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WEB-BASED MELVIANA HEALTH CLINIC INFORMATION SYSTEM

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Abstract

In today's globalization era, nscience and technology are developing very rapidly, especially information technology. Human need for everything is required to be more efficient, for example it is very clear from the development of information technology, the work that originally still uses a lot of manual systems at this time has begun to decrease, because it began to practice to a computerized system. Because with a computerized process any work will be easier to do. In the process of developing data and information needs that are growing longer, has encouraged better handling of data and information so that each element can be implemented optimally the author to get information relevant to the topic and problems that will or are being researched. The information can be obtained from scientific books, research reports, yearbooks and written sources both printed and electronic..

Introduction

In today's globalization era, science and technology are developing very rapidly, especially information technology (Jeronimo, 2019). Human need for everything is required to be more efficient, for example it is very clear from the development of information technology, the work that originally still uses a lot of manual systems at this time has begun to decrease, because it began to practice to a computerized system. Because with a computerized process any work will be easier to do (Giddens, 2013). In the process of developing data and information needs that are growing longer, has encouraged better handling of data and information so that each element can be implemented optimally. The information system at the puskesmas or community health center has several activities, including patient registration, patient medical records, patient care, queuing, and reporting (Nursikuwagus, 2017). This research is motivated by an analysis of the need for a health service information system which is an important part that cannot be separated from the health system in a country (Purnomo, Prima, & Efendi, 2021). The era of globalization and information will have created new standards that must be met by all players in this sector, no exception in the health care sector (Hidayat & Sirait, 2020). This system will provide the result of report and information needed by the patient services administration. It is hoped that this system can be used as an experienced assistant (Wiendara et al., 2019).

Similarly, in managing patient identity documents at melviana clinic located at Jl.Saparua Raya No.239 Perum III East Bekasi, Bekasi City -West Java, which is still done manually or

handwritten. In this way there are some shortcomings that can occur errors in writing and reading, not concise, the length of service to patients, documents that are vulnerable to loss or damage and limited storage (Mulyadi, Hoiriah, Supriadi, & Mugiati, 2018). Patient registration at Melviana clinic is required an information technology to process the data automatically. The use of technology in the registration of diclinic patients can provide an ease and accuracy in processing patient identity data. In addition, it can also provide unlimited space for storage of pasein data.

By using this web-based information system Melviana clinic can provide web-based services to patients to improve performance and performance in handling community services (Andrianto & Nursikuwagus, 2017). In addition, with this web-based information system the registration process can be done easily, anywhere and anytime (Ibrahim, 2011). With this web-based Melviana clinic information system will be able to compete with other clinics and will provide the best service for patients who need health services (Palit, Rindengan, & Lumenta, 2015).

In the description above, I did research at Melviana Health Clinic with the title "Web-Based Melviana Health Clinic Information System"

Method

Data collection techniques are carried out to obtain information and data related to the needs of completing the Final Task. The things that are done are as follows:

1. **Field Studies**

   Field studies are the design of research by conducting surveys based on experience or case studies where researchers try to identify important variables and relationships between these variables in a specific problem. Field studies were conducted including observations and interviews of the objects studied.

   a. Observation

      Is a field study that is done systematically by paying attention directly or indirectly to the objects studied and taking visual data according to the needs of research so that no data is missed in the web-based Melviana Health Clinic Information system using PHP & My Sql.

   b. Interview

      This data collection technique is carried out by asking directly with employees or officers of Melviana health clinic who provide informassi about the problems that are being researched.

2. **Literature Studies**

   Efforts are made by the author to obtain information relevant to the topic and the problem that will or is being researched. The information can be obtained from scientific books, research reports, yearbooks and written sources both electronically and.

