

## **WEBSITE BASED PATIENT CLINICAL DATA INFORMATION FILLING AND REGISTRATION SYSTEM**

**Agung Suryadi<sup>1\*</sup>, Ts Arvindi Balakrishnan<sup>2</sup>**

<sup>1</sup>Medical Records and Health Information, Universitas Duta Bangsa, Jl. Bhayangkara No. 55, Tipes, Serengan, Surakarta City, Central Java 57154, Indonesia

<sup>2</sup>Institute of Medical Science Technology, Universiti Kuala Lumpur, A1, 1, Jalan TKS 1, Taman Kajang Sentral, 43000 Kajang, Selangor, Malaysia

\*[agung\\_suryadi@udb.ac.id](mailto:agung_suryadi@udb.ac.id)

### **ABSTRACT**

Patient registration is very important in health care services. Various strategies have been implemented in optimizing services, one of which is by developing a web-based outpatient registration system. The purpose of this study is to build a computer-based web-based outpatient registration information system. The type of research used is descriptive by means of a survey, the variables used are flow and outpatient registration procedures, patient data, doctor data, payment method data, polyclinic data. The object of this research is the Outpatient Registration Officer. The instruments used were interview guidelines and observation guidelines, as well as using the Development Life Cycle (SDLC) system development system. Using PHP, HTML, CSS and Java script programming languages, with MySQL database. This information system can make it easier for patients to register themselves without having to go to the hospital first.

Keywords: information system; outpatient registration; web

### **INTRODUCTION**

The development of information technology is a common phenomenon in life and greatly influences the progress of an organization. One of the technologies that is often used is communication technology which is seen as a technology that is much needed by the community, especially in data management. Data management in the era of the industrial revolution 4.0 varies greatly, can use various methods and various facilities, such as the use of internet technology which has advanced features, one of which is a web-based information system. The hospital is a place to provide health services to the community. Hospital according to Law No. 44 of 2009 article 1 is a health service institution for the community with its own characteristics which are influenced by developments in health science, technological advances, and the socio-economic life of the community which must be able to improve services that are more quality and affordable by society in order to realize the highest degree of health. Based on the results of a survey conducted by researchers, it was found that registration in health services is still mostly found using conventional methods, several hospitals already use computers but are still running as a stand alone so that services are not maximized. One breakthrough that can be applied in overcoming this is by combining information technology with internet technology. Based on the above problems, an application is needed that can provide convenience to patients by building a web-based information system.

### **METHOD**

The research method used is descriptive by means of a survey, namely the method used to make an assessment of a condition and the implementation of a program in the present, then the results are used to develop a program improvement plan. The approach used is cross-sectional, namely a study to study the dynamics of the correlation between risk factors and effects, by way of approach,

observation or data collection at one time. Processing research data on hospital management information systems can be done in several ways, namely: 1. Collecting is collecting data from the hospital medical record unit. 2. Editing is correcting data that has been collected before being processed because there is a possibility that data duplication and errors will still occur. 3. Classification is grouping or differentiating data that has been obtained according to its classification into tabular form. 4. Presentation of data is the data that has been collected will be processed with the programming language PHP, Java and MySQL database. While the system development method uses the System Development Life Cycle (SDLC) which consists of: Project Identification and Selection, Project Initiation and Design, Analysis Phase, Design Stage, System Implementation, and System Maintenance.

## RESULTS

Place of Outpatient Registration at the Hospital in general, starting from the place of reception of patients who will register before getting services. The patient comes directly to the hospital to take the queue number. Then the patient waits for the registration number to be called. After registering, the registration officer submits the medical record file to the polyclinic. After that, the patient waits in line to carry out an examination at the polyclinic.



Figure 1. The flow of patient registration

## System Design

System design is planning for the preparation of the entire system design consisting of Data Flow Diagrams (DFD), database design, input design, output design, screen dialog design, technology design and how to operate. Data Flow Diagrams Data Flow Diagrams (DFD), consisting of context diagrams, tiered diagrams, level 0 DFD and level DFD

