized default styles for element formatting. Text may be further styled with Cascading Style Sheets (CSS). (<http://www.wikipedia.org/wiki>)

Presentational markup describes the appearance of the text, regardless of its function. For example `boldface` indicates that visual output devices should render "boldface" in bold text, but gives no indication what devices which are unable to do this (such as aural devices that read the text aloud) should do. In the case of both `bold` and `<i>italic</i>`, there are elements which usually have an equivalent visual rendering but are more semantic in nature, namely `strong emphasis` and `emphasis` respectively. It is easier to see how an aural user agent should interpret the latter two elements. However, they are not equivalent to their presentational counterparts: it would be undesirable for a screen-reader to emphasize the name of a book, for instance, but on a screen such a name would be italicized. Most presentational markup elements have become deprecated under the HTML 4.0 specification, in favor of CSS based style design. (<http://www.wikipedia.org/wiki>)

Hypertext markup makes parts of a document into links to other documents. HTML up through version XHTML 1.1 requires the use of an anchor element to create a hyperlink in the flow of text: `<a>Wikipedia`. In addition, the `href` attribute must be set to a valid URL. For example, the HTML markup, `Wikipedia`, will render the word "Wikipedia" as a hyperlink. An example to render an image as a hyperlink is: ``. (<http://www.wikipedia.org/wiki>)

Most of the attributes of an element are name-value pairs, separated by "=" and written within the start tag of an element after the element's name. The value may be enclosed in single or double quotes, although values consisting of certain characters can be left unquoted in HTML (but not XHTML). Leaving attribute values unquoted is considered unsafe. In contrast with name-value pair attributes, there are some attributes that affect the element simply by their presence in the start tag of the element. (<http://www.wikipedia.org/wiki>)

Most elements can take any of several common attributes:

The `id` attribute provides a document-wide unique identifier for an element. This can be used by stylesheets to provide presentational properties: by browsers that focus attention on the specific element, or by scripts to alter the contents or presentation of an element. Appended to the URL of

the page, it provides a globally unique identifier for an element, typically a sub-section of the page. For example, the ID "Attributes" in <http://en.wikipedia.org/wiki/HTML#Attributes>. (<http://www.wikipedia.org/wiki>)

The `class` attribute provides a way of classifying similar elements. This can be used for semantic or presentation purposes. Semantically, for example, classes are used in microformats. Presentationally, for example, an HTML document might use the designation `class="notation"` to indicate that all elements with this class value are subordinate to the main text of the document. Such elements might be gathered together and presented as footnotes on a page instead of appearing in the place where they occur in the HTML source. (<http://www.wikipedia.org/wiki>)

An author may use the `style` non-attributal codes presentational properties to a particular element. It is considered better practice to use an element's `id` or `class` attributes to select the element with a stylesheet, though sometimes this can be too cumbersome for a simple and specific or ad hoc application of styled properties. (<http://www.wikipedia.org/wiki>)

2.3 Certified Organic Products

Certified organic products are those which have been produced, stored, processed, handled and marketed in accordance with precise technical specifications (standards) and certified as "organic" by a certification body. Once a certification body has verified conformity with organic standards, the product can be labeled as such. This label will differ depending on the certification body, but can be taken as an assurance that the essential elements constituting an "organic" product have been met from the farm to the market. It is important to note that an organic label applies to the production process, ensuring that the product has been produced and processed in an ecologically sound manner. The organic label is therefore a production process claim as opposed to a product quality claim. (<http://www.ifoam.org>)

An organic label indicates that a product has been certified against specific organic standards. The label carries the name of the certification body and the standards with which it complies. To the informed consumer, this label can function as a guide. Certification bodies evaluate operations according to different organic standards and can be formally recognized by more than one authoritative body. The label of a given certification body, therefore, informs the consumer on the

type of standards complied with during production and processing as well as on the type of recognition granted to the certification body. Many certification bodies operate worldwide, most of which are private and originate in developed countries. (<http://www.ifoam.org>)

2.3.1 Advantages of using the principles of organic agriculture?

Organic agriculture dramatically reduces external inputs by controlling pests and diseases naturally, with both traditional and modern methods, increasing both agricultural yields and disease resistance. Organic agriculture adheres to globally accepted principles (Principles of Organic Agriculture), for local socio-economic, climatic and cultural settings, supporting the development of local and regional food-systems. Alternatively, agricultural contaminants such as inorganic fertilizers, herbicides and insecticides used in conventional agriculture are a major concern all over the world. Eutrophication, the suffocation of aquatic plants and animals due to rapid growth of algae, referred to as "algae blooms", are literally killing lakes, rivers and other bodies of water. Persistent herbicides and insecticides can extend beyond target weeds and insects when introduced into aquatic environments. These chemicals have accumulated up the food chain where top predators (e.g. humans) consume toxic dosages. Organic agriculture restores the environmental balance and has none of these or other such deleterious effects on the environment. (Food Quality and Organic Agriculture) (<http://www.ifoam.org>)

Good nutrition is vital for maintaining health and preventing disease. Because organic foods are high in nutritional quality and quantity, they play an important role in promoting human health. As more and more people realize the benefits that comes from using organic products, both for the person and for the environment. Organically-grown fruits and vegetables obtain their nutrients from healthy soils, rather than synthetic fertilizers. They are lower in water content, thus reserving a higher nutrient density, they are richer in iron, magnesium, vitamin C, and antioxidants, and they provide a more balanced combination of essential amino acids that is essential for life. This is taken from "New Evidence Confirms the Nutritional Superiority of Plant-Based Organic Foods," State of Science Review, March 2008(<http://www.ifoam.org>)

Organic livestock farmers work to optimize the animals' health and well-being, rather than maximizing their potential output through rearing practices, such as a balanced diet and sufficient room for physical and mental needs. Organically-raised animals have better overall health, especially

in the areas of reproduction and recovery from illness. Organically-raised animals have a reduced risk of carrying diseases, in fact, no record of Bse has been found in organically-raised animals. Organically-raised animals have an ideal fat profile, that is, they have a lower ratio of saturated to unsaturated fat. (<http://www.ifoam.org>)

