Voucher Management System

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1. COMPANY PROFILE

Nextelco aim is:

- To provide a cost effective internet service to majority of people in Africa, and in DRC Congo in particular
- To be on the top of people driven technology by developing End users driven technology that serves the hard to reach rural as well urban and suburban populations
- To implement a Business Model that profits to end users while opening big business opportunities to many
- To open a path to development and industrialization in general by connecting the world to Africa and vis versa

The company has ambition to provide high end internet retailed service to consumers some are up today neglected in favor of the oil and mining industries.

2. PROJECT DESCRIPTION

Project title

Voucher Management System.

Project description

The project is to develop a system for users to subscribe the vouchers to use the internet connection provided from your networks. The application connects a RADUIS, running on a MS Server and MSSQL database, which replicates the content of a gateway, CNOC.

3. Features of Voucher Management System.

Functionality:

• Admin panel to manage this system & assign the vouchers.
• Two different Sub-admin: Agents & Resellers.

• End Client
• Physical Voucher

- **Admin Panel :**

  ✓ The admin can manage whole system, vouchers, and all the sub-admin.
  ✓ All the sub-admin (Agents and Resellers) can be permitted by admin and all the access will be provided by super admin.
  ✓ All the vouchers are also assigned by super admin.
  ✓ Admin will have all the information about all the used and un-used vouchers and related agent &reseller.
  ✓ On high usage admin will be able to provide some discount on bases of data volume to any particular agent or re-selleer.
  ✓ For credit card purchase there will be a basic amount to be set as minimum amount by admin
  ✓ Online payment system for the agent and reseller to purchase the voucher from admin (E-com).
  ✓ Admin will be able to have all the data where is that voucher is used and how many of them are roaming.
  ✓ Admin will have the statistics about the areas as per the usage.
  ✓ The vouchers are based on speed limit (limited data) and based on data usage limit (slow speed).
  ✓ Management Commission: Admin Would be able to manage & confirm the commission.
  ✓ NOC Reporting:- This function will allow super admin to have a report of the vouchers with an information of NOC.
  ✓ The Admin shall know all the performance of the agents and resellers

- **Two Sub-admin: Agents & Resellers.**

  ✓ This system will contain two sub-admin:- agents & Resellers.
  ✓ Agents will be assigned by admin directly to sell all the vouchers in the market place.
  ✓ All the Resellers are assigned by Agents with a permission of super admin.
  ✓ End client will be able to purchase the vouchers from resellers.
  ✓ If any resellers are out of stock (vouchers) then just need to send a request to agents.
  ✓ If any agents are out of stock (vouchers) then they will contact to super admin for the same.

- **End Client.**

  ✓ Any of the voucher will be allowed to be used on any hot-spot
 ✓ GPS integration for the system so users can see the nearest available hot-spot

- **Phisycal Voucher.**

  ✓ Nominal value of voucher (costing/amount)
  ✓ Issue date of voucher
  ✓ End date of voucher
  ✓ Serial number of voucher
  ✓ Volume of data
  ✓ User profile or voucher profile name
  ✓ Name of the Company
  ✓ Logo
  ✓ Reseller ID and name

