

ANALISIS DAN DESAIN ARSITEKTUR ENTERPRISE SISTEM INFORMASI PELAPORAN KERUSAKAN KOMPUTER DENGAN ZACHMAN FRAMEWORK

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INTISARI

Dalam pembangunan sebuah sistem informasi dibutuhkan perencanaan yang baik agar sistem informasi yang dikembangkan dapat berjalan sesuai dengan kebutuhan bisnis. Sehingga data dan informasi yang dihasilkan dapat berkualitas, konsisten dan tidak terpisah-pisah.

Langkah pertama dalam pembangunan sistem informasi yang terintegrasi adalah Planning yang menggambarkan perencanaan strategi sistem informasi dalam mendukung kebutuhan bisnis (James Martin, 1989). Spewak (1992) mengembangkan sebuah metode Enterprise Architecture Planning (EAP) untuk perencanaan pengembangan sistem informasi.

Metode analisis dalam penelitian ini menggunakan Zachman Framework. Dimana Zachman merupakan salah satu metode EAP yang banyak digunakan diseluruh dunia dalam perancangan sistem dimana didalam metode ini perencanaan dilakukan dengan langkah-langkah yang sistematis, mudah dipahami dan dapat dijadikan kontrol untuk pengembangan sistem informasi ke depan.

Hasil dari penelitian ini adalah berupa blue print rancangan sistem yang dipetakan didalam bentuk matrik Zachman yang berjumlah 36 sel yang terdiri dari 6 kolom dan 6 baris. Dimana masing-masing baris mewakili berbagai sudut pandang yang berbeda-beda. Dari hasil blue print tersebut kemudian diimplementasikan kedalam sebuah prototype sistem.

Kata Kunci: Zachman Framework, Enterprise Architecture Planning (EAP), Sistem Pelaporan Kerusakan, Organisasi, Teknologi Informasi

ABSTRACT

In the development of an information system was needed by good planning so the information system that developed could go in accordance with the requirement for the business. So as the data and information that were produced could have a quality, consistent and not be separated-separated.

The first step in the development of the integrated information system was Planning that depicted planning of the strategy of the information system in supporting the requirement for the business (James Martin, 1989). Spewak (1992) was develop a Enterprise Architecture Planning method (EAP) for development planning sistem information.

The analysis method in this research used Zachman Framework. Where Zachman was one of the EAP methods that often was used all over the world in system planning where in this method planning was carried out with systematic steps, was easy to be able to be understood and made the control for the development of the information system in the future.

As results of this research were take the form of blue print the system plan that was mapped in the form Zachman matrix that was numbering 36 cells that consisted of 6 columns and 6 lines. Where respectively the representative line of various different points of view. From results blue print this afterwards implemented into one prototype the system.

Keyword: Zachman Framework, Enterprise Architecture Planning (EAP), Malfunction Reporting System, Organization, Information Technology

1. PENDAHULUAN

Perkembangan organisasi yang semakin kompleks mengakibatkan kebutuhan akan informasi dan data akan semakin meningkat. Untuk memenuhi kebutuhan tersebut maka perlu pengembangan sebuah sistem informasi yang terintegrasi yang dapat mendukung proses bisnis yang berjalan di organisasi yang menyediakan data atau informasi berkualitas yang bertujuan untuk mengurangi biaya, meningkatkan produktifitas, menyediakan fasilitas berbagi data dan informasi serta meningkatkan pelayanan terhadap *customer*.

STMIK AMIKOM Yogyakarta merupakan salah satu perguruan tinggi swasta yang bergerak dibidang teknologi informasi. Dalam perkembangannya STMIK AMIKOM Yogyakarta saat ini mempunyai 14 laboratorium komputer dengan jumlah komputer kurang lebih sekitar 1000 komputer dan mempunyai 12 komputer yang berfungsi sebagai server untuk masing-masing laboratorium. Masing-masing laboratorium rata-rata digunakan untuk perkuliahan mulai dari jam 07.00 sampai dengan jam 17.10 hanya dengan waktu istirahat kurang dari 1,5 jam tiap hari. Dengan tingginya intensitas penggunaan komputer tersebut maka hal ini bisa menyebabkan terjadinya kerusakan komputer di beberapa laboratorium dengan berbagai macam sebab.