Results and Discussion

A. **System Design**

1. Entity Relationship Diagram (*ERD*)

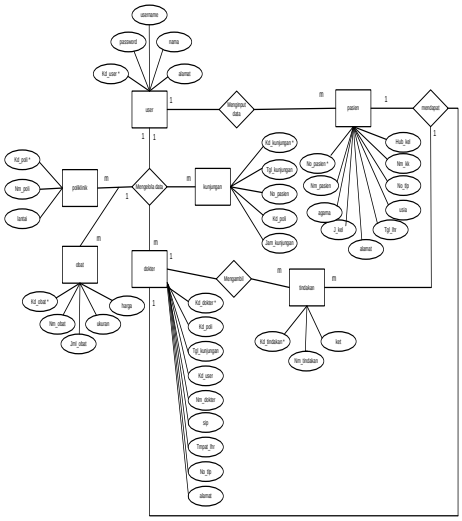


Figure 1
Entity Relationship Diagram

2. Normalization

a.Unnormalized Form

Table 1
Abnormal Shape

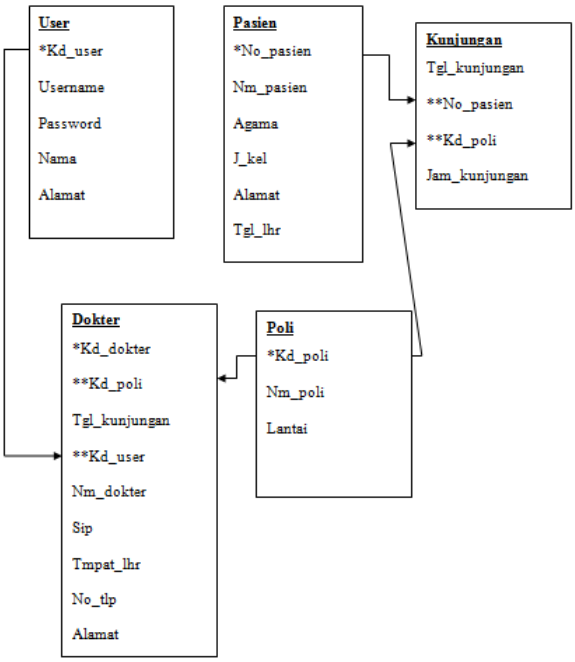
Kd_user
Username
Password
Nama
Alamat
No_pasien
Nm_pasien
Agama
J_kel
Alamat
Tgl_lhr
Usia
No_tlp
Nm_kk
Hub_kel
Kd_dokter
Kd_poli
Tgl_kunjungan
Kd_user
Nm_dokter
Sip
Tmpat_lhr
No_tlp
Alamat
Kd_tindakan
Nm_tindakan
Ket
Tgl_kunjungan
No_pasien
Kd_poli
Jam_kunjungan
Kd_obat
Nm_obat
Jlh_obat
Harga
Kd_poli
Nm_poli
Lantai