Consumers wishing to be healthy and increase their intake of minerals, vitamin C, and secondary plant nutrients, while reducing their exposure to potentially harmful pesticides, drug residues, GMOs and additives, should choose organic. Farmers wishing to protect their own and their workers' health, and improve the quality of their produce, should grow organic (<http://www.ifoam.org>)

2.3.2 Certified Organic Products and the Environment

Sustainability over the long term. Many changes observed in the environment are long term, occurring slowly over time. Organic agriculture considers the medium- and long-term effect of agricultural interventions on the agro-ecosystem. It aims to produce food while establishing an ecological balance to prevent soil fertility or pest problems. Organic agriculture takes a proactive approach as opposed to treating problems after they emerge. (<http://www.ifoam.org>)

Soil: Soil building practices such as crop rotations, inter-cropping, symbiotic associations, cover crops, organic fertilizers and minimum tillage are central to organic practices. These encourage soil fauna and flora, improving soil formation and structure and creating more stable systems. In turn, nutrient and energy cycling is increased and the retentive abilities of the soil for nutrients and water are enhanced, compensating for the non-use of mineral fertilizers. Such management techniques also play an important role in soil erosion control. The length of time that the soil is exposed to erosive forces is decreased, soil biodiversity is increased, and nutrient losses are reduced, helping to maintain and enhance soil productivity. Farm-derived renewable resources usually compensate crop export of nutrients but it is sometimes necessary to supplement organic soils with potassium, phosphate, calcium, magnesium and trace elements from external sources. (<http://www.ifoam.org>)

Water: In many agriculture areas, pollution of groundwater courses with synthetic fertilizers and pesticides is a major problem. As the use of these is prohibited in organic agriculture, they are replaced by organic fertilizers (e.g. compost, animal manure, green manure) and through the use of greater biodiversity (in terms of species cultivated and permanent vegetation), enhancing soil

structure and water infiltration. Well managed organic systems with better nutrient retentive abilities, greatly reduce the risk of groundwater pollution. In some areas where pollution is a real problem, conversion to organic agriculture is highly encouraged as a restorative measure (e.g. such as has been taken by the Governments of France and Germany). (<http://www.ifoam.org>)

Air: Organic agriculture reduces non-renewable energy use by decreasing agrochemical needs (these require high quantities of fossil fuel to be produced). Organic agriculture contributes to mitigating the greenhouse effect and global warming through its ability to sequester carbon in the soil. Many management practices used by organic agriculture (e.g. minimum tillage, returning crop residues to the soil, the use of cover crops and rotations, and the greater integration of nitrogen-fixing legumes), increase the return of carbon to the soil, raising productivity and favoring carbon storage. (<http://www.ifoam.org>)

Biodiversity: Organic farmers are both custodians and users of biodiversity at all levels. At the gene level, traditional and adapted seeds and breeds are preferred for their greater resistance to diseases and their resilience to climatic stress. At the species level, diverse combinations of plants and animals optimize nutrient and energy cycling for agricultural production. At the ecosystem level, the maintenance of natural areas within and around organic fields and absence of chemical inputs create suitable habitats for wildlife. The frequent use of under-utilized species (often as rotation crops to build soil fertility) reduces erosion of agro-biodiversity, creating a healthier gene pool - the basis for future adaptation. The provision of structures providing food and shelter, and the lack of pesticide use, attract new or re-colonizing species to the organic area (both permanent and migratory), including wild flora and fauna (e.g. birds) and organisms beneficial to the organic system such as pollinators and pest predators. (<http://www.ifoam.org>)

Genetically modified organisms: The use of GMOs within organic systems is not permitted during any stage of organic food production, processing or handling. As the potential impact of GMOs to both the environment and health is not entirely understood, organic agriculture is taking the precautionary approach and choosing to encourage natural biodiversity. The organic label therefore provides an assurance that GMOs have not been used intentionally in the production and processing of the organic products. This is something that cannot be guaranteed in conventional products, as

labeling the presence of GMOs in food products has not yet come into force in most countries. (<http://www.ifoam.org>)

Ecological services: The impact of organic agriculture on natural resources favors interactions within the agro-ecosystem that are vital for both agricultural production and nature conservation. Ecological services derived include soil forming and conditioning, soil stabilization, waste recycling, carbon sequestration, nutrients cycling, predation, pollination and habitats. By opting for organic products, the consumer through his/her purchasing power promotes a less polluting agricultural system. The hidden costs of agriculture to the environment in terms of natural resource degradation are reduced. (<http://www.ifoam.org>)

2.4 Other Organic Food Shops

The researcher looked at various web sites for organic food and decided to pay attention especially to the shops in London, since Uganda has links with the British culture. What the researcher discovered was that most of the web sites only had a photo of the shop and then some information of how to get to the shop. Then there was a general write up about why organic food is better, more nutritious and good for the environment. They did not have photos of a selection of products. Only one website displayed various goods with prices but this was one that did not have a shop you could come to; it only sold things on line. (info@thediagnosticclinic.com, organics@freshfood.co.uk, enquiries@asnatureintended.uk.com)

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter presents the methods and procedures that will be used to collect and analyze data. It will discuss how the research will be conducted. It further looks at area of study, target population, sample size, research design, sampling techniques, and data collection methods and data analysis.

3.1 Research design

The researcher will use exploratory and descriptive research designing. Exploratory design will be used to access the impact of ademic sector, while descriptive design will be used to understand the use of the website. The design will be a process of applying various techniques and principles for the purpose of defining system insufficient details to permit its physical realization.

3.2 Area of Study

The researcher will design a web site for NOGAMU Organic Shop. A case study method with a particular method of carrying out research and it will involve an in-depth, longitudinal examination of a single instance or event. Also, the case study will help the researcher to define the unit of analysis, and to identify the respondents.

3.3 Target Population

The researcher will target the staff and customers of NOGAMU.

3.4 Sample size

The researcher will target the staff involved with the advertising at present and also 30 customers to find out the advantages and limitations of the present system. The respondents will be interviewed, and the questionnaires will be distributes to them.

3.5 Sources of Data

The researcher will collect data from two sources includes; the primary and secondary sources. Primary sources will include questionnaires that will be designed to collect data from respondents. This data will be used to draw discussions and conclusion about the problems under the study. Secondary sources will include the text books, journals, research reports, internet, news papers and other publication from which data will be obtained.

