

# International Journal of Engineering Sciences & Research Technology

(A Peer Reviewed Online Journal)

Impact Factor: 5.164



**Chief Editor**

Dr. J.B. Helonde

**Executive Editor**

Mr. Somil Mayur Shah



**INTERNATIONAL JOURNAL OF ENGINEERING SCIENCES & RESEARCH  
TECHNOLOGY**

**IMPLEMENTATION OF MANAGEMENT INFORMATION SYSTEM  
INTEGRATION OF TICKET SALES ON TOUR & TRAVEL (STUDY CASE:  
SMALL AND MEDIUM ENTERPRICE TRAVEL SERVICES IN INDONESIA)**

**Hariadi Yutanto, Achmad Zakki Falani\* & Kiki Elfandari\***  
**STIE Perbanas Surabaya, Indonesia**

\*Universitas Narotama Surabaya, Indonesia

DOI: 10.5281/zenodo.1477812

**ABSTRACT**

Lately many small and medium enterprises (SMEs) are engaged in tour and travel in Indonesia competing to provide the best services, but until now these SMEs only provide ticket purchase services and travel shuttle services within the city. For ticket purchase services, the company has around fifty branches or sub-branches of subsidiaries in several cities. In the process of processing ticket sales data and billing sales bills, the company still uses conventional methods. By sending billing files via expedition to each sub agent. This method is less effective and still has many weaknesses, including loss of files, and invalid report results. To support the performance of tour and travel companies in the ticket division, companies need information systems that can assist in ticket management activities. The solution to this problem is to build a web-based ticket management integration information system that can help with corporate problems, especially in ticket sales. The diagram used in the design of information systems in this study is the Unified Modeling Language (UML). With this diagram it can facilitate the writer in designing and building a ticket management integration information system.

**Key Words:** Information systems, design, tour and travel, UML.

**1. INTRODUCTION**

In the development of technology, especially information and communication technology plays an important role to support human performance in daily activities. In fact, in all fields of the profession requires a computer to support work. Information systems have an important role in a company such as facilitating the completion of work, improving services and monitoring employee work processes. A company certainly has a strong desire to continue to grow and achieve success. In the development of the business world today accompanied by the emergence of business competitors, making the company must continue to innovate to be able to improve service to consumers.

Small and medium enterprises (SMEs) are companies engaged in tour and travel services. Not only providing tourism transportation services, the company also provides purchase tickets for land, air and sea transportation. Ticket sales transactions are not carried out by the head office alone, the company has a sub-ticket agent of about fifty sub-agents.

The data management process, report making and sub agent performance monitoring are still conventional. Ticket sales data still uses input data in Microsoft Excel. Ticket sales reports carried out by sub agents to the head office use telephone communication and delivery of report files through freight forwarding. This manual reporting process often causes errors in reporting ticket sales. In addition, the presentation of ticket sales reports requires a relatively long time. To minimize errors in reporting ticket sales, SMEs Wisata Nusantara requires a ticket management integration information system.



## 2. LITERATURE REVIEW

### Waterfall Development

The waterfall method proposes an approach to the development of systematic and sequential software that starts at the level and progress of the system in all analysis, design, code, testing and maintenance (Apriyanto, 2011).

### Management Information System

A computer-based system that provides information for some users with the same needs is the understanding of SIM (Management Information System). The purpose of the SIM is to present information for decision making in planning, initiating, organizing, controlling the operations of a company's subsystems and presenting organizational synergies in the process. (Djahir, 2015)

### Unified Model Language (UML)

A set of symbols and diagrams to model software is another understanding of the Unified Model Language. By using UML, software design can be realized in the form of symbols and diagrams. Symbols and diagrams can then be translated into program codes (Azis, 2005). The following are various Unified Modeling Language (UML) diagrams, namely: Use Case Diagram, Class Diagram, Activity Diagram, Sequence diagram

### Database (Database)

According to Indarajani (2009) the database is a large data storage place that can be used by many users. All database items are no longer owned by one department, but become company resources that can be used together.