b. First Normal Form

Table 2
First Normal Form 1NF

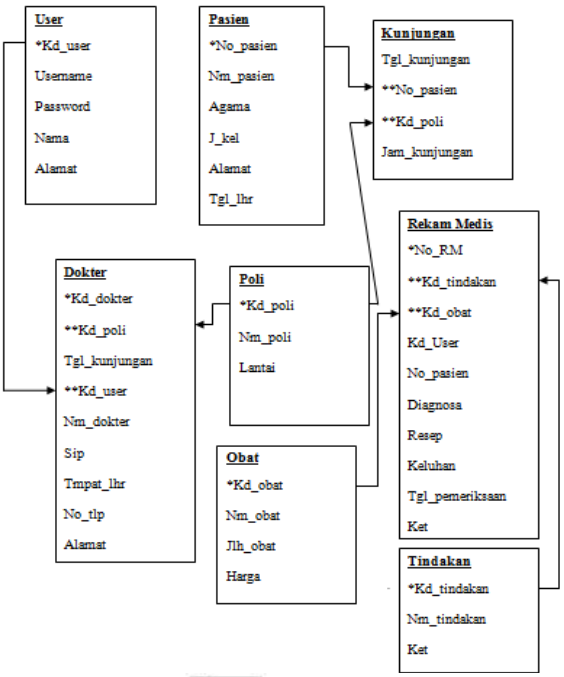
c.2NF / Secon Normal Form

Table 3
Secon Normal Form



d. 3NF/Third Normal Form

Table 4
Third Normal Form



3. **Structure HIPO**

a. Visitor HIPO Str

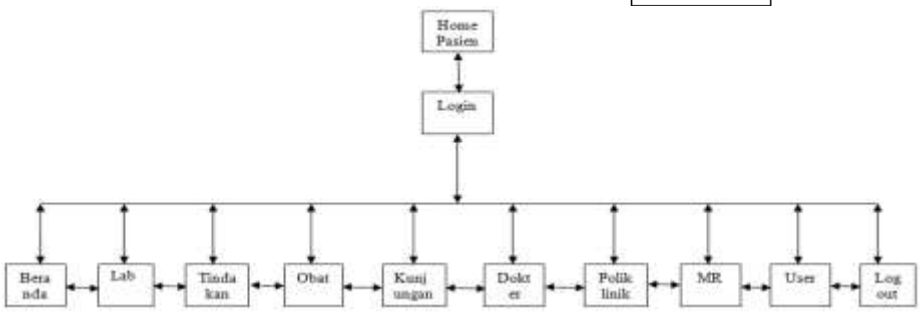


Figure 2
Visitor HIPO Structure

4. **Program View Design**

a. Admin View Design

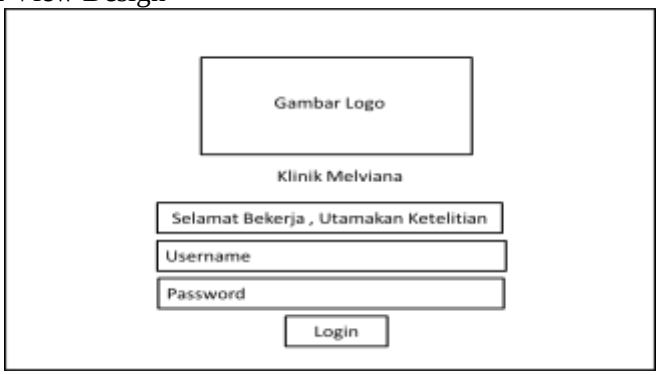


Figure 3
Rancngan Admin View

b. Dashboard View Design

Figure 4
Rancngan Dashboard View

c. Patient Data View Design

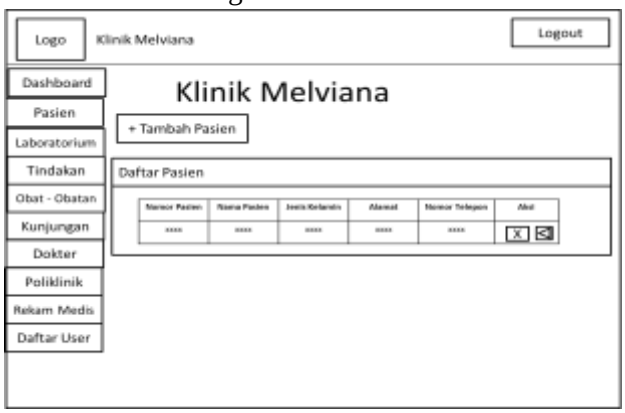


Figure 5
Rancngan Patient View

d. New Patient List View Design

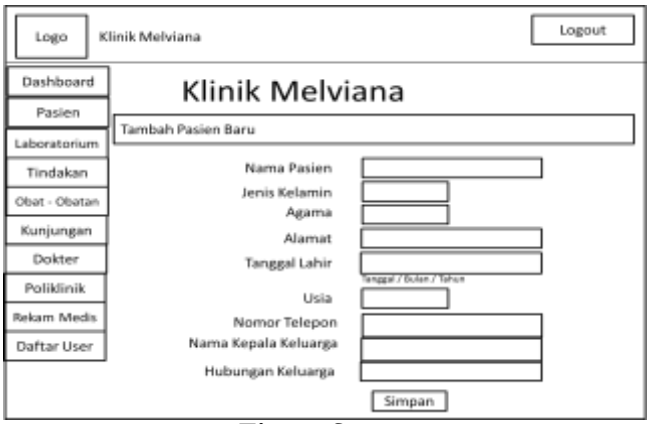


Figure 6
New Patient List View Rancngan

e. Laboratory Display Design

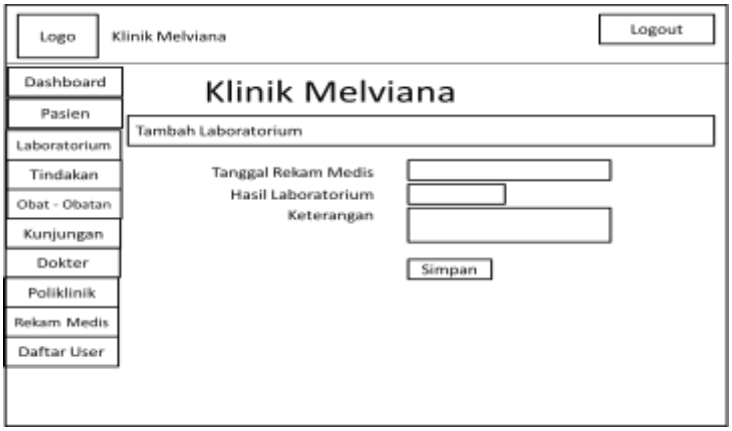
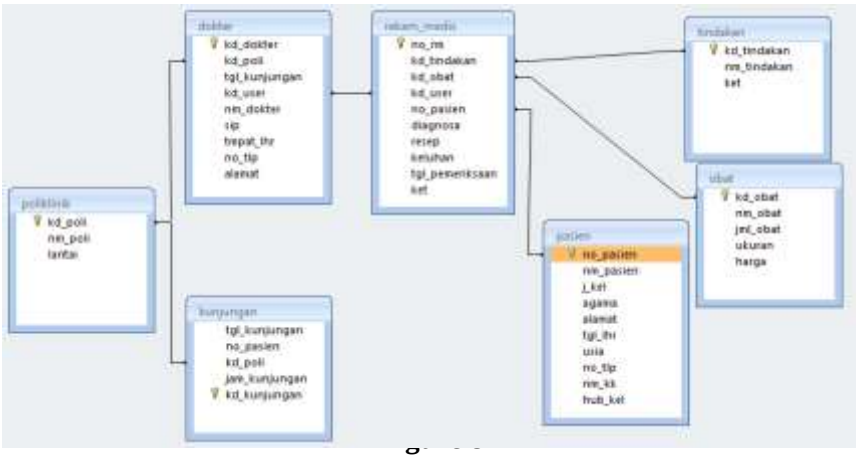


Figure 7
Laboratory Display Design

B. **Implementation**

1. Relationships Between Tables



Relationships Between Tables

2. DataBase Structure

a. Doctor Database Structure

File Name	Doktor
Acronym	dokter.myd
File Functions	File Master
Organization	Index Sequential
File	Random
File Access	Harddisk
Media File	959 characters
Record Length	kd_dokter
Software	MySQL

Table 5
Doctor database structure

No	Elemen data	Akronim	Tipe	Panjang	Keterangan
1.	Kode Dokter	kd_dokter	integer	11	Primary key
2.	Kode Poliklinik	kd_poli	integer	11	
3.	Tanggal Kunjungan	tgl_kunjungan	ingeter	12	
4.	Kode User	kd_user	integer	11	
5.	Nama Dokter	nm_dokter	varchar	300	
6.	Shift	sip	enum		
7.	Tempat Lahir	tmpt_lhr	varchar	300	
8.	Nomer Telepon	no_tlp	varchar	14	
9.	Alamat	alamat	Varchar	300	

b. Visit Database Structure

File Name	Visit
Acronym	visit.myd
File Functions	File Master
Organization Files	Index Sequential
File Access	Random
Media File	Harddisk
Record Length	34 characters
Field key	kd_kunjungan
Software	Mysql