3.6 Sample Techniques

Simple random sampling as a technique of selecting respondents from the study population will be used. The sampling procedure will involve choosing the research units of the population of NOGAMU that will be used in the study. The researcher will use simple random samplings a tool of data collection because it will save both resources and time. It will also provide first hand information in details since the researcher will have enough time to ask others information related to the topic and objectives of study. Samples will offer more detailed information and high degree of accuracy.

3.7 Data Collection Methods

The researcher will use interview, questionnaires and observation as method of data collection. This will enable the researcher to collect relevant and accurate information.

3.7.1 Interviews

These are fact-finding techniques where by the researcher will collects information from individuals through face-to-face interaction. It will be used to achieve all of the following goals: find facts, verify facts, clarify facts, generate enthusiasm, get the end-user involved, identify requirement, and solicit ideas and opinions. The researcher will interview the bursar and note the responding answers. The researcher will use interviews because; the interviews will all be carried out on the same day thus time saving.

See Appendix 2

3.7.2 Questionnaires

Questionnaires are special purpose documents that will allow the researcher to collect information and opinions from respondents. Using this technique, researcher will design and distribute fifteen questionnaires to students and ten to the administration. They will be delivered and collected by the researcher on the same week.

The designer of the questionnaire will be pyramid by structure where by researcher will begin with specific questions then general ones. Specific questions will be relevant to the subject under study; but will be used to warm up the respondent while general questions will be relevant to the subject under study. The questionnaire will cover all the objectives. The researcher will use questionnaires because they will be answered quickly, responses will be tabulated and analyzed quickly, and the researcher will be able to get relatively simple options from a large group of data.

See Appendix 3

3.7.3 Observation

This method will be used to verify the information gathered using the above methods and the missing information will be recorded. Observation method will reveal the filing system used, that is a pile of box files. The researcher will have no problems with this method since the files are in open shelves. The researcher will use observation because; the method is cheap ,worker work and their schedules are not interrupted and provides a cross view of the work, that is to say people, objects, documents and other occurrences are observed concurrently.

3.8 Data Analysis

The data that will be collected will be analyzed both qualitatively and quantitatively. Qualitatively data will be analyzed using personal communication and thematic analysis and coding techniques. Quantitatively, computer package like correlation and Microsoft SPSS will used to quantify the data into simple percentage which will presented in form of tables and charts.

3.8.1 Validity and reliability

Data quality control refers to as the validity and reliability of the instruments. Validity refers to the appropriateness of the instruments while reliability refers to its consistency in measuring whatever it

was intended to measure. In this research, it will be necessary to control its quality to minimize error. The questionnaires will be first tested before distributing them to final recommended some modifications in the nature of the questions. The supervisor will be also consulted for expert knowledge on questionnaire construction .After the assessment of the questionnaires, necessary adjustment will be made bearing in mind the objective of the study, so as to get information that will be intended in this research. The questionnaires will be administered to the selected respondents.

3.8.2 Ethical Considerations

The researcher will need to show the greatest level of discipline by respecting the respondents and taking their responses confidentially so that they only serve the academic purpose they will intend for. The researcher will travel to reach out to every respondent during the process of data collections.

CHAPTER FOUR

SYSTEM ANALYSIS AND DESIGN

During the phase call System Analysis and Design the researcher converts the description of the recommended alternative solution into a logical and then physical system with its specifications. It is first described independently of any computer platform and is then transformed into technology-specific details from which all programming and system construction can be accomplished. (Essentials of Systems Analysis and Design by Valacich George Hoffer 3rd Edition)

System Analysis

4.0 Description of Current System in NOGAMU

The current system in NOGAMU shop with organic products is a mailing list. It is sent periodically to customers who have requested this. The list includes all the items available at the time in NOGAMU and customers can reply with a request for the items they need. These items are then brought to the customers premises. Many are happy with this service since it saves them the journey to Kabalagala where traffic can be very congested. They are also kept up to date with new products.

4.1 Problems

The main problem with this system is that it does not reach out to new customers. If you happen to know there is an organic shop in Kabalagala, then you can contact them and they will be happy to organize sending you a list with all their items periodically. There must be a lot of potential customers that have never heard about NOGAMU and thus have no chance to buy their products even if they want to. Especially the people staying outside Kampala will only have little chance of hearing about NOGAMU.

4.2 Proposal of a solution

The researcher proposes a web page as a solution. It will advertise the shop with its products widely. The customers that are interested in organic products will typically be the ones that are educated and thus have money to spend on better quality food products and they will also have access to the internet. This web page will have an attractive photo of the shop and will also display some of the products. It will thus advertise the shop and its products to a much wider audience.

4.2.1 Advantages of the New System

It will increase the advertising of the shop to a much wider field. Unless you hear about NOGAMU through word of mouth you will not know there is an organic shop in Kampala. With the web page even people out of Kampala can investigate the site and with the delivery service also advertised on the web page many new customers can be added to the ones that already buy from NOGAMU.

4.3 Requirement Analysis

The webpage needs to attract new customers, displaying some products in an appealing way and also inform old customers about the changes that have been made, new products to be sold and other events that might interest people that buy or wants to buy organic products.

4.3.1 Software Requirements

According to <http://www.seabreezecomputers.com/tips/webtools.htm> it is good to learn to code with HTML.

To edit and crop the images you want to use for the website you can use Print Screen Key. From there you can then use a program such as MS Paint. It comes free with Microsoft and is easy to use and is recommended by the same site.

You also need a StatCounter that will keep track of how many visitors are visiting your site every day. It can tell you how they found your site and what country they visited from. This is also a recommendation from the same site. You can register and download it free from www.statcounter.com

4.3.2 Hardware Requirements

You need a hard disk of 40 GB and a memory of minimum 256 MB. The computers will also need to be networked.

4.3.3 Costing Requirements

It is very difficult to answer this question. Much depends on who makes the website and how big it is. The cost even depends on which country you are in.

See Appendix 1

4.4 System Design

The Webpage will be designed using html. It will feature a photo of the shop and a short description of the purpose of organic food. It will have a separate column to the right where different products will be displayed by photos. To the left there will be another column featuring the offer of the month or season. It will also have a feature enabling the one browsing the page to give their email address and sign up for regular mailing list. It will direct the user how to order products from the shop.