### Pre Hypertext Processor (PHP)

In building a web-based information system requires programming language. To build a ticket management integration information system using the PHP programming language (Pre Hypertext Processor). Which PHP is a scripting language that integrates with HTML (HyperText Markup Language) and is run on the server side. All given PHP syntax will be fully executed on the server, while the only one sent to the browser is the result. PHP also supports OOP (Object Oriented Programming) so code maintenance becomes much easier than procedural. (Wardana, 2010)

### Cascading Style Sheet (CSS)

Style sheet languages used to attach or include styles (fonts, spaces and page settings) into structured documents such as HTML documents and XML applications are Cascading Style Sheets (CSS). By separating presentation styles from document content, CSS can simplify web creation and site management (Kusumo, 2007)

### My Structured Query Language (MySQL)

A database server program that is capable of receiving and sending data very quickly, multi-user and using standard SQL (Structured Query Language) commands. (Nugroho, 2005)

MySQL can be run on a variety of platforms including Linux, Windows and others.

### Black-Box Testing

Black-box testing is not an alternative to white-box techniques, but is a complementary approach that is most likely to be able to reveal a class of errors rather than the white-box method. (Ladjamudin, 2006)

## 3. METHODOLOGY

The steps used in completing this study.

Analysis of Problems

1) Literature Study

Data collection is done by studying reference books and literature that support the making of the system. There are three previous research journals listed in Chapter II in the study.

2) Interview

The stage in conducting the interview process, including understanding business processes and existing systems, data on business people in the company, determining the information data needed by the system, reports on ticket sales transactions.

3) Observation

Observations are made by making direct observations at SMEs which is located at Tunjungan 86-88 Surabaya. Observations are carried out to find out which business processes are being walk. After doing the interview and observation stages, it has been obtained an overview of the ongoing business processes.