Table 6
Visit Database Structure

No.	Elemen data	Akronim	Tipe	Panjang	Keterangan
1.	Kode Kunjungan	kd_kunjungan	integer	12	Primary key
2.	Tanggal Kunjungan	tgl_kunjungan	date		
3.	Nomer Pasien	no_pasien	Integer	11	
4.	Kode Poliklinik	kd_poli	Integer	11	
5.	Waktu Kunjungan	jam_kunjungan	time		

c. Laboratotium Database Structure

File Name	Laboratory
Acronym	laboratorium.myd
File Functions	File Master
Organization Files	Index Sequential
File Access	Random
Media File	Harddisk
Record Length	322 characters
Field key	kd_lab

Software	MySQL

Table 7
Laboratory Database Structure

No.	Elemen data	Akronim	Tipe	Panjang	Keterangan
1.	Kode Laboratorium	kd_laboratorium	integer	11	Primary key
2.	Nomor Rekam Medis	no_rm	integer	11	
3.	Hasil Laboratorium	hasil_lab	varchar	300	
4.	Keterangan	ket	text		

d. Login Database Structure

File Name	Login
Acronym	login.myd
File Functions	File Master
Organization Files	Index Sequential
File Access	Random
Media File	Harddisk
Record Length	631 characters
Field key	kd_user
Software	MySQL

Table 8
Login Database Structure

No.	Elemen data	Akronim	Tipe	Panjang	Keterangan
1.	Kode Laboratorium	kd_laboratorium	integer	11	Primary key
2.	Nomor Rekam Medis	no_rm	integer	11	
3.	Hasil Laboratorium	hasil_lab	varchar	300	
4.	Keterangan	ket	text		

e. Drug File Specifications

File Name	Drug
Acronym	obat.myd
File Functions	File Master
Organization Files	Index Sequential
File Access	Random
Media File	Harddisk
Record Length	358 Character
Field key	kd_obat
Software	MySQL

Table 9
Drug Database Structure

No.	Elemen data	Akronim	Tipe	Panjang	Keterangan
1.	Kode Obat	kd_obat	integer	11	Primary key
2.	Nama Obat	nm_obat	varchar	300	
3.	Jumlah Obat	jml_obat	integer	11	
4.	Kode Poliklinik	kd_poli	integer	11	
5.	Harga	harga	integer	25	

f. Patient File Specifications

File Name	Patients
Acronym	pasien.myd
File Functions	File Master
Organization Files	Index Sequential
File Access	Random
Media File	Harddisk
Record Length	1228 Character
Field key	no_pasien
Software	MySQL

Table 10
Patient Database Structure

No.	Elemen data	Akronim	Tipe	Panjang	Keterangan
1.	Nomor Pasien	no_pasien	integer	11	Primary key
2.	Nama Pasien	nm_pasien	varchar	300	
3.	Jenis Kelamin	j_kel	varchar	100	
4.	Agama	agama	varchar	100	
5.	Alamat	alamat	varchar	300	
6	Tanggal Lahir	tgl_lahir	date		
7	Usia	usia	integer	3	
8	Nomor Telepon	no_tlp	integer	14	
9	Nama Kepala Keluarga	nm_kk	varchar	300	
10	Hubungan Keluarga	hub_kel	varchar	100	

g. Polyclinic File Specifications

File Name	Poliklinik
Acronym	poliklinik.myd
File Functions	File Master
Organization Files	Index Sequential
File Access	Random
Media File	Harddisk
Record Length	322 Character
Field key	kd_poli
Software	MySQL

Table 11
Polyclinic Database Structure

No.	Elemen data	Akronim	Tipe	Panjang	Keterangan
1.	Kode Poliklinik	kd_poli	integer	11	Primary key
2.	Nama Poliklinik	nm_poli	varchar	300	
3.	Lantai	lantai	integer	11	

h. Medical Record File Specifications

File Name	rekam_medis
Acronym	rekam_medis.myd
File Functions	File Master
Organization Files	Index Sequential
File Access	Random
Media File	Harddisk
Record Length	967 Character
Field key	no_rm
Software	MySQL

Table 12
Medical Records Database Structure

No.	Elemen data	Akronim	Tipe	Panjang	Keterangan
1.	Nomor Rekam Medis	no_rm	integer	11	Primary key
2.	Tindakan	kd_tindakan	integer	11	
3.	Kode Obat	kd_obat	integer	11	
4.	Kode User	kd_user	integer	11	
5.	Nomor Pasien	no_pasien	integer	11	
6	Diagnosa	diagnosa	varchar	300	
7.	Resep	resep	varchar	300	
8	Keluhan	keluhan	varchar	300	
9	Tanggal Pemeriksaan	tgl_pemeriksaan	integer	12	
10	Keterangan	ket	text		