4.4.1 Logical Design

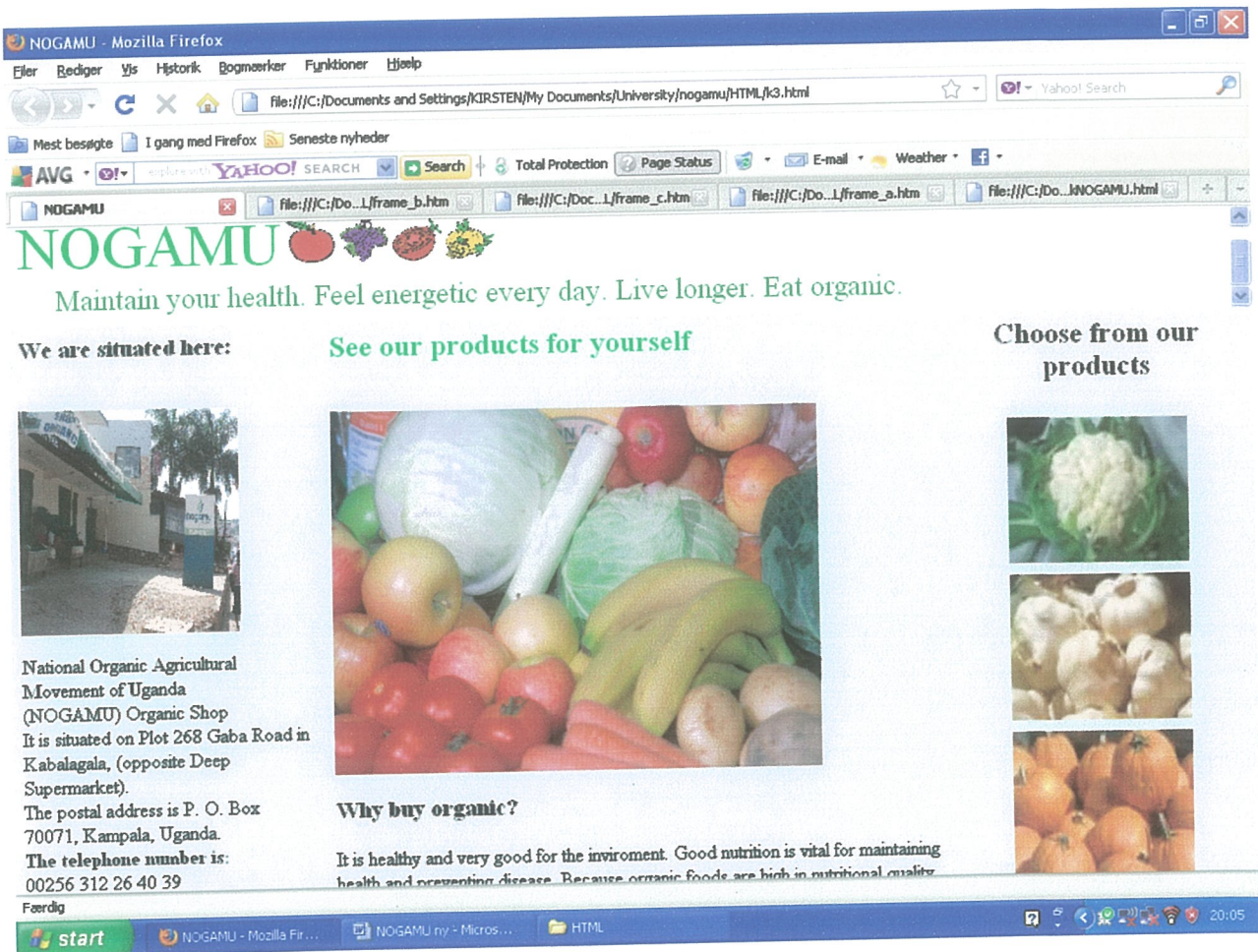
According to www.mckinnonsc.vic.edu.au/vceit/glossary.htm a logical design describes the functions required of a system, that is, what is to be done, not how it will be done. Logical design is not concerned with hardware and software requirements but rather with the processes to be performed. The phrase logical design can be quite misleading; nowadays I prefer the term logical modelling because people often confuse it with detailed technical design. . Logical modelling typically occurs during the requirements definition phase of a project and precedes physical design. It uses various graphical diagramming approaches to help both the business users and developers understand and work through business problems and test out ideas. When doing logical modelling, the typical diagramming techniques include class diagrams or entity-relationship diagrams, but the modelers need to exhibit restraint to keep them less refined and less detailed than the diagrams we might use later on in the project. (<http://www.designpatternsfor.net/>)

The website is made up of four frames and one link to another page. In addition there is an offer to be listed and sent a mail with the selection of products for the week. Out of the four frames one is like a row or horizontal and the other three are like columns. The columns are 25%, 50% and 25%.