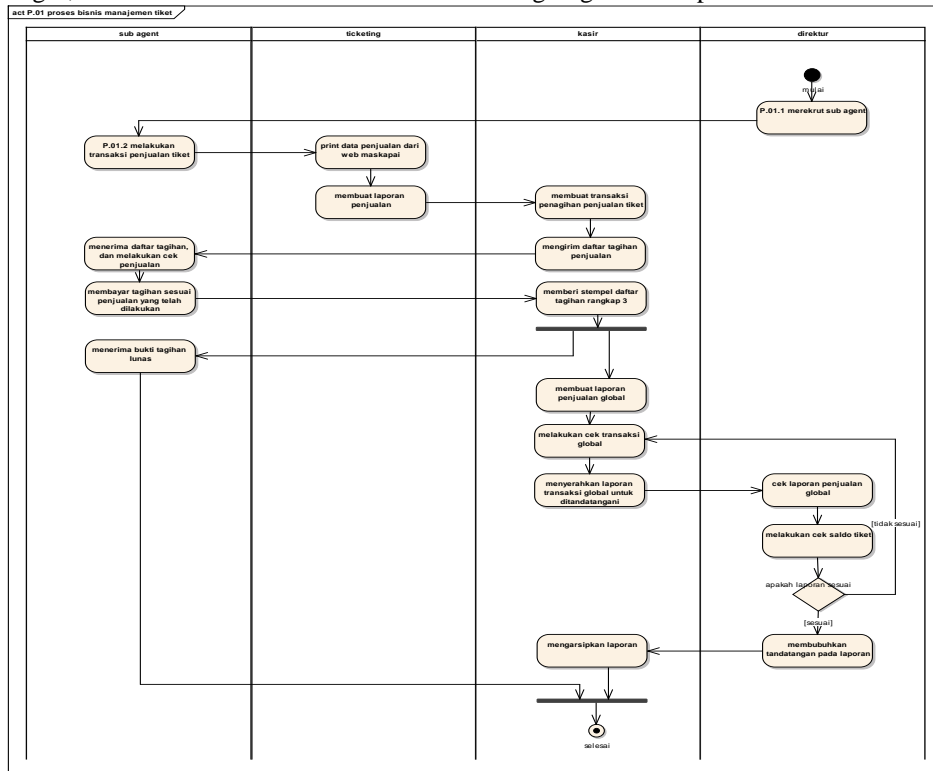


Figure 1 Ticket Management Business Process

System planning

1) Design To Be System

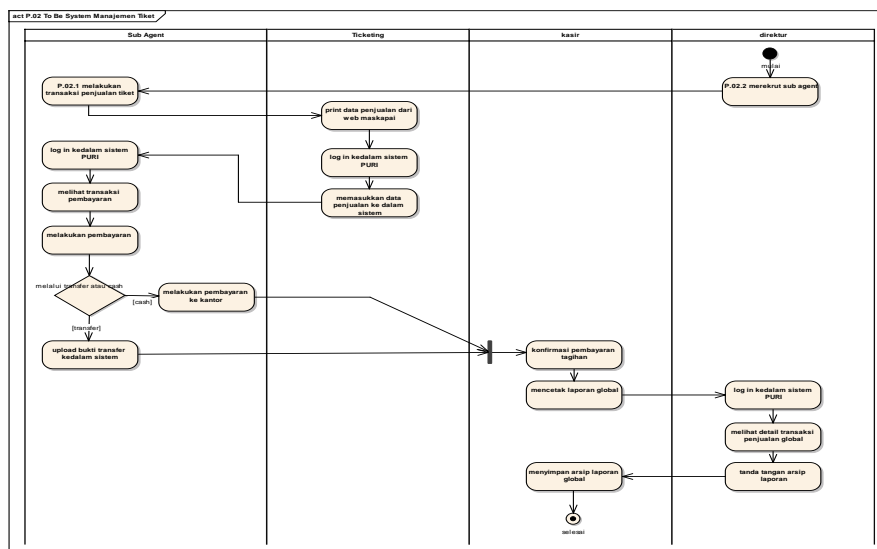


Figure 2 To Be Ticket Management Integration System

2) Designing Use Case Diagrams

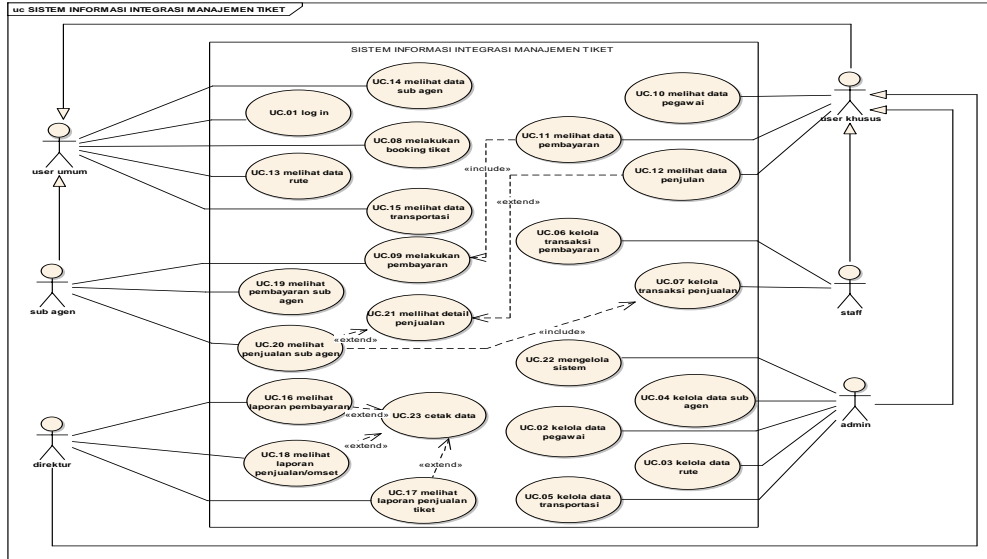


Figure 3 Use case diagram of ticket management integration information system

3) Designing Activity Diagrams

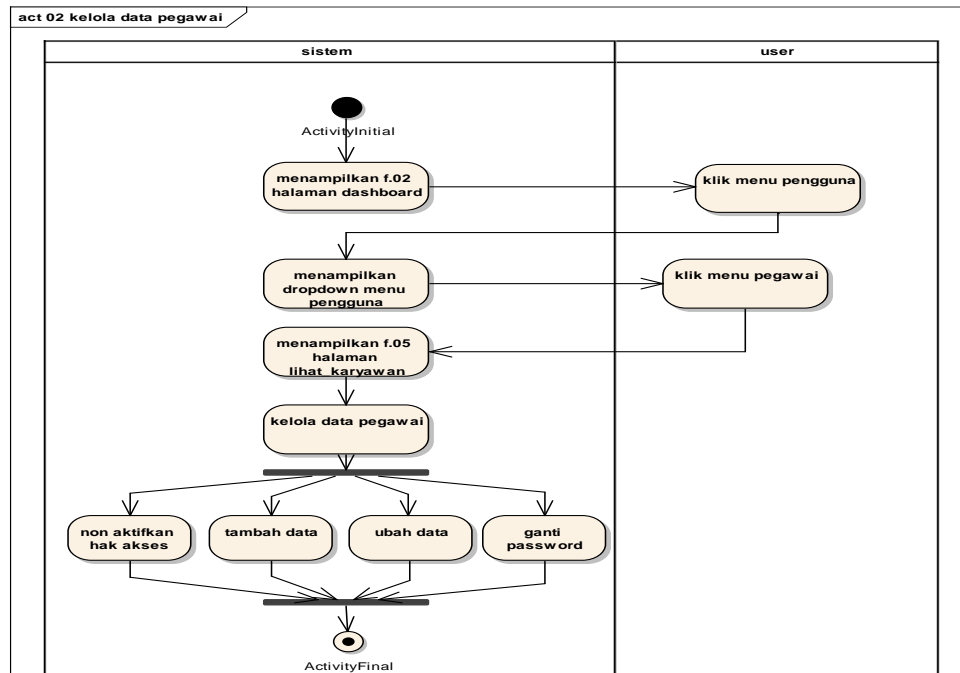


Figure 4 Activity Diagram

4) Designing Sequence Diagrams

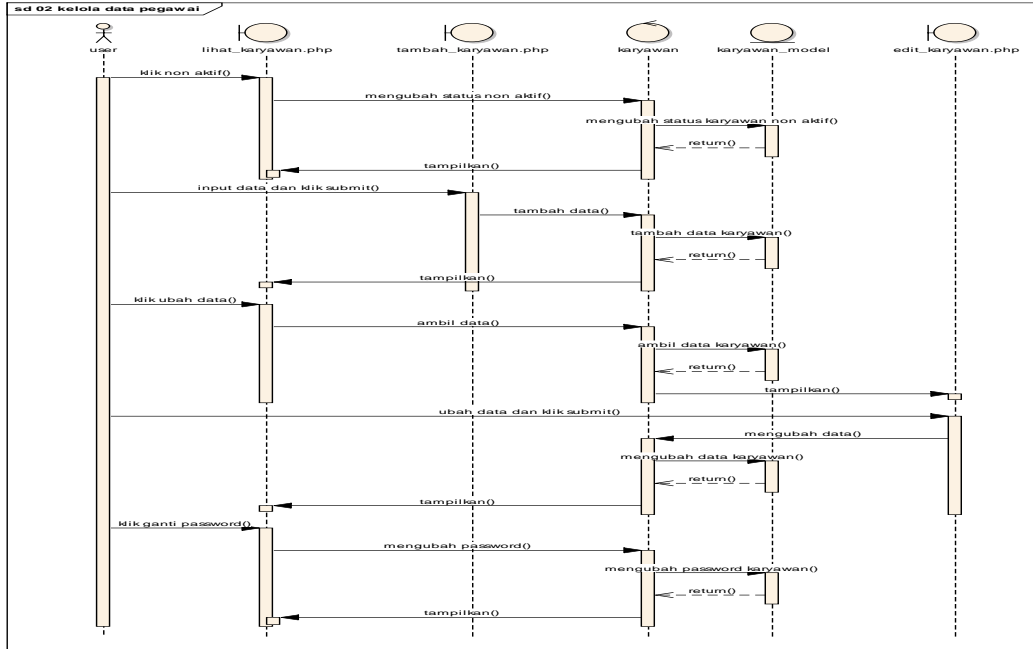


Figure 5 Sequence Diagram

5) Design of Class Diagrams

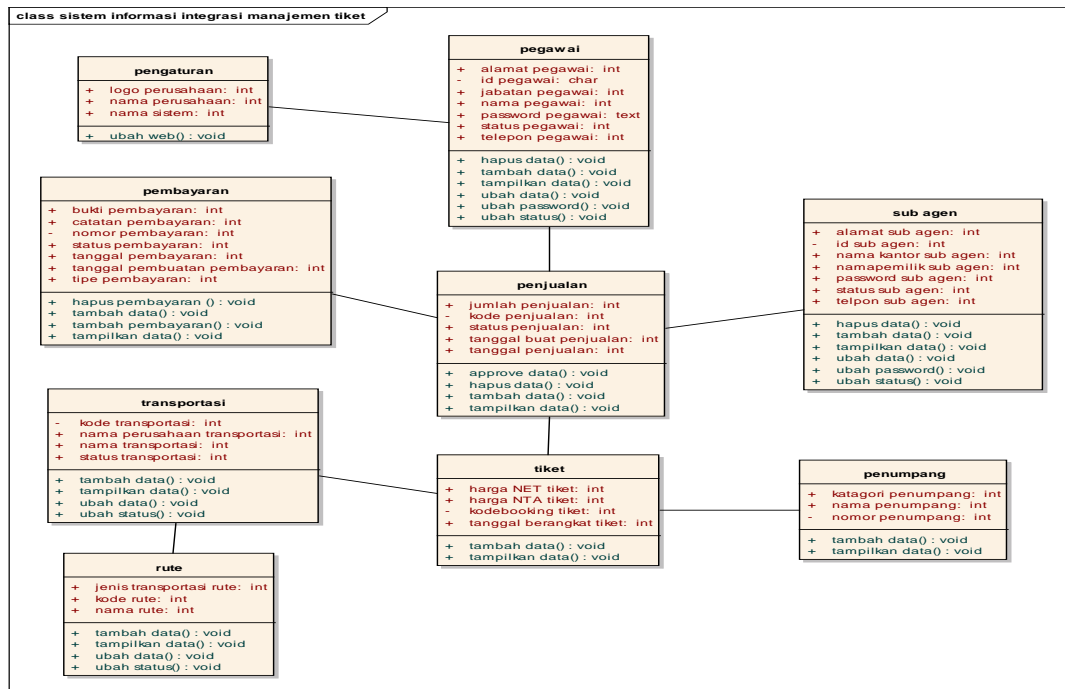


Figure 6 Class diagram of ticket management integration information system



## 6) Design Interface System

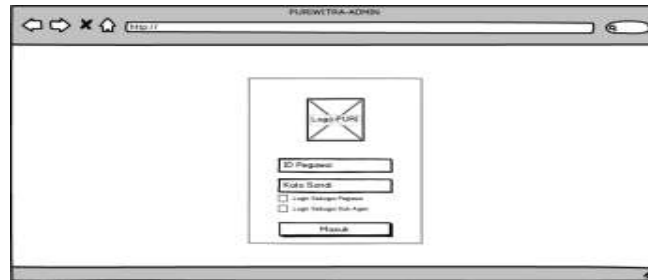