Di bagian Laboratorium STMIK AMIKOM Yogyakarta selaku bagian pengelola laboratorium hanya mempunyai 10 tenaga teknisi tetap sehingga perbandingannya adalah seorang teknisi menangani 100 komputer. Tentu saja ini bukan perbandingan yang ideal. Dengan terbatasnya sumber daya manusia inilah yang ada maka muncul beberapa permasalahan baru diantaranya yaitu :

- a) Kesulitan dalam melakukan pendataan komputer yang rusak terdapat di laboratorium mana, nomor komputernya berapa, dan jenis kerusakannya apa.
- b) Kesulitan dalam pendokumentasian penanganan kerusakan komputer yang ada seperti yang diperbaiki bagian apa dan perangkat keras aapa yang digunakan.
- c) Penanganan kerusakan jadi terkesan lambat karena kurangnya informasi kerusakan peralatan yang ada dan minimnya informasi jumlah persediaan spare part yang ada.
- d) Kurangnya informasi tentang kondisi laboratorium secara global yang dapat digunakan dalam pengambilan keputusan.

Melihat hal tersebut diatas maka diperlukan suatu solusi sistem yang dapat menyediakan informasi yang cepat, akurat, lengkap dan terintegrasi secara keseluruhan tentang kondisi seluruh laboratorium sehingga penanganan terhadap kerusakan-kerusakan yang terjadi menjadi lebih baik yang akhirnya dapat meminimalisir jumlah komputer yang rusak sesuai dengan kebutuhan untuk teknisi, bagian laboratorium maupun dari segi teknologi yang digunakan.

2. TINJAUAN TEORI

2.1 Tinjauan Pustaka

Penelitian yang berkaitan dengan Customer Knowledge Management System antara lain dilakukan oleh Ahmad Ibnu Zabidi (2012), dalam penelitiannya “Rancang Bangun Sistem Informasi Pajak Bumi Dan Bangunan Da Kabupaten Bangka Dengan Menggunakan Framework Zachman”, menerapkan metode Zachman dalam merancang sebuah sistem informasi yang terintegrasi untuk mengolah data pajak bumi dan bangunan yang sebelumnya dilakukan secara terpisah.

Hamzah Ritchi (2011), dalam penelitiannya “Arsitektur Informasi Untuk E-Procurement Persediaan Maintenance, Repair And Operation Berbasis Togaf Dan Zachman” menerapkan metode Zachman dan TOGAF dalam menyusun sebuah kerangka sistem informasi untuk mendukung e-procurement dan pengadaan barang dan jasa. Penelitian ini hanya pada 4 level abstrasi yakni scope, enterprise model system model dan technology model.

Mellyza Rachmi Juwita (2011), dalam penelitiannya “Analisis Pemodelan Enterprise Architecture Zachman Framework Pada Sistem Informasi PT. PLN(PERSERO)” menerapkan framework Zachman dalam merancang Sistem Informasi PT. PLN. Sistem ini digunakan untuk menganalisis proses pasang baru dan tambah daya di PLN (persero) Rayon Bukittinggi. Penelitian ini hanya sampai pada 4 level abstrasi yakni scope, enterprise model system model dan technology model.

Lutfi Rahman, (2011), dalam penelitiannya “Perencanaan Strategis Sistem Informasi Dalam Mendukung Pengembangan E-Government Di Badan Kepegawaian Daerah Kabupaten Tulung Agung “ menerapkan metode Zachman dalam merancang kerangka dasar sistem Informasi yang digunakan untuk membuat sebuah rencana strategis dalam pengembangan e-government.