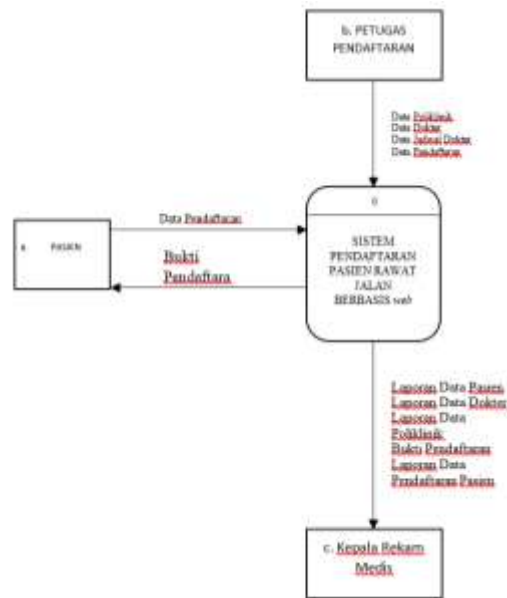


Figure 2. Context Diagram of Web

### Database Design Database

Name on the web-based outpatient registration information system. The registration database consists of 7 tables as follows:

For xample table in database design is: Patient Table The patient table design in the database consists of 14 fields. The primary key in this table is no\_rm.

Table 1 Patient Table Design

Field Name	Data Type	Length	Description
No_rm*	char	6	No. rekam medis pasien
No_Identitas	Varchar	30	Nomer identitas pasien
Nama_pas	Varchar	30	Nama pasien
Jenkel_pas	Enum	1	Jenis kelamin pasien
Tempat_lhr	Varchar	20	Tempat lahir pasien
Tgl_lhr	Date	8	Tanggal lahir pasien
Alamat	Varchar	50	Alamat pasien
Agama	Enum	1	Agama pasien
Status	Enum	1	Status pasien
Pekerjaan	Enum	1	Pekerjaan pasien
Pendidikan	Enum	1	Pendidikan terahir pasien
Nama_ortu	Varchar	30	Nama orang tua pasien
Nama_suami/istri	Varchar	30	Nama suami/istri pasien
No_tlp	Varchar	15	Nomer telepon pasien

Doctor Tabel The database doctor table design consists of 9 fields, the primary key in this table is kd\_dokter and the foreign key is id\_poliklinik.

Tabel 2 Desain Tabel Dokter

Nama <i>field</i>	<i>type</i>	<i>width</i>	<i>description</i>
NIPD(*)	char	21	Kode dokter
Nama_dokter	Varchar	30	Nama Dokter
Alamat	varchar	50	Alamat Dokter
Spesialis	Enum	1	Spesialis
Kd_poliklinik(**)	Int	2	Kode poliklinik
Hari_praktik	Varchar	20	Hari praktik
Jam_mulai_praktik	Time	10	Jam mulai praktik
Jam_selesai_praktik	Time	10	Jam selesai praktik

Poliklinik Tabel The polyclinic table design in the database consists of 2 fields. The primary key in this table is kd\_poli.

Tabel 3 Desain Tabel Poliklinik

Field Name	Data Type	length	description
Kd_poli*	Char	5	Kode poliklinik
Nama_poliklinik	Varchar	30	Nama poliklinik

Registration Table The design of the registration table in the database consists of 9 fields. The primary key in this table is no\_registration and the foreign keys in this table are no\_rm, kd\_dokter and kd\_poliklinik.

Tabel 4 tabel pendaftaran

Field Name	Data Type	length	description
No_registrasi(*)	varchar	10	Nomor registrasi
No_rm(**)	varchar	8	Nomor rekam medis
Kd_poliklinik(**)	Char	2	Kode poliklinik
Kd_dokter(**)	Char	2	Kode dokter
Penanggung jawab hubungan	varchar	20	Nama penanggung jawab hubungan
Telp_penanggung		11	Nomor telp penanggung
Kd_bayar	char	2	Cara bayar
Tgl_periksa	Date	8	Tanggal pemeriksaan
Jam_periksa	Timestamp	6	Tanggal registrasi
Cara_daftar	Char	2	Cara mendaftar
Verifikasi	Int	1	Verifikasi
No_antrian	varchar	5	Nomor antrian

### Table Relations

Table relationships are relationships between tables that are related to each other in a database. Table relations can be related to each other through the index of the table. The following is an overview of table relations in the registration database used in a web-based outpatient registration information system.