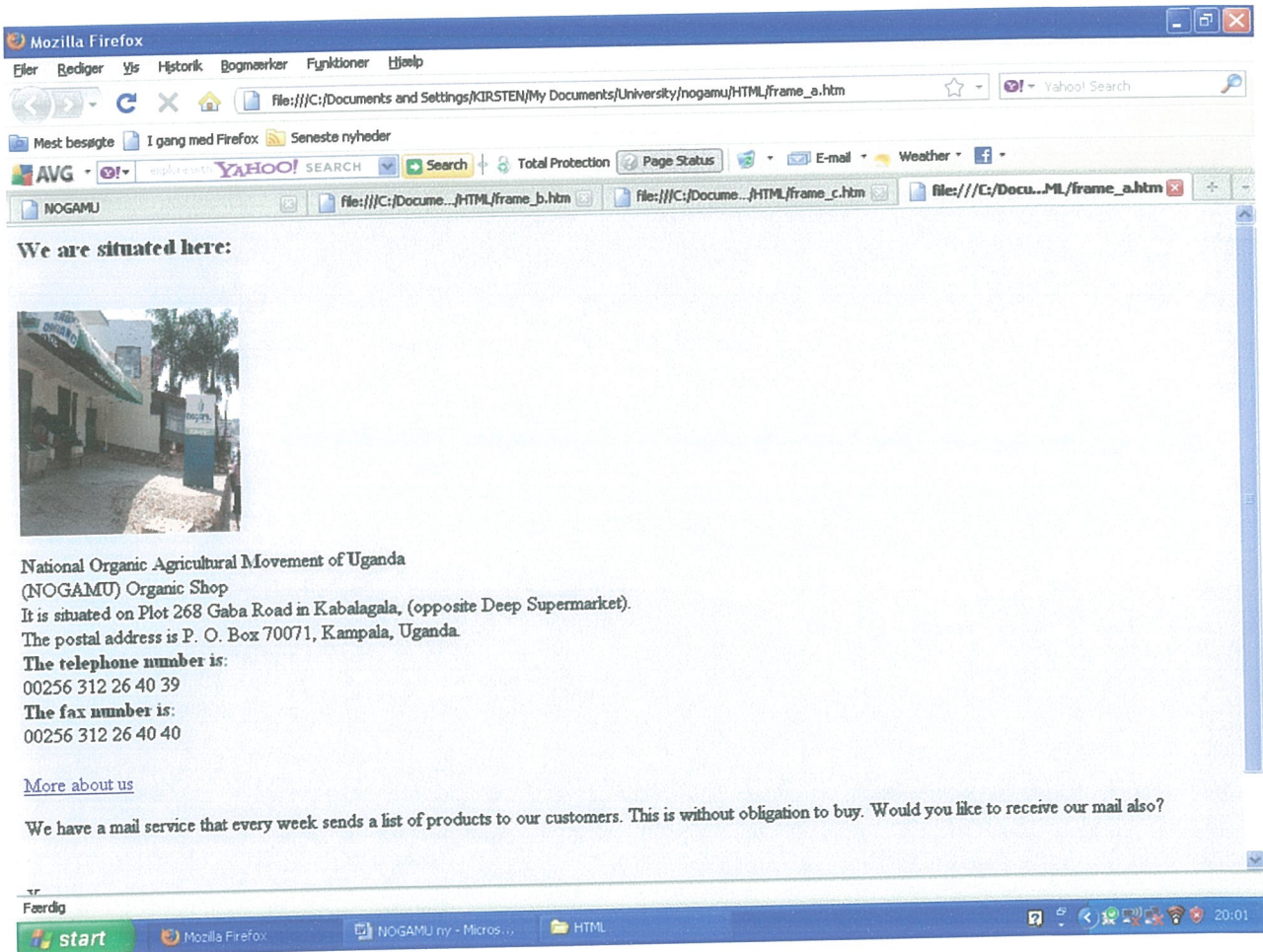
4.4.2 Physical Design

It is the technical design of the website.