2.2 Landasan Teori

2.2.1 Arsitektur *Enterprise*

Enterprise architecture atau lebih dikenal dengan arsitektur enterprise adalah deskripsi dari misi stakeholder yang di dalamnya termasuk informasi, fungsionalitas/kegunaan, lokasi organisasi dan parameter kinerja. Arsitektur enterprise menggambarkan rencana untuk mengembangkan sebuah sistem atau sekumpulan sistem (Oswalds, 2001). Kegunaan utama dari arsitektur enterprise adalah menginformasikan, memandu, dan membatasi keputusan bagi organisasi, khususnya dalam melakukan investasi teknologi informasi (TI) seperti tertuang pada gambar 1.



Gambar 1. Proses Arsitektur *Enterprise* (FCIOC, 2007)

Definisi Arsitektur *Enterprise* menurut MIT Center for Information Systems Research: “*Enterprise Architecture is the organizing logic for business processes and IT infrastructure reflecting the integration and standardization requirements of the firm’s operating model*”. [MIT, 2007]

Sementara menurut Federal CIO Council [FCIOC, 2007] :

“*A strategic information asset base, which defines the mission, the information necessary to perform the mission and the technologies necessary to perform the mission, and the transitional processes for implementing new technologies in response to the changing mission needs. An enterprise architecture includes a baseline architecture, target architecture, and a sequencing plan.*”

Menurut John Zachman: “*The set of primitive, descriptive artifacts that constitute the knowledge infrastructure of the enterprise.*” [FCIOC, 2007]

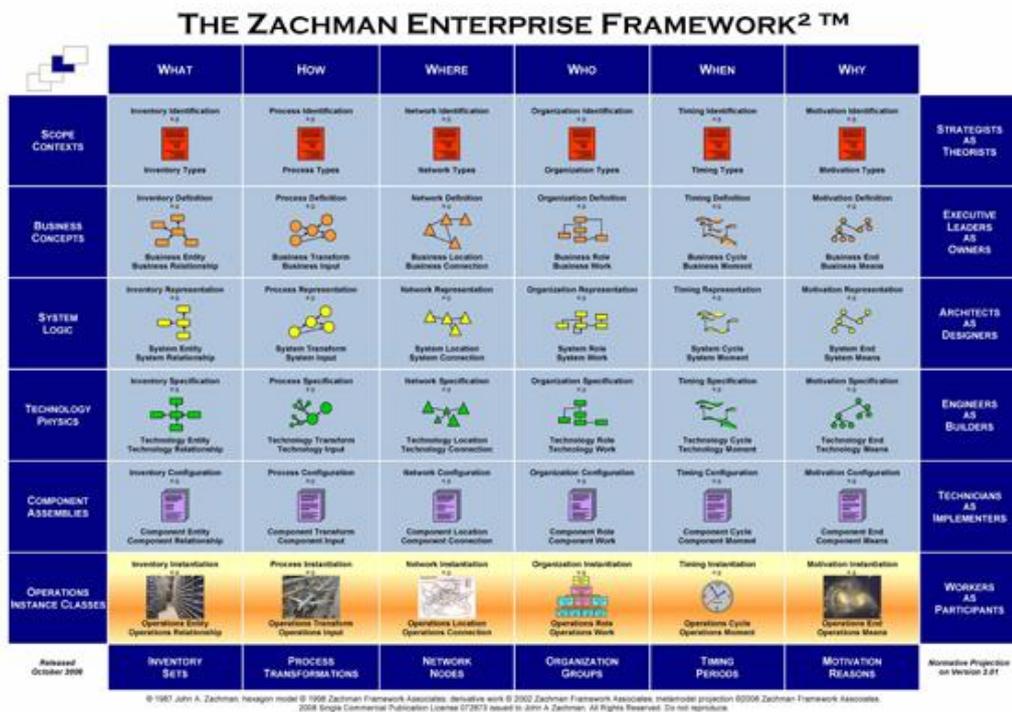
Arsitektur enterprise juga bisa digunakan sebagai jalan untuk meningkatkan efisiensi TI pada saat inovasi bisnis dikembangkan organisasi. Bagaimana implementasi dari arsitektur enterprise bisa digunakan oleh organisasi, sebaiknya organisasi mengadopsi sebuah metode atau framework yang bisa digunakan dalam melakukan pengembangan arsitektur enterprise tersebut. Sehingga dengan ada metode enterprise arsitektur diharapkan dapat mengelola sistem yang kompleks dan dapat menyelaraskan bisnis dan TI yang akan di investasikan (Kourdi, 2007).