TIME SCHEDULE

The project will be segmented in modules. We wish to finish the project within a month with different deliveries of the different modules.
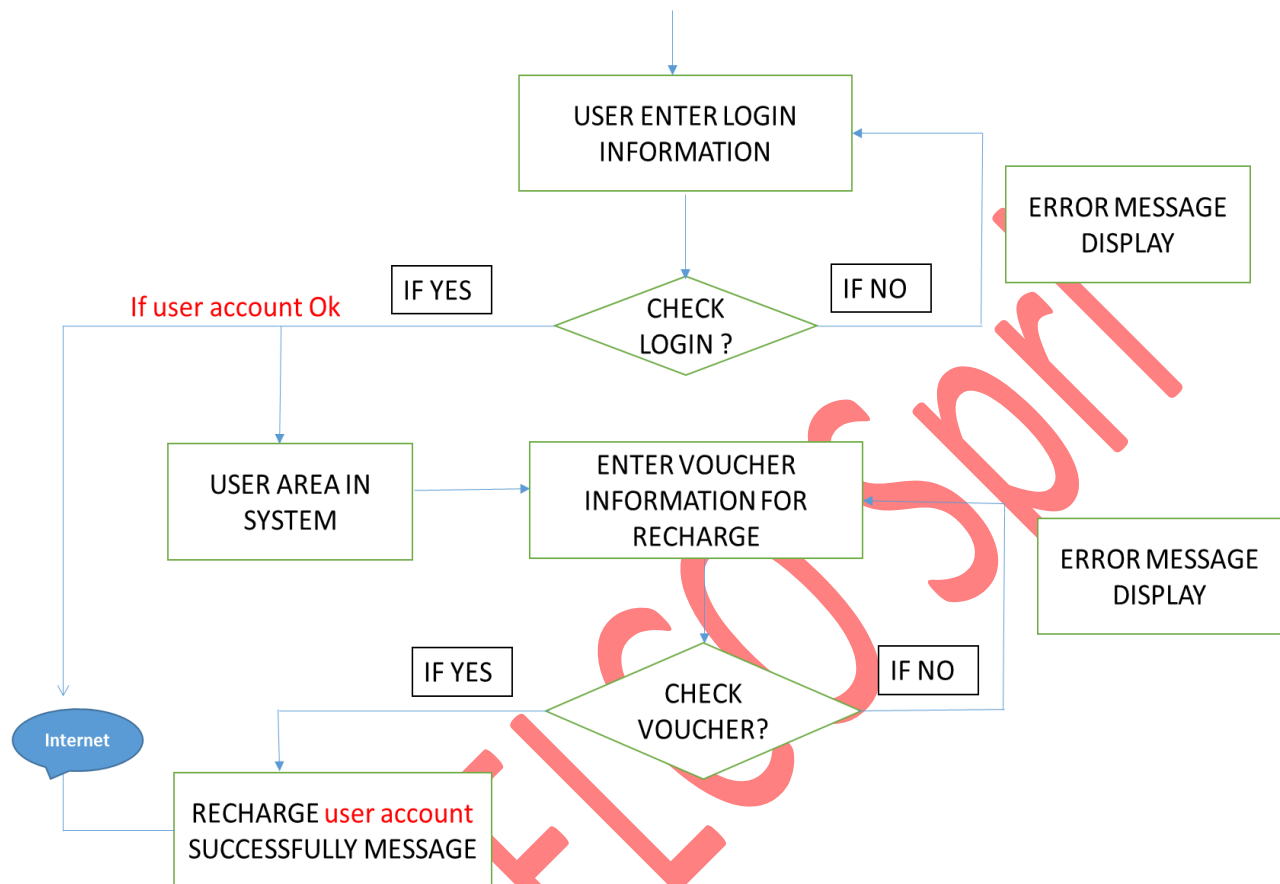
4. WORK FLOW
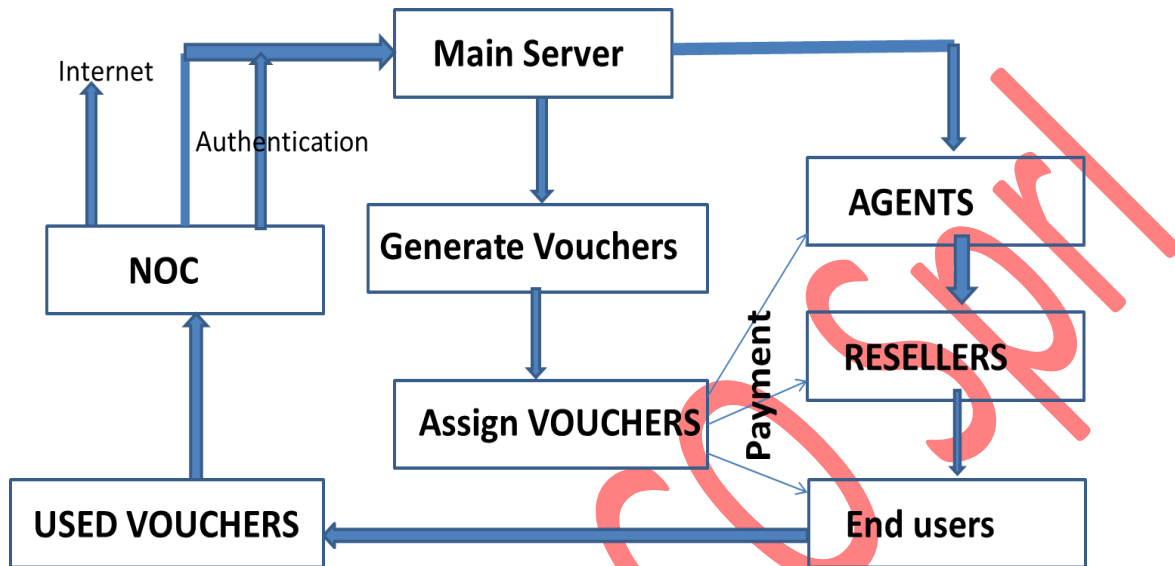
The drawing above shows the functional task for