Figure 7 Design of the login page

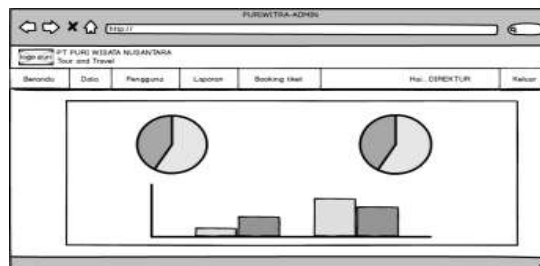


Figure 8 Design of the home page

## 7) Implementation and Testing PHP and MySQL implementation

The programming language used in building systems uses the PHP programming language. To build a system database using a MySQL database.

### Black-box Testing

Tests are carried out only from the system or system interface, and menu functions on the system. The test serves as a system test whether the system is running according to what is planned or not.

## 4. RESULTS AND DISCUSSION

### Implementation System

In the implementation section will be explained about the display system, the function of each menu on the system, as well as an explanation of the input form in the system and the output results generated by the system.

#### 1) General page

The general page consists of several menu pages, including: login page, home page or dashboard, ticket booking page, page viewing transportation data, page viewing route data, page viewing employee data and page viewing sub agent data.



Figure 9 Login page

**2) Staff Access Rights Page**

Another addition to the user staff can also access several menus, including: view sales transaction data, add sales transaction data, delete sales transactions, make payments, see payments, approve sub agent payments.



Figure 10 Added page of sales data

**3) Admin Access Rights Page**

User admin can access several menus, including: add master data, delete master data, change master data and change web settings.



Figure 11 System settings page