Arsitektur *Enterprise* terdiri dari dokumen-dokumen seperti gambar-gambar, diagram, dokumen tekstual, standar-standar atau model dan menggunakan berbagai metode bisnis yang menjelaskan seperti apa sistem informasi dan komunikasi yang diperlukan oleh organisasi atau organisasi. Untuk mengelola system yang kompleks dan menyelaraskan bisnis dengan Teknologi Informasi Organisasi dapat menggunakan *Enterprise Architecture Framework*.

2.2.2 Zachman Framework

Zachman Framework merupakan *framework* arsitekural yang paling banyak dikenal dan diadaptasi. Para arsitek data *enterprise* mulai menerima dan menggunakan framework ini sejak pertama kali diperkenalkan oleh John A Zachman di *IBM System Journal* pada tahun 1987 dan kemudian dikembangkan pada tahun 1992 dengan tujuan untuk menyediakan struktur dasar organisasi yang mendukung akses, integrasi, interpretasi, pengembangan, pengelolaan, dan perubahan perangkat arsitektural dari sistem informasi organisasi (*enterprise*). (John A. Zachman, 2008)

John A Machan pada akhir tahun '80-an memperkenalkan sebuah kerangka untuk membantu manajemen dalam melaksanakan dua hal utama. Hal pertama adalah untuk memisahkan antara komponen-komponen utama dalam sistem informasi agar mempermudah manajemen dalam melakukan perencanaan dan pengembangan. Sementara hal kedua adalah bagaimana membangun sebuah perencanaan strategis dari tingkat yang paling global dan konseptual sampai dengan teknis pelaksanaan. Secara prinsip Zachman membagi sistem informasi menjadi tiga komponen besar, yaitu: Data, Proses, dan Teknologi - yang pada perkembangannya menjadi enam buah entiti utama. Seorang praktisi bernama John Zachman di akhir tahun '80-an menganalisa hal ini dan memberikan salah satu solusinya yang hingga saat ini masih relevan untuk dipergunakan. Untuk mengenang namanya, kerangka ini dinamakan Kerangka Zachman (Melissa A Cook, 1996).



Gambar 2. Framework Zachman (zachmaninternational.com,2012)

Pada gambar 2 dijelaskan bahwa *Zachman Framework* merupakan matrik 6×6 yang merepresentasikan interseksi dari dua skema klasifikasi – arsitektur sistem dua dimensi. Pada dimensi pertama, Zachman menggambarkannya sebagai baris yang terdiri dari 6 perspektif yaitu (Zachman, 2008):

- a) *The Planner Perspective (Scope Context)* : Daftar lingkup penjelasan unsur bisnis yang dikenali oleh para ahli strategi sebagai ahli teori.
- b) *The Owner Perspective (Business Concept)* : Model semantik keterhubungan bisnis antara komponen-komponen bisnis yang didefinisikan oleh pimpinan eksekutif sebagai pemilik.
- c) *The Designer Perspective (System Logic)* : Model logika yang lebih rinci yang berisi kebutuhan dan desain batasan sistem yang direpresentasikan oleh para arsitek sebagai desainer.
- d) *The Builder Perspective (Technology Physics)* : Model fisik yang mengoptimalkan desain untuk kebutuhan spesifik dalam batasan teknologi spesifik, orang, biaya dan lingkup waktu yang dispesifikasikan oleh *engineer* sebagai *builder*.
- e) *The Implementer Perspective (Component Assemblies)* : Teknologi khusus, tentang bagaimana komponen dirakit dan dioperasikan, dikonfigurasi oleh teknisi sebagai implementator.
- f) *The Participant Perspective (Operation Classes)* : Kejadian-kejadian sistem berfungsi nyata yang digunakan oleh para teknisi sebagai *participant*.