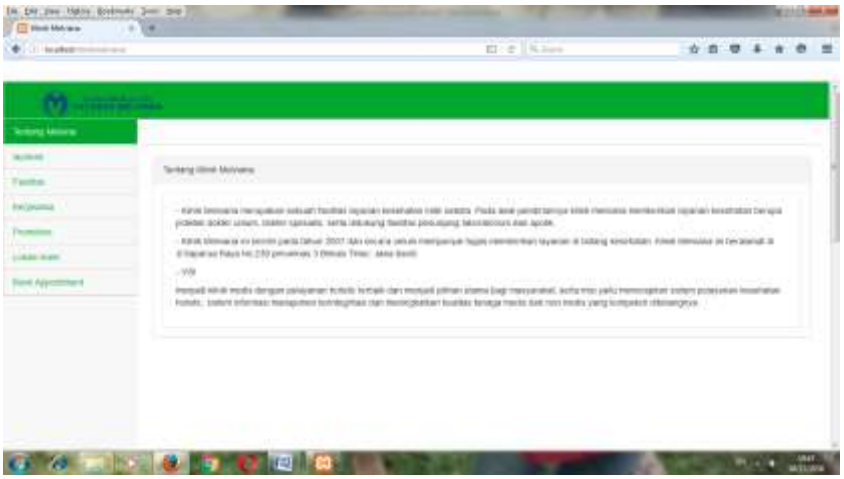
i. Action File Specifications

File Name	Action
Acronym	tindakan.myd
File Functions	File Master
Organization Files	Index Sequential
File Access	Random
Media File	Harddisk
Record Length	311 Character
Field key	kd_tindakan
Software	MySQL

Table 13
Action Database Structure

No.	Elemen data	Akronim	Tipe	Panjang	Keterangan
1.	Kode Tindakan	kd_tindakan	integer	11	Primary key
2.	Nama Tindakan	nm_tindakan	varchar	300	
3.	Keterangan	ket	text		