the voucher management system. We see here the main services provided by the service and the main objects involved.
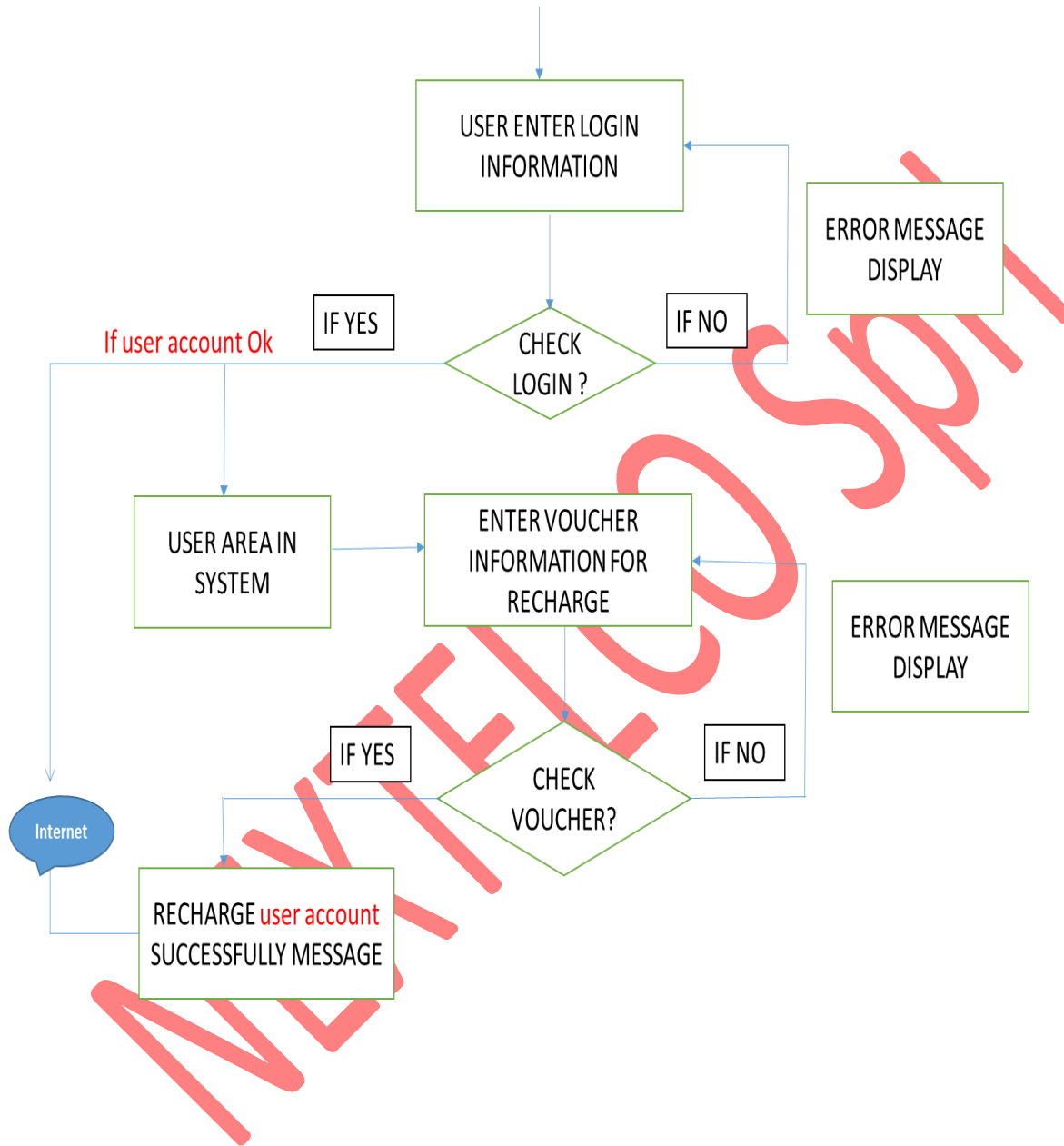
Here we see the main tasks for the voucher management system. Its shows a scenario as when a user, admin or reseller, is entering the system.