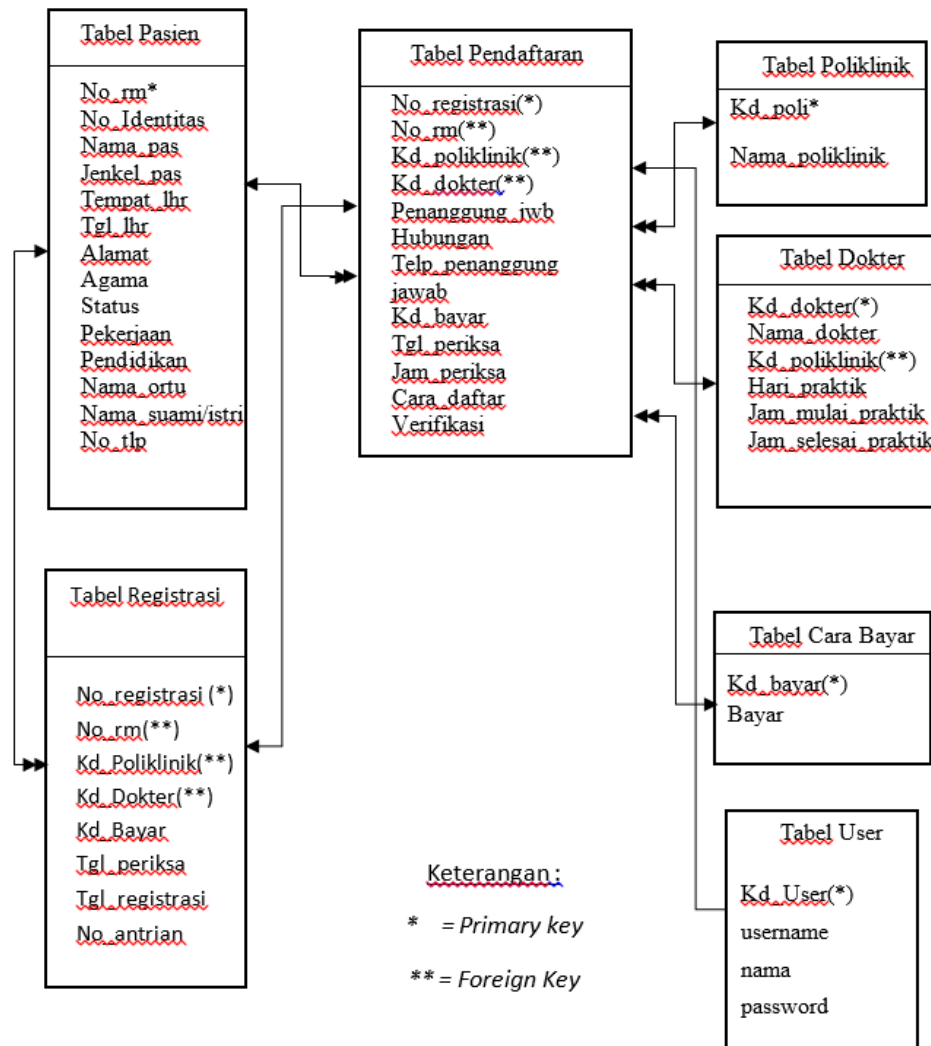
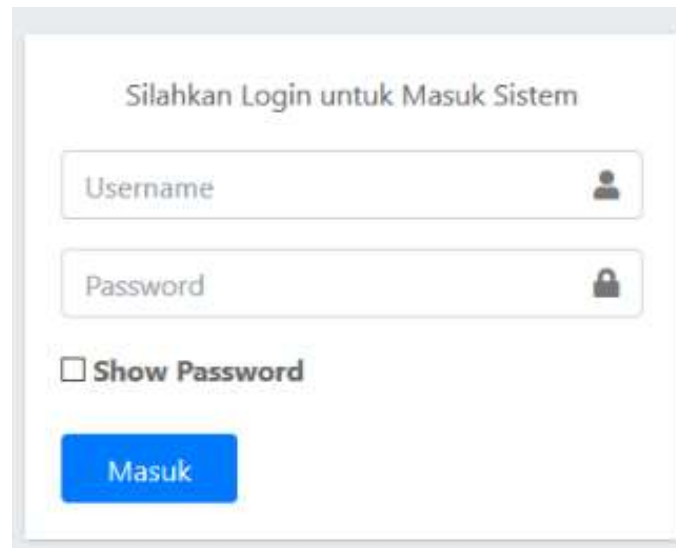


Figure 3. Table Relations

## DISCUSSION

To use a web-based registration system, start by activating the program, starting with turning on the computer, wait until the boot process is complete, then open a web browser, then type the address <http://localhost/rajal/.php> in the address bar. Wait a few moments then it will appear as follows:



The image shows a login form with the title "Silahkan Login untuk Masuk Sistem". It contains two input fields: "Username" with a user icon and "Password" with a lock icon. Below the password field is a checkbox labeled "Show Password". At the bottom of the form is a blue button labeled "Masuk".