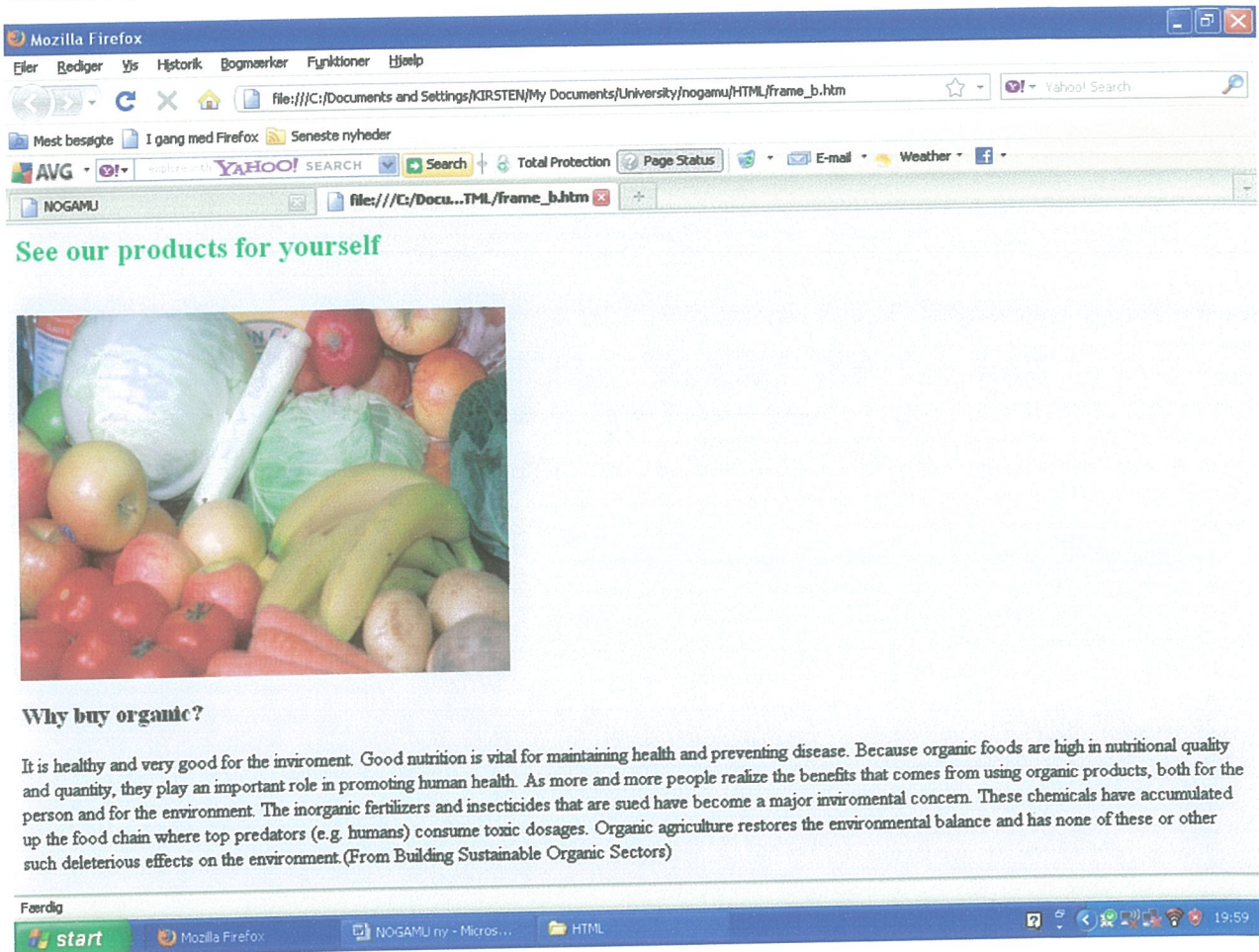
Interface of website



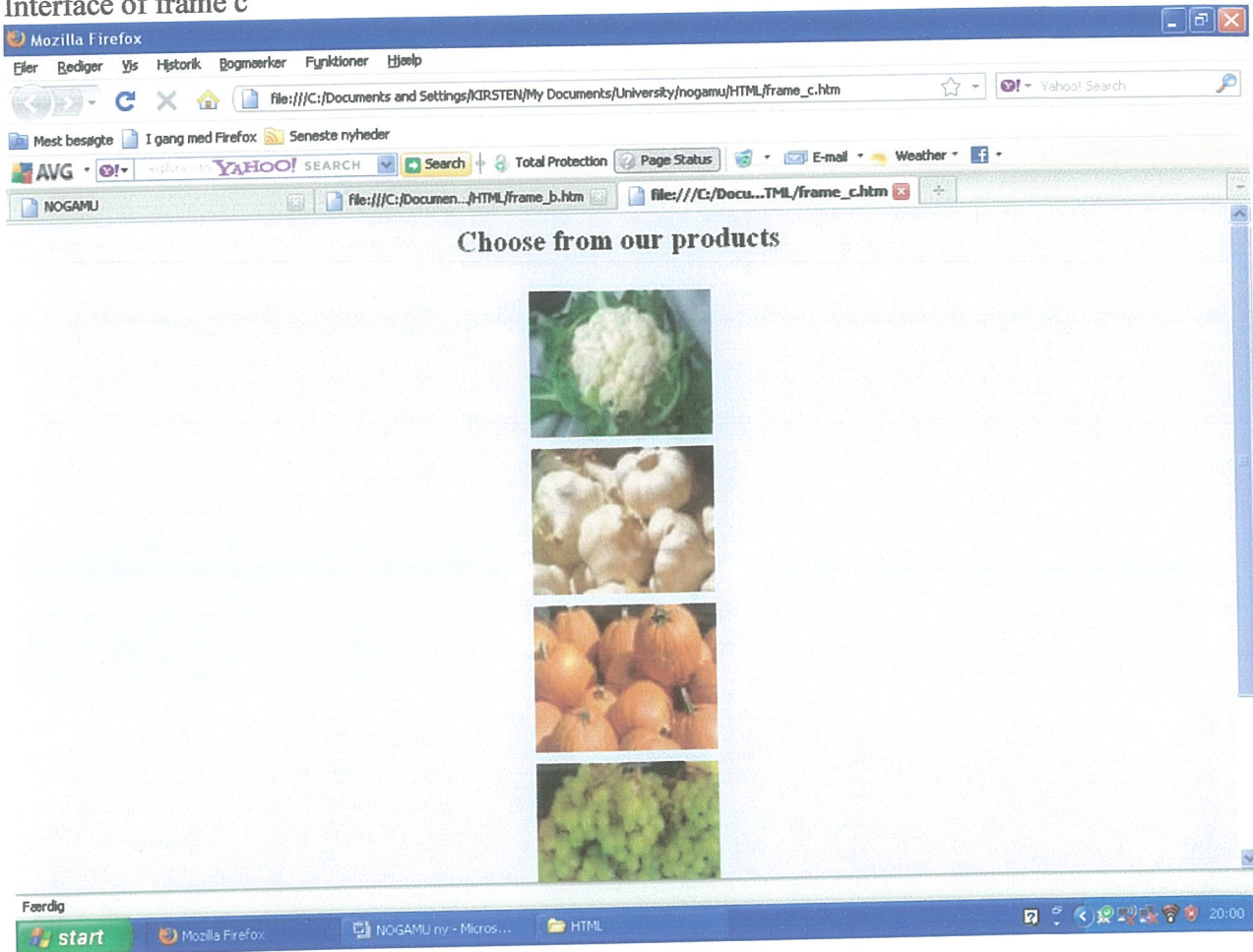
Interface of frame a



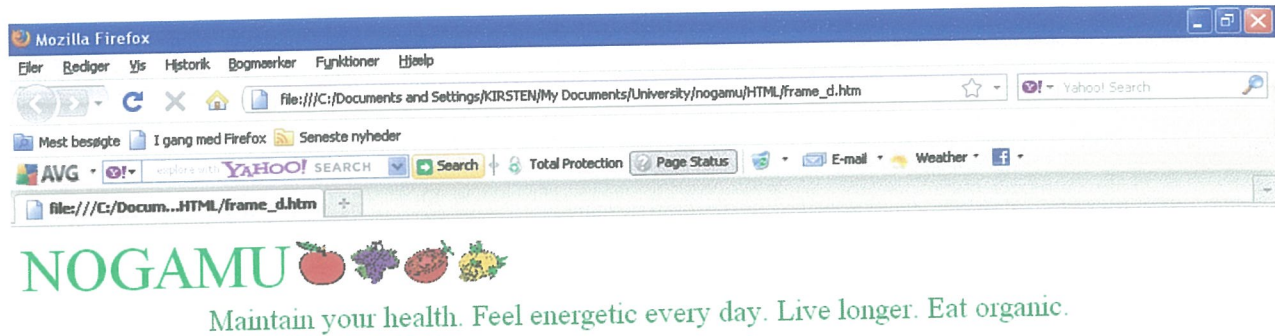
Interface of frame b



Interface of frame c



Interface of frame d



4.5 Design Output – Files

What files will be generated through the webpage. There will be a file containing the existing customers and these will continue to receive updates of what is happening in NOGAMU. To this file many more potential customers will now be added. They will inform of their email address and will also receive updates from NOGAMU. NOGAMU will also need a file with photos of current products to be featured on the webpage. Time and careful analysis will determine which products to be featured next.

4.6 Standards and Certification

Standards developments and promotion

One of the main objectives of NOGAMU is to increase the application of organic and other standards and to promote Organic Certified production in Uganda. In 2002 NOGAMU spearheaded the development of a certification program in Uganda comprising of; Uganda Organic standard (UOS). A certification company to provide certification services

To date a local standard (UOS) has been established and is operational and a local certification company, UgoCert (www.ugocert.org) has been registered and is offering local and international certification services. UgoCert has attained international accreditation by the International Organic Accreditation Services (IOAS).