Here we see the main tasks for the voucher management system. Its shows a scenario as when a user, hotspot end user, is entering the system.

USER ENTER LOGIN
INFORMATION

ERROR MESSAGE
DISPLAY

IF YES

If user account Ok

CHECK
LOGIN ?

IF NO

USER AREA IN
SYSTEM

ENTER VOUCHER
INFORMATION FOR
RECHARGE

ERROR MESSAGE
DISPLAY

IF YES

Internet

CHECK
VOUCHER?

IF NO

RECHARGE user account
SUCCESSFULLY MESSAGE

We wish that the system vendor undertake following actions:

- **Requirement Gathering and Planning :**

This is initial stage where he defines with us the goals and objectives for the Application so that we get common understanding. Then after we review the competitors application, we focus on our target audience. Next, we create a site map and identify the key areas of the Application. We want to ensure that our product will fill the vaccum. the target audience can find what they are looking for

- **SRS**

After gathering all information, we prepare a Software Requirement Specification which will include all features of application and description of all function of the Application.

- **Sample Layout and Design :**

In this step, the visual face of the Application design is realized. All creative design and copy elements are created based on the information and goals established in the application Project Discovery Research and application Structure & Wire Frame phases.

- **Development & Programming :**

Development involves the bulk of the programming work, as well as loading content. Keep code organized and commented, and refer constantly to the planning details as the full App takes shape. Take a strategic approach, and avoid future hassles by constantly testing as you go.

- **Testing :**

The completed app is presented for review and testing. We inform you on any tweaks or possible changes . The system is polished and refined until we are completely, 100% satisfied.

- **Maintenance**

After testing of Application, App we will need quite frequent updating to keep it very fresh and updated. In this case we need to do analysis again, and all the other steps will repeat. Bug fixes in App can be done during the time of maintenance. Note that at this phase the system is already in the market interfacing with end users.

5. Key Tables

Here the copy of a log from CNOC.

CNOC> show users

Line	Line Type	User Type	User Name	IP Address	Duration dd:hh:mm:ss	Calling Number
742	Eth	NIPI	WALLED	192.168.101.217	00:01:34:14	D867D9E49FD6
753	Eth	NIPI	WALLED	192.168.101.209	00:00:45:53	D867D9E49FD6
755	Eth	NIPI	WALLED	192.168.101.231	00:00:29:00	D867D9E49FD6
756	Eth	NIPI	gold	192.168.101.232	00:00:23:40	D867D9E49FD6
757	Eth	NIPI	WALLED	192.168.101.221	00:00:26:26	D867D9E49FD6
758	Eth	NIPI	WALLED	192.168.101.228	00:00:21:50	D867D9E49FD6
759	Eth	NIPI	WALLED	192.168.101.233	00:00:17:35	D867D9E49FD6
760	Eth	NIPI	WALLED	192.168.101.234	00:00:09:59	D867D9E49FD6
761	Eth	NIPI	WALLED	192.168.101.188	00:00:03:58	D867D9E49FD6
762	Eth	NIPI	WALLED	192.168.101.235	00:00:00:51	D867D9E49FD6

Total number of Network connected lines: 10
  ANet (Analog source) lines: 0, INet (ISDN source) lines: 0
  Eth (Ethernet source) lines: 10
  PPP (PPP source) lines: 0
Total number of Framed users: 0
  PPP users: 0, MLP users: 0
Total number of tunnel switch users: 0
Total number of native IP users: 10

There is a replica of the real time database of the CNOC gateway on the Windows server. The very important data that we get from that CNOC log are:

- Profile used
- The DHCP given IP
- The Ethernet slot/port number
- The profile name
- The duration
- Number of simultaneous connected users

On the other hand we can get the following data from the CNOC:

```
show users 137

Line Number: 137 Line Type: INet User Type: NIPD
User Name: OpenGNativeIPInternal
IP Address: 192.168.100.101 Next Hop: 22.0.1.180
Session Duration/Timeout: 00:04:07 / 00:00:00
Idle Duration/Timeout: 00:00:05 / 00:00:00
```

```
Slot: 0 Port: 0
Calling Number: 0016415586B9
Input Packets/Octets: 327 / 35693,
Output Packets/Octets: 18 / 1304,
Service Name: NIP_OPEN
Service Duration: 00:04:07
Parent user name: wimaxDSInternal
```

This entire database is replicated on the Microsoft server from which we can collect all the needed data for commercialize the service.