Untuk dimensi kedua, setiap isu perspektif membutuhkan cara yang berbeda untuk menjawab pertanyaan fundamental : *who, what, why, when, where and how*. Setiap pertanyaan membutuhkan jawaban dalam format yang berbeda. Zachman menggambarkan setiap pertanyaan fundamental dalam bentuk kolom/ fokus. (Zachman, 2008):

- a) *What* (kolom data) : material yang digunakan untuk membangun sistem (*inventory set*).
- b) *How* (kolom fungsi) : melaksanakan aktivitas (*process transformations*).
- c) *Where* (kolom jaringan) : lokasi, tofografi dan teknologi (*network nodes*).
- d) *Who* (kolom orang) : aturan dan organisasi (*organization group*).
- e) *When* (kolom waktu) : kejadian, siklus, jadwal (*time periods*).
- f) *Why* (kolom tujuan) : tujuan, motivasi dan inisiatif (*motivation reason*).

Untuk setiap *cell* pada matrik yang merupakan persimpangan antara perspektif dan fokus haruslah khas dan unik. Pada gambar 3. menggambarkan setiap *cell* mempunyai target tertentu.

Table III

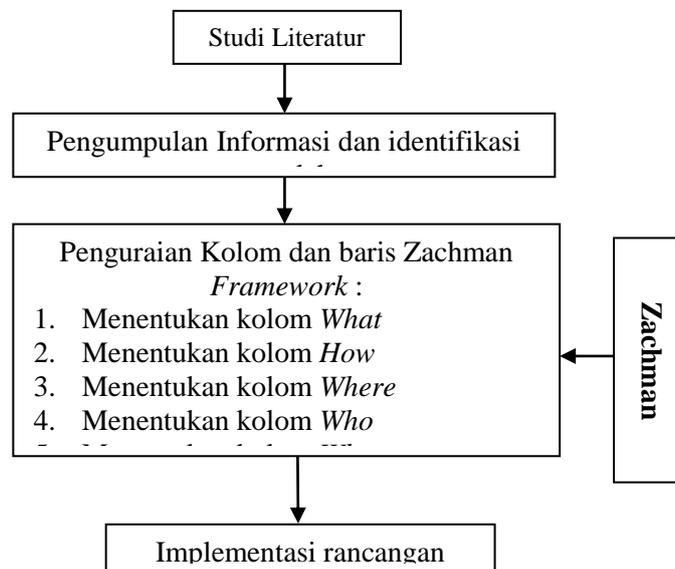
The Zachman framework

| Primarily responsible | | Data (what) | Function (how) | Network (where) | People (who) | Time (when) | Motivation (why) |
|--------------------------------------|----------------------------------|---|---|---|---|--|---|
| Executive management overview | Objectives/ scope | List of things important to the enterprise | List of processes the business performs | List of locations where the enterprise operates | List of organizational units | List of business events/cycles | List of business goals/strategies |
| Senior operating management | Enterprise model | Entity relationship diagram | Business process model (physical data flow diagram) | Network configuration (nodes and links) | Organization chart (roles; skill sets and security needs) | Business master schedule | Business plan |
| Business system architect | Information system model | Data model (converged entities, fully normalized) | System data flow diagram; Application architecture | Business system architecture | Human interfaces (roles, data access rights) | Dependency diagram, entity history (process structure) | Business rules model |
| Information system architect | Technology model | Data architecture (mapped to linked systems) | system design; structure chart, pseudo-code | Technology system architecture | User Interface (what the user will see); security design | Control structure diagram | Business rules design |
| System analyst/ programmer | Detailed system definition | Data design (denormalized); physical storage design | Detailed program design | Systems and network architecture | Screens and security architecture (who sees what) | Timing definitions | Rule specification in program logic |
| User and service provider | Implemented and operating system | Converted, initialized and production data | Conversion and production application programs | Systems and network infrastructure | Trained user, operating and support personnel | Real business events/ activities | User procedures and system enforced rules |