NOGAMU has also been instrumental in the development of a harmonized East Africa Organic Products Standards (EAOPS) that has been launched by the East African community after a long consultative process involving stake holders in the private and public sector in East Africa.

The EAOPS together with the East African Organic Mark will serve as a promotional tool and image of organic products in the region and will enhance trading opportunities across the region. The East African Organic Mark has already been registered in the 5 East Africa countries of Uganda, Kenya, Tanzania, Burundi and Rwanda by the Organic movements. In addition to third party certification NOGAMU in collaboration with International Federation of Organic Agriculture (IFOAM) is developing and pioneering other verification systems such as Participatory Guarantee Systems with the aim of boosting domestic and regional marketing of Organic products in East Africa.

4.7 Implementation

Implementation is when you turn system specifications into a working system that is tested and then put into use. According to <http://www.cio.ny.gov/pmmp/guidebook2/SystemImplement.pdf> it can also be described as making a new system available to a prepared set of users and provide ongoing support and maintenance.

4.7.1 Description of how the website was developed

According to http://en.wikipedia.org/wiki/Web_development is web development the non-design aspects of building web sites: writing markup and coding.

4.7.2 Sample codes

Code for frame a:

```
<h3>We are situated here:</h3><br>
```

```

```

```
<p><b>N</b>ational <b>O</b>rganic <b>A</b>gricultural <b>M</b>ovement of <b>U</b>ganda  
<br> (NOGAMU) Organic Shop<br>
```

```
It is situated on Plot 268 Gaba Road in Kabalagala, (opposite Deep Supermarket).<br>
```

```
These premises also hold the main office of NOGAMU.<br>
```

```
The postal address is P. O. Box 70071, Kampala, Uganda.<br>
```

```
<b>The telephone number is:<br></b> 00256 312 26 40 39 <br>
```

```
<b>The fax number is:<br></b> 00256 312 26 40 40 <br><br>
```

```
<a  
href="file:///C:/Documents%20and%20Settings/KIRSTEN/My%20Documents/University/HTML/Li  
nkNOGAMU.html">More about us</a>
```

Code for frame b:

```
<h2><font color="#00ff00">Visit our attractive shop</h2></font><br>
```

```

```

<p><h3>Why buy organic?</h3> It is healthy and very good for the environment. Good nutrition is vital for maintaining health and preventing disease. Because organic foods are high in nutritional quality and quantity, they play an important role in promoting human health. As more and more people realize the benefits that comes from using organic products, both for the person and for the environment. The inorganic fertilizers and insecticides that are used have become a major environmental concern. These chemicals have accumulated up the food chain where top predators (e.g. humans) consume toxic dosages. Organic agriculture restores the environmental balance and has none of these or other such deleterious effects on the environment.(From Building Sustainable Organic Sectors)

</p>

Code for frame c:

Code for frame d:

Code for LinkNOGAMU:

<h3>Who are we:</h3>

<p>NOGAMU is an organization that unites farmers, producers, processors, exporters and other key stakeholders in the promotion of organic agriculture in Uganda. In addition the organization represents partner Community Based Organisations (CBOs) and Non Government Organisations (NGOs) throughout the country and abroad to achieve its goals and objectives.

NOGAMU has made efforts to develop local markets for organic products, and started the Organic Shop in 2002. There is a box delivery service scheme and has links with local supermarkets. Sales have been growing at a very high rate and many Ugandans also appreciate organic products. The number of local buyers has overtaken that of expatriates who were the main consumers in 2002. There has been a lot of effort to marketing the organic products and it has been successful in many ways. The NOGAMU exclusive organic shop located at the office in Kabalagala is now being supplied by over 60 farmers groups countrywide, with a range of fresh and processed organic products. Other outlets have been established at Fort portal, Bwindi National Park , Kabaale and others are being developed in Jinja, Lira and Mbarara.

The organic products in greatest demand at the NOGAMU shop are fresh vegetables, fresh and dried fruits, spices, fruit juice concentrates, ready-to-drink-juices, free range eggs, vegetable oils, and Shea nut butter. One thing that has been organized is a delivery service for customers who sometimes are discouraged from going shopping because of the constant traffic jams on the city roads. The current and prospective consumers interested in organic products are sent emails every week containing a list of the products available with their prices. Consumers then respond and place orders indicating the quantity they wish to be supplied with in the basket.

At the local level, NOGAMU mobilizes small holder farmers into groups, focuses them towards particular enterprises and equips them with the necessary skills and knowledge to allow sufficient production for marketing. NOGAMU then identifies suitable markets for these groups in form of local organic outlets, supermarkets, local exporters, schools, other traders and markets, and links them to these markets.

</p>

4.7.3 Hosting a website

When you want hosting for your website you first need a domain and the corresponding name. After having secured your domain and name you can look for someone to host the site. The price varies a lot. The best deal seemed to come from www.zappyhost.com. They promise to provide everything. They can help you register your domain name and they will only charge \$1.99 for the first year. Then you need hosting. For \$5.49 a month for 12 months you can get 10 GB Space, 300 GB Transfer, 100 Email Accounts, 10 MYSQL Databases.

4.8 User Information

User information is the information that the user supplies to the website. They might give their name and email address to have the service of getting the news letter that is mailed to interested ones from NOGAMU each week.

4.9 Advantages of parallel conversion

The parallel conversion ensures that some things remain the same for the faithful customer at NOGAMU. He has been used to and happy with the news letter that arrives every week informing him of new products and developments in NOGAMU's shop. He now has the added advantage that

he can go to the website for more details. The greatest benefit is though for the new customer that can now find NOGAMU on the WWW. If he does not have the advantage of knowing about NOGAMU, it would have been difficult for him to learn of the shop in the past, but now the website has been created even customers abroad can be able to acquire the excellent products of NOGAMU.

