PROJECT TO DESIGN & BUILD CDR REPORTING SYSTEM TO INTEGRATE WITH ELASTIX PBX 2.3 RUNNING ASTERISK 1.8 SOFTWARE

December 2012.

Designer Skillset required:

essential: PHP, MySQL, SQLite, HTML5, Ajax
(knowledge of Linux and Asterisk/Elastix a bonus but not essential.)

End product summary:

A LAMP web server based CDR reporting system that provides real-time output to browser sessions, that will also be viewed on LCD screen plugged into a PC.

There will be multiple pages that can be set to switch at a configurable automated rate and refresh at 5 second intervals.

The real-time CDR information has two sources on a seperate Elastix PBX server running Centos 5.8.

1. MySQL database 'asteriskcdrdb' available through port 3306 on the Elastix server provides CDR records for each call as it is terminated.

2. SQLite database '/var/www/db/acl.db' provides user & dept information mapped to an extension number which will serve as the Key ID to relate this data with the asteriskcdrdb data.

Calculations will need to be performed on this data prior to being displayed. Data format for call times and duration is generally in date & time format, or in seconds stored as an integer. There may be the need for timezone calculations to be performed on the data, though this may be set at source, TBC.
Data format for Ext and User are in text or general format.

OUTPUT:

The purpose of this CDR reporting system is to provide x4 informational outputs options:

1. Browser session for Dept Managers to see their teams call records
2. LCD screen output of same browser session for all extensions for staff to see in the main office.
3. Export browser page information to csv/pdf files for analysis.
4. Export browser page information to csv/pdf file that is emailed to an input address.

Additional requirements:

- a pop-up settings bar on the bottom of the screen to enable per browser session control;
    - screen switch speed setting (1-5 or paused)
    - drop down check-button list of screens visible
    - drop down check-button list of departments for limiting extensions that will be viewed in each screen & also reports.

- way to configure start of month date for display, 1st of month default.

- calculations on data will be required before being sent to browser page fields.
    - will need to calculate day of week for week display, Mon - Sunday.
    - how to calculate unique dialed numbers per extension.

- Future developments will definitely require a password login authentication with restriction of what extension information can be viewed. This should be taken into account in the design, but is not needed in this first version build.

- Q: is it best to create a new MySQL database on the CDR server to store all the data in and perform calculations. Need to confirm if this is best practice with developer. If so then there is the need for a flag feature write-back option to stop data being loaded twice once it has been read. This is the command used by a similar CDR on the Elastix server to enable re-reading of the database;
$UPDATE cdr SET import_cdr = 0 reverse engineer this idea to control what has been read.

REPORTS:

- For csv/pdf export should color alternate rows for clarity of viewing and provide total at bottom. See *Report_ExampleOnly.pdf*

- Additional fields required in export not shown in browser = Username.

WEB PAGE DEGISN SPECS:

(see screen shot designs for guide)

browser page size: 1024 x 768
font size: 25.6px TBC (24px seemed better if visual works on +40 inch screen)
10 rows min showing per page but scroll-down option for all extensions (no maximum rows)
Fonts: Tahoma, Arial, Verdana use of Bold and Italics
Colors:
    Background - Black: #00000
    Main Text - Yellow: #FFFF00
    Title Text - White: #FFFFFF

SOURCE DATA:

1. CDR data in asteriskcdrdb can be accessed via port 3306

```
+-------------+--------------+------+-----+---------------------+-------+
| calldate    | datetime     | NO   |     | 0000-00-00 00:00:00 |       |
| clid        | varchar(80)  | NO   |     |                     |       |
| src         | varchar(80)  | NO   |     |                     |       |
| dst         | varchar(80)  | NO   |     |                     |       |
| dcontext    | varchar(80)  | NO   |     |                     |       |
| channel     | varchar(80)  | NO   |     |                     |       |
| dstchannel  | varchar(80)  | NO   |     |                     |       |
| lastapp     | varchar(80)  | NO   |     |                     |       |
| lastdata    | varchar(80)  | NO   |     |                     |       |
| duration    | int(11)      | NO   |     | 0                   |       |
| billsec     | int(11)      | NO   |     | 0                   |       |
| disposition | varchar(45)  | NO   |     |                     |       |
| amaflags    | int(11)      | NO   |     | 0                   |       |
| accountcode | varchar(20)  | NO   |     |                     |       |
| uniqueid    | varchar(32)  | NO   | MUL |                     |       |
| userfield   | varchar(255) | NO   |     |                     |       |
+-------------+--------------+------+-----+---------------------+-------+
```

2. User Data stored in /var/www/db/acl.db (SQLite)
tables: **acl_group** (shows group/dept)
acl_user (shows ext # association in 5th field listed)
acl_membership (numerically connects group to user)

EXAMPLE WEB SITES:

http://prositos.no/cl/

FUTURE DEVELOPMENTS:

- Chart display option for reports

- Permission based access

- Other calculations t