Gambar 3. Zachman Framework Model(zachmaninternational.com,2012)

3. METODOLOGI PENELITIAN

Dalam penelitian ini metode yang digunakan untuk menganalisa perancangan sistem adalah menggunakan *framework* Zachman yang akan dijabarkan dalam masing-masing kolomnya yang terdiri dari *What, How, Where, Who, When dan Why*. Dan masing-masing kolom nantinya akan diuraikan dengan baris-barisnya (*scope, business model, system model, teknologi model*). Untuk membantu penjelasan dari proses analisis dengan *framework* Zachman tadi, dalam proses perancangan sistem peneliti menggunakan model *object Oriented Programming (OOP)*. Sehingga alur penelitian dapat dilihat pada gambar 4.



Gambar 4. Alur

4. HASIL DAN PEMBAHASAN

Berdasarkan hasil pengumpulan data maka selanjutnya akan dilakukan proses pemetaan masalah kedalam kerangka Zachman untuk menghasilkan rancangan sistem yang dibutuhkan. Setelah peta masalah didapatkan maka selanjutnya masalah-masalah tersebut akan disusun dalam kerangka matrik Zachman. Setelah matrik Zachman diperoleh maka masing-masing baris dan kolom pada matrik tersebut akan diuraikan satu per satu.

Tabel 1 menyajikan matrik Zachman dari hasil pemetaan masalah yang sudah dilakukan.

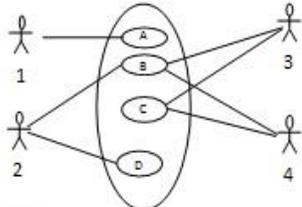
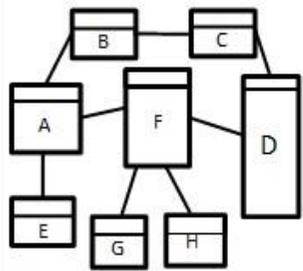
Tabel 1. Matrik Zachman Sistem Informasi Pelaporan Kerusakan komputer

| Abstraksi/ Perspektif | DATA What (Things) | FUNCTION How (Process) | NETWORK Where (Location) | PEOPLE Who (People) | TIME When (Time) | MOTIVATION Why (Motivation) |
|---|---|--|---|---|--|--|
| Planner / Contextual (Scope) | Data komputer, Lab, SDM | Proses pelaporan kerusakan komputer | Laboratorium STMIK AMIKOM Yogyakarta | teknisi, laboran, PJ, kepala Lab | Input laporan kerusakan, Penanganan kerusakan,lihat laporan kerusakan | Visi dan misi laboratorium |
| Owner / Conceptual (Business Model) | Flowmap dan Use case system | Physical data flow, activity diagram | desain jaringan Laboratorium STMIK AMIKOM Yogyakarta | Programer, Desainer, Administrator, Operator | <i>Time Schedule</i> pembangunan proyek sistem informasi | Alasan pengadaan sistem informasi |
| Designer / Logical (System Model) | ER Diagram | Sequence, detailed Use case | Desain jaringan usulan | rancangan manual interface aplikasi | detail jadwal perancangan model sistem | Aturan-aturan dalam pembuatan model |
| Builder / Physical (Technology Model) | Relasi Antar Tabel | Proses penggunaan aplikasi | Lokasi dan teknologi yang digunakan | Gambaran Interface aplikasi | detail jadwal perancangan aplikasi | Aturan-aturan dalam pembuatan desain |
| Detailed Representation (Sub-Contractor) | Algoritma pembuatan tabel entitas | Algoritma proses pelaporan | Konfigurasi setingan router jaringan | Algoritma konfigurasi akses aplikasi tiap user | detail jadwal proses <i>coding</i> yang dibutuhkan | Aturan-aturan dalam proses <i>coding</i> |
| Function Enterprise | Contoh data komputer, Lab, user | Contoh data transaksi yang terjadi didalam sistem | Infrastruktur Jaringan yang dibutuhkan | User yang akan menggunakan sistem informasi | <i>Time Schedule</i> proses perancangan, desain dan implementasi | SOP Penggunaan aplikasi sistem informasi |