CHAPTER FIVE

SUMMARY, DISCUSSIONS, LIMITATIONS AND RECOMMENDATIONS

5.0 Summary.

According to the interviews and the questionnaire there was a great deal of interest in the possibility of having a website for the shop. Several expressed that they probably would have heard and started to use NOGAMU a lot earlier if there had been a website with the shop. Most of them had heard about NOGAMU through a friend or business acquaintance and was happy with the service they received from NOGAMU (there was one that had a serious complaint and expressed they did not want to use NOGAMU again. 18 out of the 30 customers that received the questionnaire expressed more than ordinary interest in NOGAMU getting a website where various products could be displayed and even new customers would be able to contact the shop. NOGAMU would also be moving with the times if they had a website. They felt it would be a sign that they were professional and up to date. Although they were happy with the mail service they felt that the addition with a website would be very welcome.

5.1 Discussion

There is no doubt in the mind of the researcher that for NOGAMU the way forward is to get a website. It will greatly improve the scope of the business and spread the news of a shop with organic products. It will also show, as some customers implied that NOGAMU is professional and moving with the times. It will also be easier for people from far away, even from abroad to get information about NOGAMU and their range of organic products. NOGAMU is already a flourishing business; this will take it even further. NOGAMU will also have a better opportunity to find out who could be interested in buying their products, since it can be monitored by a counter at the website. Thus they can see if the website is effective or needs changing. The researcher strongly recommends a website for NOGAMU.

5.2 Limitations of New System

The new System is good for people that have access to the internet but here in Uganda there are many people who do not have either computer skills or access to the internet. These people the New System will not reach. On the other hand many of the potential customers will be among the ones

that have money and are educated and they will have at least occasionally access to the internet. The ones that are struggling to provide a meal a day for their families will not think of buying organic food that is more expensive than other foods.

The New System is not extensive. It can be bigger with much more information. It could include recipes with new ideas for making good use of the products that you can buy in NOGAMU. It could have a section with questions frequently asked and so on. It does not take the initiative to contact people. They have to look for the information themselves. This is why the researcher will suggest a parallel conversion. The Old System with sending a mail every week has supplied interested customers with information on a regular basis and I think it should be maintained as well as the New System. This reminds the customers of the existence of NOGAMU and they are then likely to buy something. The internet site cannot do that.

5.3 Recommendations

The researcher recommends that The New System is installed to advertise NOGAMU more efficiently. It will be better at targeting the customers and also monitoring the effect of the site. It will reach many more people and since most of the people that are likely to be interested in organic products are the educated part of the population, many of them will have access to the internet. The researcher recommends that it is used along with The Old System since this regularly updates the customers what is happening in NOGAMU and what products are available currently. This serves as a reminder to those already interested in NOGAMU and hopefully makes them continue to buy when they are able and need something.

5.4 References

www.w3schools.com It has a tutorial about how to make web pages.

Prioritizing Web Usability, by Jakob Nielsen and Hoa Loranger

Cascading Style Sheets, *Third Edition*: Designing for the Web, by Håkon Lie and Bert Bos

Learning Web Design: A Beginner's Guide to (X)HTML, Style Sheets, and Web Graphics, by Jennifer Niederst Robbins (3rd edition) [4]

http://www.ifoam.org/growing_organic/2_policy/case_studies/uganda_market_development.php

<http://www.wikipedia.org/wiki>

<http://www.ghotibait.com/internet-marketing/internet-adversiting-vs-traditional-advertising/>

www.answers.com/topic/website

www.implicitbydesign.com/.../the-advantages-of-internet-advertising-vs-traditional

<http://www.seabreezecomputers.com/tips/webtools.htm>

www.mckinnonsc.vic.edu.au/vceit/glossary.htm

<http://ugandatradetraders.com/>

to <http://www.webpagefx.com/How-much-should-web-site-cost.html>

<http://www.klawebdesign.com/prices.html>

enquiries@asnatureintended.uk.com

info@thediagnosticclinic.com

organics@freshfood.co.uk

Appendix 1

Possible Supplier	Item	No of units	Cost per unit
www.webpagefx.com	Domain name	1	\$9 per year
www.webpagefx.com	Hosting	1	\$75-200 per year
www.webpagefx.com	Maintenance	1 site of 15 pages	\$500-1250 per year
www.webpagefx.com	Design	1 site of 15 pages	60-150 hours
http://ugandatradetraders.com	Website all inclusive	1 site of 5 pages	150000 u shillings
http://ugandatradetraders.com	Maint. after 1 year	1	50000 u shillings
http://ugandatradetraders.com	Additional pages	1	30000 u shillings

http://ugandatradaders.com	Additional email	1	20000 u shillings
www.klawebdesign.com/	Website all inclusive	1 site of 3 pages	900000 u shillings

Appendix 2

Questions for interview:

How long have you known about NOGAMU?

How long have you received a mail from NOGAMU on a weekly basis?

How did you first hear of NOGAMU?

Do you find the service of the mail helpful?

Does it give enough information about the products?

Does it come too often or not often enough?

How often do you buy products from NOGAMU?

Would you recommend NOGAMU to others?

Would it be helpful to you if there was a website for the shop, where you could get additional information?

Are you planning to continue to use NOGAMU?

Appendix 3

1. How long have you known about NOGAMU?

Tick:

Less than one year ☐

From one to two years ☐

Three years or more ☐

2. How long have you received a mail from NOGAMU on a weekly basis?

Tick:

Less than one year ☐

From one to two years ☐

Three years or more ☐

3. How did you first hear of NOGAMU?

Tick:

From a friend ☐

From a business acquaintance ☐

From an advertisement ☐

Other _____ ☐

4. Do you find the service of the mail helpful?

Tick:

Yes ☐

No ☐

Why? _____

5. Does it give enough information about the products?

Tick:

Yes ☐

No ☐

Not sure ☐

6. Does it come too often or not often enough?

Tick:

Too often ☐

Not often enough ☐

Not sure ☐

7. How often do you buy products from NOGAMU?

Tick:

Once a week ☐

Once a month ☐

Once a year ☐

Less than once a year ☐

8. Would you recommend NOGAMU to others?

Tick

Yes ☐

No ☐

Not sure ☐

9. Would it be helpful to you if there was a website for the shop, where you could get additional information?

Tick

Yes ☐

No ☐

Not sure ☐

10. Are you planning to continue to use NOGAMU?

Yes ☐

No ☐

Why? _____