**4) Director's Access Rights Page**

Menus that can be accessed by user directors include: view sales detail reports, view payment global reports, view global ticket sales reports and print reports.



Figure 12 Sales / turnover report page



**5) Sub Agent Access Rights page**

As for some menu exceptions that cannot be accessed, including: viewing employee data, can only see personal sales charts on the home page, can only see personal payment and sales transactions.

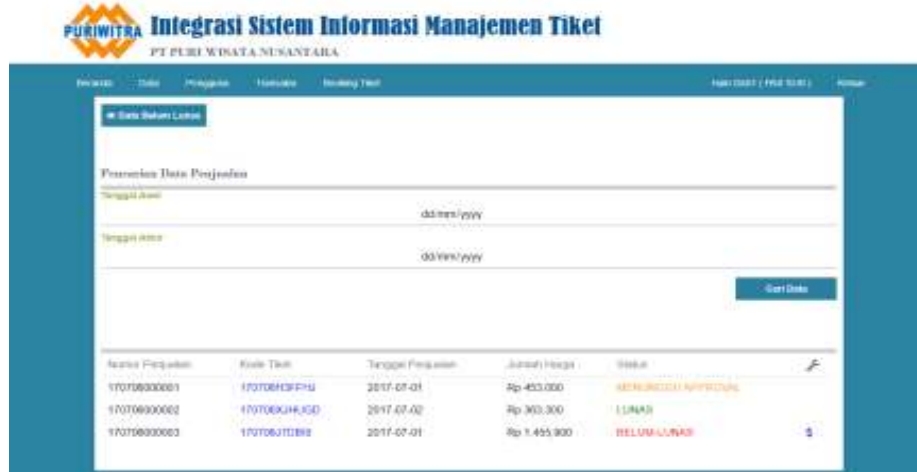


Figure13 page of sub agent sales transactions

**Black-box Testing**

Testing the ticket management integration information system using black-box testing. System testing is needed to find out if the system is running as expected. Black-box testing is done based on the number of usecases in the system.