3. Main Menu View, Program Input and Output
   a. Main Menu View



Main Menu View

   b. Admin Menu View

Figure 10
Admin Menu View

c. Dashboard Menu View

Figure 11
Dashboard Menu View

d. Patient Menu View

Figure 12
Patient Menu View

e. Visit Menu View

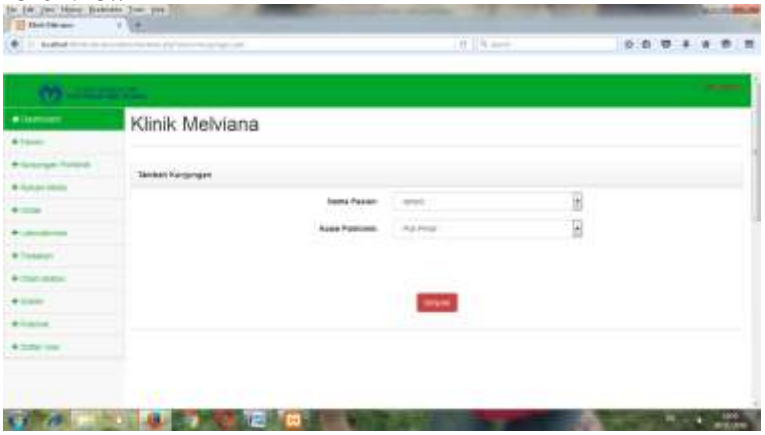


Figure 13
Visit Menu View

f. Medical Record Menu View

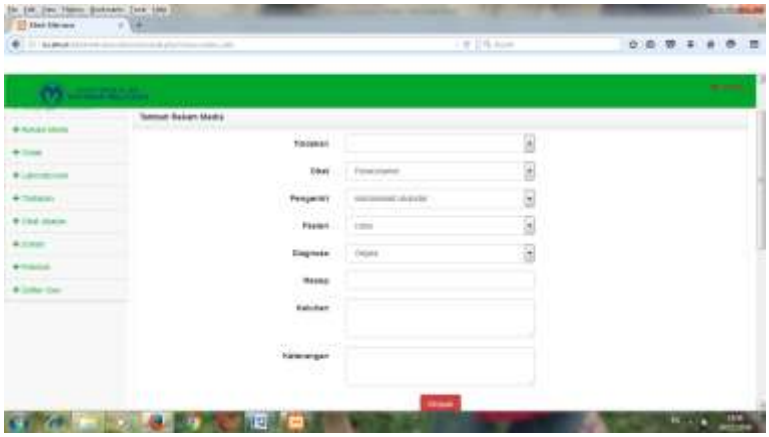


Figure 14
Medical Record Menu View

g. Print Menu View

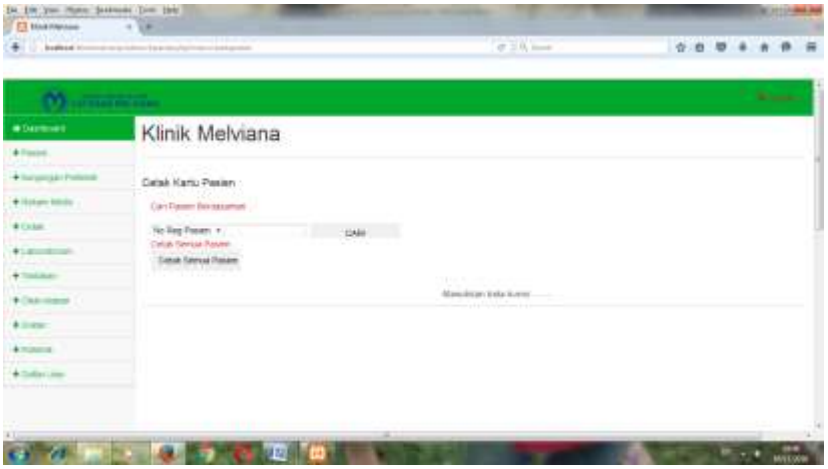


Figure 15
Print Menu View

h. Laboratory Menu View

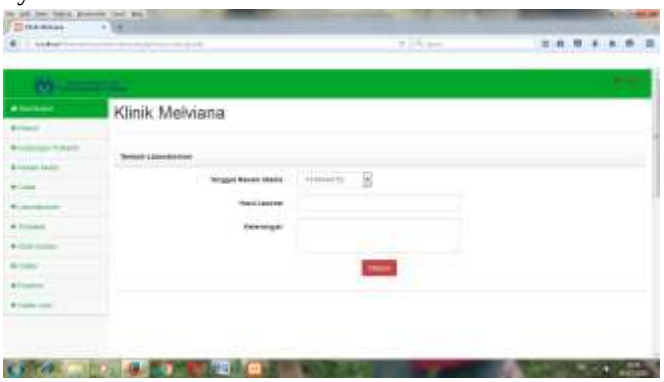


Figure 16
Laboratory Menu View