We have to have the below different tables. The list is not exhaustive but I just show just example:

Salesperson

SalesP_nr	Name	Address	Tel.	Mail	Type_reseller	Commission	Status

Person nr: Unique number of a reseller

Name: name of the person

Address: Of the person

Tel: Of the person

Mail: His mail address

Type_reseller: Agent either Reseller/dealer

Commission: Commission level

Status: Broker or registered company

So forth… we will get different tables linked in between with primary keys and foreign keys. To name some few:

Commission table, Hotspot table/site(with name of the city, place and GPS), Hotspot_remote(ADHOC client to a hotspot), Contract table, Sales table, etc….

6. Key relations

Task	Description	Action
Record a reseller	Here we define a reseller: A person willing or able to sell Nextelco services, vouchers in practical sense	A Web page and fill the empty records
Create Vouchers	Airtime creation. Generate and create vouchers. This is a very sensible action that looks like money emission	Login as Admin with one login or 2 login to share the responsibility
Assign Voucher	Transfer the authority of the Bulk to a given person, or reseller	Login with accurate credentials to transfer the airtime ownership
Get payment	This action is prior to assignment of Bulk. The payment may be done by credit card, wired transfer, cash or by credit (2,7,15,30 days)	Log with accurate credentials and authority to check the bank account, the cashier or credit limit
Create fixed end users	Create fixed users with fixed IP as they will use NAT behind the main router Set also highest limit of traffic volume	Assign a fixed IP, Gateway and DNS to fixed users
Creating mobile and nomadic users	Create users with username= Mobilenr and password chosen by the user	Page of accounting creation If forgotten, send mail
Transfer a PIN to a mobile account	Recharge the mobile and nomadic account	Go to the page of Nomadic and mobile account reload
Record Hotspot	Record : Mac, Fixed IP, Serial number, GPS, city areas, eventually owner	Record each hotspots and know the connected AP'
Record AP	Record : Mac, Fixed IP, Serial number, GPS, city areas, eventually owner	Record each single AP
List hotspot	- List by sector - List by reseller	Viewing the query
Check a voucher	Check voucher balance and use	Viewing the query
List sales	- By Agent - By reseller - By sector	Viewing the query
Connect Hotspot to a reseller	Here we assign or change the hotspot ownership	Log to page and record new data to assign or re-assign ownership creating hotspot assignment

7. Organization overview

It is important to have a view on the production model and the organization behind to see how the application will be integrated to the administration.

Owner	Process	Tasks	Human Resource
Board	Company and Product Creation	•Overall Administration • Product develop. • Process support • Company creation • Financing	• Innovator • Incubation personel • Company makers • Finance people
Administration	Accounting and Control	• Adminitrative system • Merging accountings • Synchronize business	• Innovator • Accountants • Revisors
Product & Project	Product &Network Design and Project	• Product & Network Design, field test • System Integration • Quality Control • PO's , Sites acquisitions	• Innovator • Technical/operation stuff • Product stuff • Incubation Personnel
Logistics	Supply Chain Management	• Order and purchass • Good delivery • Storage management	• Innovator • Technical •Administratif
Engineering & Rollout	Network Implementation and Rollout	• Implementation • Engineering • Site preparation	• Implementation peolple • Engineering people
Marketing	Service Provision and Distribution	• Franchise contracts • Brand & Communic.	• Marketors • Sales force
Sales	Service Commercialisation	• Apply distribution • Retail sales	• Incubators • Local Sales Forces
Finance &Admin	Local Finance and Administration	• Tresaurery/Finance • HR	• Administrative staff • Executions
Operation &maintenance	Network Management	• Network monitoring • Service & maintenance • Statistiques	• Operation and technical support people

Item → → **TO MARKET** →