Table 1 Testing the Black Box Logo


Date Tester: 06/07/17 Name of Tester: Kiki System Name: Ticket Management Integration Information System Use case name: Login Actor Name: User General					
No	Testing Scenario	Test Case	Expected results	Test result	Conclusion
1	Login (employee ID and sandibenar word) click submit		Sistem menampilkan halaman utama	The system displays the main page	Valid

Table 1 Testing the Advanced Black Box Log

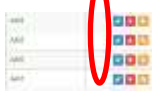


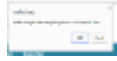


No	Testing Scenario	Test Case	Expected results	Test result	Conclusion
2	Login (one of the fields is empty or the NIK and the password is incorrect) click Login		The system will not display the main page and display an error message "please fill in this field" if the Employee ID and Password are incorrect then the system displays a dialog box "Employee ID and Password not found in the database."		Valid

Table 2 Black Box Testing employee data management





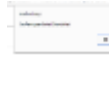
Date Tester: 06/07/17 Name of Tester: Kiki System Name: Ticket Management Integration Information System Use case name: manage employee data					
---	--	--	--	--	--

Actor Name: Admin					
No	Testing Scenario	Test Case	Expected results	Test result	Conclusion
1	Employee data input form (complete data entered) and click "submit"		The system stores input data	According to expectations	Valid

**Table 2 Black Box Testing Advanced employee data management**

No	Testing Scenario	Test Case	Expected results	Test result	Conclusion
2	Click the "non-active or cross" button on the employee data to be activated		The system will change the non active status of employee data from the database		Valid
3	Click the "change password or key" button on employee data		The system will change employee data passwords from the database		Valid
4	Form edit employee data (complete data entered) and click "submit"		The system stores employee data and displays employee data pages		Valid

**Table 4. Black Box Testing Manage sales transactions**

Date Tester: 06/07/17					
Name of Tester: Kiki					
System Name: Ticket Management Integration Information System					
Use case name: manage sales transactions					
Actor Name: Staff					
No	Testing Scenario	Test Case	Expected results	Test result	Conclusion
1	Sales data input form (complete data entered) and click "submit"		The system stores input data	According to expectations	Valid
2	Click the "delete or cross" button on the sales data to be deleted		The system will delete sales data from the database		Valid
3	Click the "Mark Out via Bank Transfer" button or "Mark Off via Cash Pay at the Office" in the details of the sale		The system will display a "Payment data successfully added?" Dialog box and save data in the database		Valid

### 5. CONCLUSION

From the description of each chapter in this study, which can be concluded as follows:

The design of this ticket management integration information system can be used because it has answered all the formulation of the problems that have been raised. The information system created can help meet the needs of business processes that have been running, namely the process of recording sales data, the payment process that is carried out by the sub agent, the sales reporting process and payment reporting. The information system that has been made through the stages of the requirements gathering in accordance with the stages of SDLC with the waterfall methodology, so as to meet the needs of users.

For the sake of the smooth running of the company's business processes, especially in the field of management, there needs to be a directed, integrated and comprehensive system. As a further development of this ticket

management integration information system, several suggestions can be put forward, namely: It is possible to increase the amount of the balance of each sub agent, making it easier for the director in the process of performance monitoring. This system can be developed into a mobile-based system so that its use will be easier. This system only deals with ticket management, where there is data collection regarding sales, payments and several monthly reports. The system that has been created can be developed again.