i. Action Menu view

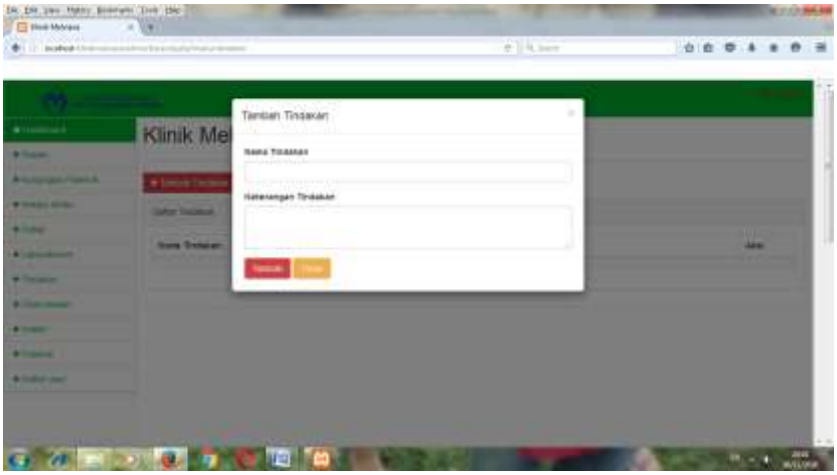


Figure 17
Action Menu View

j. Drug Menu Display

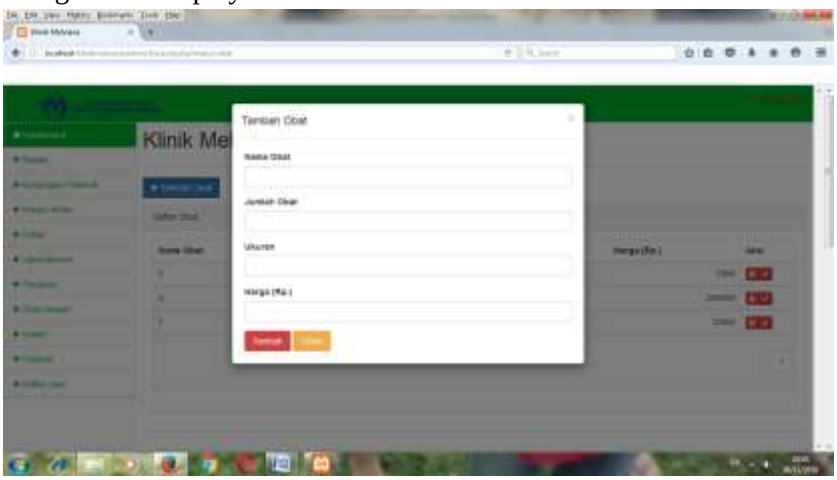


Figure 18
Drug Menu Display

k. Doctor Menu View

Figure 19
Doctor Menu View

l. Polyclinic Menu View

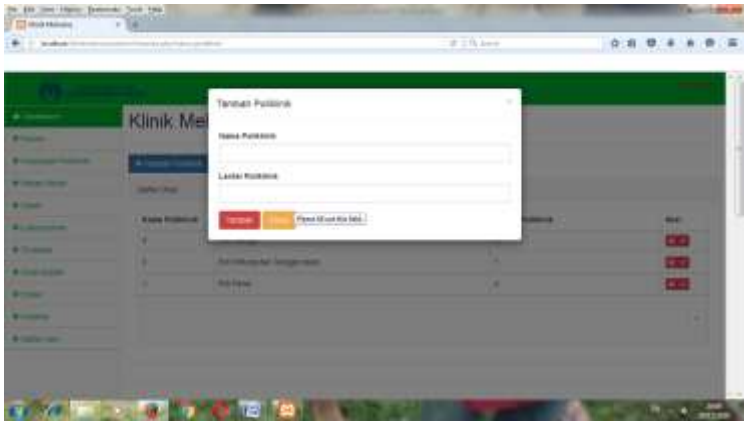


Figure 20
Polyclinic Menu View

m. User Menu View

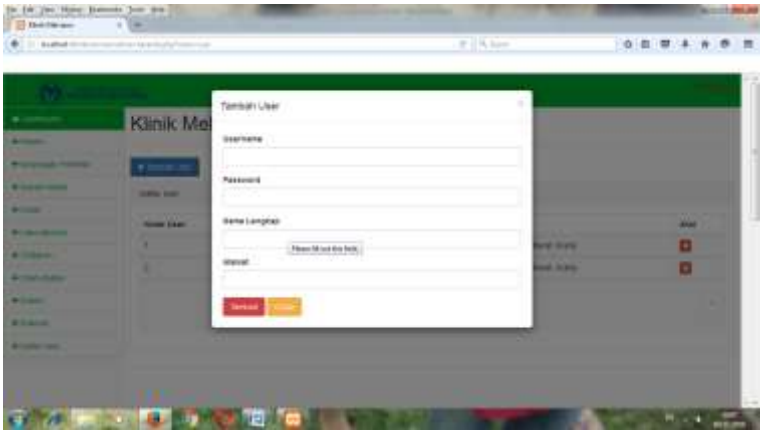


Figure 21
User Menu View

n. Patient Report View

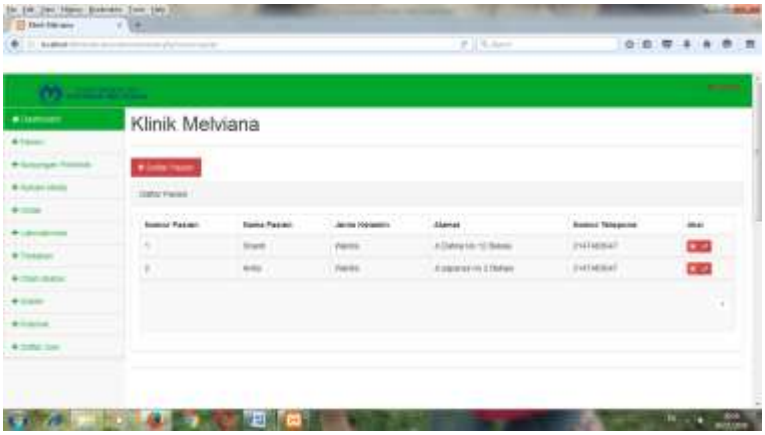


Figure 22

Patient Report View

o. Visit Report View

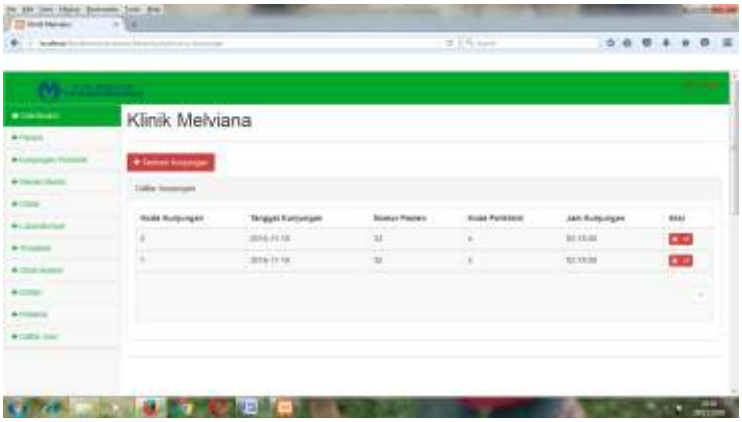
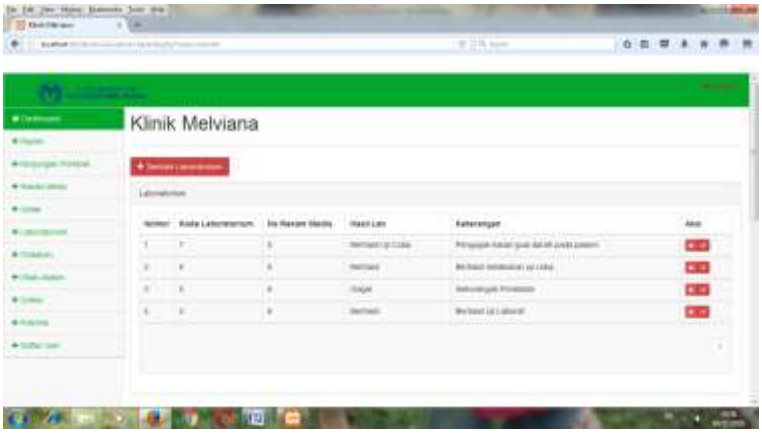