Figure 4. form login

Next, what the admin does is enter a password in the form of a username and password to be able to enter into the next system. After successful login, the home page will appear as follows:

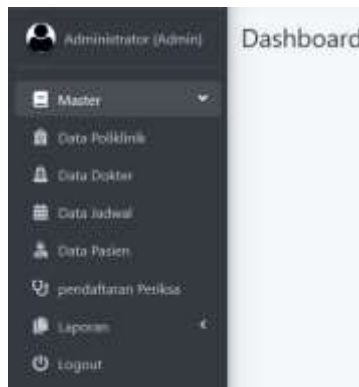


Figure 5. form Dashboard

Master Data Page The master menu contains master data that will be processed in the system including polyclinic data, doctor data, doctor schedule data and patient data. the master menu. Patient Data Master The patient data master is used to manage patient data, the patient data master contains the patient's identity including the patient's medical record number, patient's name, religion, last education, address and telephone number. To add patient data by pressing the add data button then the patient data input display appears, after filling in the patient's identity data then press the save button. Then the patient data will appear in the table. To edit patient data by clicking the button or the edit icon on the right and then editing the patient data, after the editing process is complete then click the save button.

The screenshot shows a web application interface for entering patient data. The page title is 'Data Pasien'. On the left, there is a dark sidebar menu with options like 'Home', 'Data Pendaftaran', 'Data Dokter', 'Data Jadwal', 'Data Pasien', 'pendaftaran Perflow', 'Laporan', and 'Logout'. The main content area is titled 'Tambah Data' and contains the following fields:

- No. Pasien (Numerik)
- Nama Pasien
- Jenis Kelamin
- Tanggal Lahir
- Pendidikan Terakhir
- Alamat

Figure 6. patient input form

The screenshot shows a web application interface for managing patient data. The page title is 'Data Pasien'. On the left, there is a dark sidebar menu with options like 'Home', 'Data Pendaftaran', 'Data Dokter', 'Data Jadwal', 'Data Pasien', 'pendaftaran Perflow', 'Laporan', and 'Logout'. The main content area is titled 'Tabel Data Pasien' and contains a table with the following data:

No. RM	Pasien	Agama	Pendidikan	Pekerjaan	Alamat	No. Telp
PS0001	Krisanto (Laki-laki) Sekeloa, 15 Juli 1993	Islam	SMA	Buruh	Gembelung	08007654321
PS0002	Arifa (Perempuan) Surakarta, 13 Juli 2000	Islam	Perguruan Tinggi	Petugas	Jalan Jambu Raya No.8 Laweyan Surakarta	08176543210

Figure 7. patient master form

Doctor Data Master Doctor's master data consists of NIPD, Doctor's Name, Polyclinic, Doctor's Address and telephone number. Doctor data master is used to manage doctor data and doctor schedule. To add doctor data by pressing the add data button then an input page appears to enter doctor data, after entering doctor data then press the save button. After inputting data, the data will be displayed in the table. To edit data, namely by selecting the name of the doctor that the doctor will choose, then clicking the edit icon, after editing is complete, then press the save button

The screenshot shows a web application interface for 'RSU Asalam Gemolong'. The main content area is titled 'Data Dokter' and contains a form with the following fields:
 

- NPM**: A text input field.
- Nama Dokter**: A text input field.
- Jenis Kelamin**: A dropdown menu with 'Pria' and 'Wanita' options.
- Poliklinik**: A text input field.
- Alamat**: A text input field.
- No. Telp**: A text input field.

 At the bottom of the form, there are two buttons: 'Simpan' (Save) in blue and 'Batal' (Cancel) in yellow.