## REFERENCES

- [1] Azis, M.Farid. 2005. Object Oriented Programming Dengan PHP5. Penerbit PT. Elex Media Komputindo. Jakarta
- [2] AZZ Falani, EE Setiawan, SSD Hartanto. 2017. Implementasi Sistem Informasi Monitoring Dokumen Justifikasi (Studi Kasus: PT. Telkom Indonesia, Regional 5 Jawa Timur). *Insand Comtech: Information Science and Computer Technology Journal*. Diperoleh dari [http://ejournal.unira.ac.id/index.php/insand\\_comtech/article/view/106/90](http://ejournal.unira.ac.id/index.php/insand_comtech/article/view/106/90)
- [3] Djahir, Yulia dan Dewi Pratita. 2015. Bahan Ajar Sistem Informasi Manajemen. Penerbit Deepublish. Yogyakarta
- [4] Fadlillah, Dimas Ikhsan Dan Sarah Adila. 2013. Sistem Pengelola File-File Proyek Berbasis Web Pada PT. Mitra Inti Pranata. Undergraduate Thesis. BINUS. diperoleh dari <https://library.binus.ac.id/eColls/eThesiscoll/Bab1/2012-1-00779-IF%20Bab1001.pdf>, diakses pada tanggal 19 Oktober 2016.
- [5] Fimento, I Made Ferdian, Eko Nugroho, Wing Wahyu Winarto. 2013. Perancangan Integrasi Sistem Informasi Hukum Pusat Dan Sistem Informasi Hukum Daerah Berbasis Service Oriented Architecture (SOA). *Jurnal Eksplora Informatika*. Bali.
- [6] Fowler, Martin. 2005. UML Destiled Edisi 3. Penerbit Andi. Yogyakarta.
- [7] Gaol, Chr. Jimmy L. 2008. Sistem Informasi Manajemen Pemahaman Dan Aplikasi. Penerbit Grasindo. Jakarta
- [8] Hariyanto, Bambang. 2004. Sistem Manajemen Basis Data: Pemodelan, Perancangan, dan Terapannya. Penerbit Informatika. Bandung
- [9] Indarajani. 2009. Sistem Basis Data dalam Paket Five in One. Penerbit PT. Elex Media Komputindo. Jakarta
- [10] Isnandi, Indah Uly Wardati. 2014. Sistem Informasi Penjualan Tiket Pada Al Fath Tours And Travel Pacitan. *Journal Speed*. diperoleh dari <http://ijns.org/journal/index.php/speed/article/view/1280/1268>, diakses pada tanggal 18 Oktober 2016.
- [11] Kusumo, Ario Suryo. 2007. ASP.NET 2.0 Dengan VB 2005. Penerbit PT. Elex Media Komputindo. Jakarta
- [12] Nugroho, Bunafit. 2005. Database Relasional Dengan Mysql. Andi Offset. Yogyakarta.
- [13] Oloyede, M.O, Alaya S.M dan Adewole, K.S. 2014. Development Of An Online Bus Ticket Reservation System For A Transportation Service In Nigeria. *Jurnal Computer Engineering And Intelligent Systems*. Diperoleh dari <http://www.iiste.org/Journals/index.php/CEIS/article/view/18128/18516>, diakses pada tanggal 09 November 2016.
- [14] Raharjo, Budi. 2011. Pemrograman Web Dengan Php + Oracle. Informatika. Bandung.
- [15] Ramadhan, Arief. 2006. Student Guide Series Pemrograman Web. Penerbit Elex Media Komputindo. Jakarta.
- [16] Triandini, Evi dan I Gede Suardika. 2012. Step By Step Desain Proyek Menggunakan UML. Penerbit ANDI. Yogyakarta.
- [17] Wardana. 2010. Menjadi Master PHP Dengan Framework Codeigniter. Penerbit Elex Media Komputindo. Jakarta

## CITE AN ARTICLE

Yutanto, H., Falani, A. Z., & Elfandari, K. (2018). IMPLEMENTATION OF MANAGEMENT INFORMATION SYSTEM INTEGRATION OF TICKET SALES ON TOUR & TRAVEL (STUDY CASE: SMALL AND MEDIUM ENTERPRICE TRAVEL SERVICES IN INDONESIA). *INTERNATIONAL JOURNAL OF ENGINEERING SCIENCES & RESEARCH TECHNOLOGY*,7(11), 1-10.