Figure 23
Visits Report View

p. Print Card Report View

Figure 24
Print Card Report View

q. Laboratory Report View



r. Action Report view

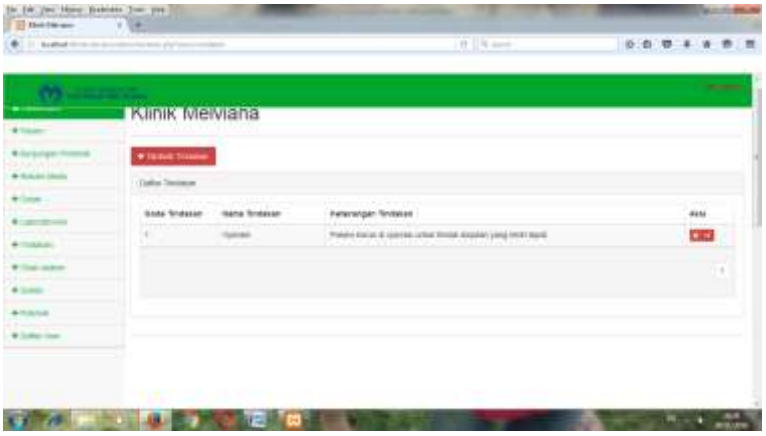


Figure 26
Actions Report View

s. Drug Report View

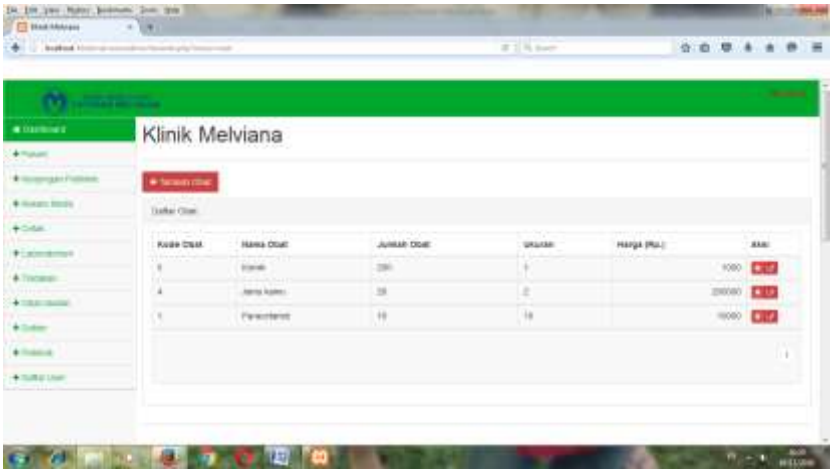


Figure 27
Drug Report View

t. Doctor Report View

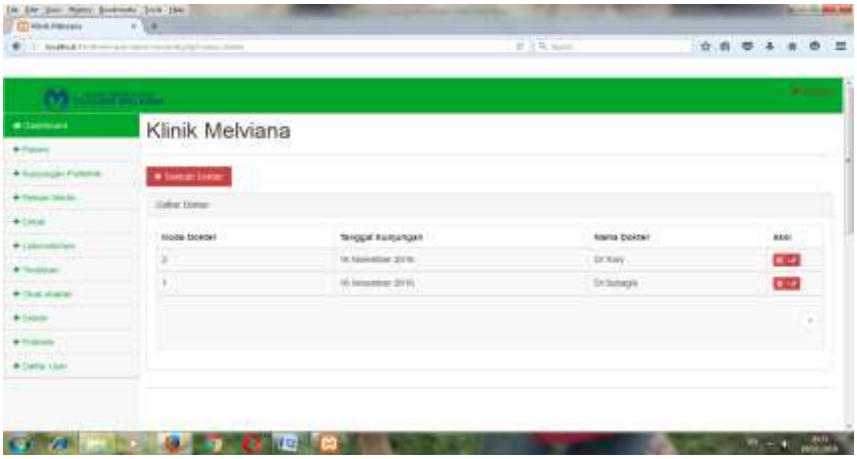


Figure 28

Doctor Report View

u. Polyclinic Report View

Figure 29
Polyclinic Report View

v. User Report View

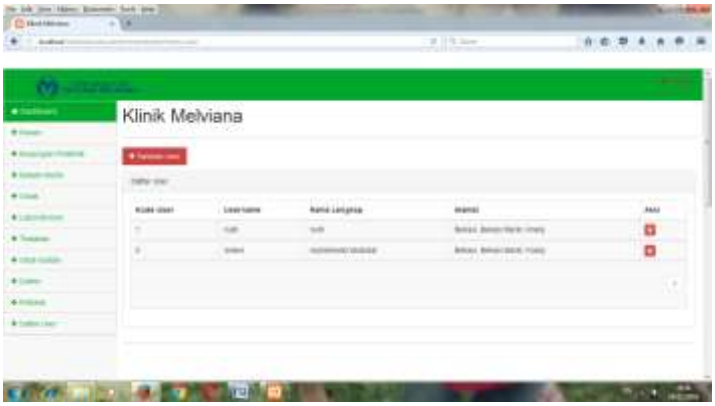


Figure 30
User Report View

4. Compile / Program End Result

Database steps to use

a) Through the star menu on the taskbar, select the all program menu
   1) Run firofox mozila
   2) Type localhost

b) Select php MyAdmin
   1) Select Database
   2) Type the db_dbms in the create database field
   3) Click create

c) Create a Table
   1) Select create table
   2) Type the table name in the table name column
   3) Type the field name in the name field
   4) Choose the data type
   5) Length characters in the length values column
   6) Specify the primary key in the index column

7) Select saveLakukan hal yang sama seperti bagian c untuk membuat tabel – the following table:

Steps to run the sales applicassi program

1) Select the start menu on the taskbar select all programs
2) Choose firofox mozila
3) Type localhost/klinkmelviana/admin
4) Enter the password
   a) If the username and password are correct to the main menu
   b) If the username and password are incorrectly rejected to the rejection menu
   c) Main Menu
5) Choose options such as the menu below Data
6) Select patient for input, edit, delete

Conclusion

From the discussion that has been described, it can be concluded the following, health services to patients are still using manual methods, it is necessary computerized system. By using the Web, health care information system can be developed better in the process of providing services to patients. With a computerized system will support the delivery of accurate and fast information to all parties who need it, especially in making decisions.

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