Figure 8. doctor input form

The screenshot shows the 'Data Dokter' master data table. The table has a search bar and a 'Tambah Data' button. The table contains the following data:

NPM	Nama	Poliklinik	Alamat	No. Telp	
18.0.071.6.01.000101	Dr. Saiful Luqman Harahap, Sp.S (Lain-lain)	Saraf	Tragor	081244310189	[Edit] [Delete]
19.1.1.011.4.10.001075	Dr. Ayub Ibrahimy, Sp.OG, M.Kes (Lain-lain)	OB/GYN	Tragor	08134007990	[Edit] [Delete]
19.1.1.401.2.10.100048	Dr. Alvinrad Jafaruddeppoh, Sp.R (Lain-lain)	Jantung	Sukoharjo	081404307990	[Edit] [Delete]
19.1.1.401.3.10.070210	Dr. Senti Farida, Sp.PD, M.Kes, FKASIM (Perempuan)	Perempuan Dalam	Sukoharjo	08110407990	[Edit] [Delete]

Figure 9. master doctor form

Polyclinic Master Data The polyclinic master data contains the polyclinic code and polyclinic name. To add new polyclinic data by pressing the add data button then the poly code appears automatically and the admin only fills in the name of the polyclinic, then press the save button

Figure 10. poliklinik input form

Kode Poliklinik	Nama	Status
POL101	DES101	OK
POL102	Desyati Dalam	OK
POL103	Anak	OK
POL104	Mata	OK
POL105	Saraf	OK

Figure 11. poliklinik master form

Reports are used to display reports consisting of polyclinic reports, doctor reports, schedule reports, patient reports, patient registration reports.

No. Pasien	Nama	Jenis Kelamin	Tempat, Tanggal Lahir	Agama	Pendidikan	Pekerjaan	Alamat	No. Telp
P00001	Krismanto	Laki-laki	Sukoharjo, 11 Juli 1993	Islam	SMA	Buruh	Gersolong	080987654321
P00002	arsila	Perempuan	surakarta, 15 Juli 2000	Islam	Perguruan Tinggi	Pelajar	jalan jambu raya no.8 laweyan surakarta	098765432109
P00003	nisa atmaja	Perempuan	surakarta, 08 Agustus 2000	Islam	SMA	Buruh	Pajang surakarta	098765432109

Figure 12. patient report

## CONCLUSION

A web-based patient registration information system can make it easier for users to register themselves online as outpatients without having to visit the hospital first. A web-based patient registration information system was built using the programming language PHP, html, css and java script Registration information system database processing using MySQL

## REFERENCES

- Anhar. (2010). *Panduan Menguasai PHP dan Mysql*. Jakarta: Media Kita.
- DepKes RI. (2006). *Pedoman Penyelenggaraan Dan Prosedur Rekam Medis*
- Fatkhudin,Aslam.Alifiani,Nur Dwi. (2017). Sistem Informasi Pendaftaran Pada Klinik dr.Veri Kagen Kabupaten Pekalongan Berbasis Android. *Jurnal Ilmiah Edutic/Vol.4,No.1,November 2017*
- Fatta, Hanif Al. (2007). *Analisis dan Perancangan Sistem Informasi Untuk Keunggulan Bersaing Perusahaan dan Organisasi Modern*. Yogyakarta:Andi.
- Jayan. (2010). *CSS untuk Orang Awam*. Palembang: Maxikom.
- Markus, Suryo Nugroho. (2011). *Master Plan Pengembangan Sistem Informasi Manajemen Rumah Sakit*. Yogyakarta : Politeknik Kesehatan Permata Indonesia.
- Notoatmodjo, Soekidjo. (2012). *Metodologi Penelitian Kesehatan*. Jakarta: Rineka Cipta.
- Rustiyanto, Ery. (2011). *Sistem Informasi Manajemen Rumah Sakit yang terintegrasi*.Yogyakarta: Ardana Media.
- Setiabudi Hamid. (2016). *Aplikasi pelayanan pendaftaran dan sistem notifikasi pada klinik prakek bersama makasar*
- Sudra, Rano Indradi. (2014). *Rekam Medis*. Tangerang Selatan : Universitas Terbuka.
- Suryadi A, 2017, 'Rancang Bangun Sistem Informasi Rekam Medis Klinik Rawat Jalan Berbasis Web', Infokes, Vol.12, No.1, 73-43
- Sutanta, Edhy. (2011). *Basis Data Dalam Tinjauan Konseptual*. Yogyakarta: Penerbit Andi.
- Yakub. (2012). *Pengantar Sistem Informasi*. Yogyakarta: Graha Ilmu