4.1 Kolom What

Menjelaskan tentang data dari sudut pandang *Planner, Owner, Designer, Builder, Detailed Representation*, dan *Function Enterprise*. Selengkapnya dapat dilihat pada Tabel 2 dibawah ini.

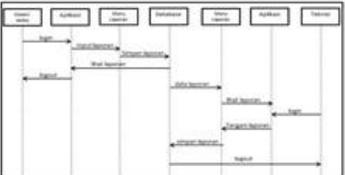
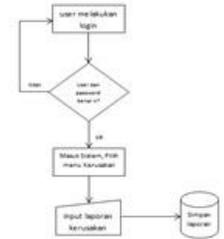
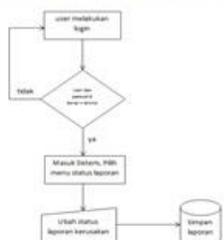
Tabel 2. Kolom What dalam berbagai sudut pandang

| Perspektif | Planner | Owner | Designer | Builder | Detailed Representation | Function Enterprise |
|-------------|--|--|---|---|---|--|
| Abstraksi | | | | | | |
| What (data) | <p>Data-data yang berkaitan dengan sistem inforasi :</p> <ol style="list-style-type: none"> 1. Data Sumber Daya 2. Data Komputer 3. Data Laboratorium |  <p>Ket :</p> <ol style="list-style-type: none"> 1. Asisten 2. Teknisi 3. Kepala Laboratorium 4. Penanggung Jawab <p>A. Melaporkan kerusakan B. Melihat Laporan C. Mencetak Laporan D. Menangani Laporan</p> |  <p>Ket :</p> <p>A. User B. Rumpun C. Lab D. Komputer E. Golongan F. Laporan G. Jenis Kerusakan H. Pelapor</p> |  <p>Relasi Antar Tabel</p> | <p>Pembuatan Tabel-tabel :</p> <ol style="list-style-type: none"> 1. Tabel User 2. Tabel Rumpun 3. Tabel Golongan 4. Tabel Lab 5. Tabel Komputer 6. Tabel Laporan 7. Tabel Jenis Kerusakan 8. Tabel Pelapor | <p>Data-data yang diisikan kedalam masing-masing tabel yang sudah dibuat</p> |

4.2. Kolom How

Kolom ini membahas tentang proses-proses yang terjadi pada laboratorium STMIK AMIKOM Yogyakarta dilihat dari sudut pandang *Planner*, *Owner*, *Designer*, *Builder*, *Detailed Representation*, dan *Function Enterprise*. Selengkapnya dapat dilihat pada Tabel 3 dibawah ini.

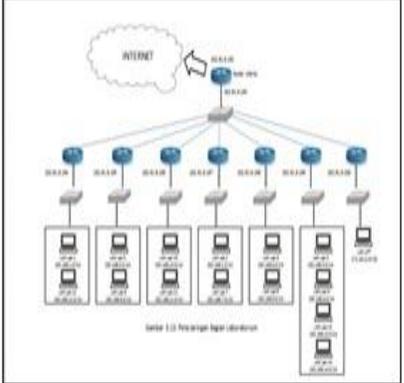
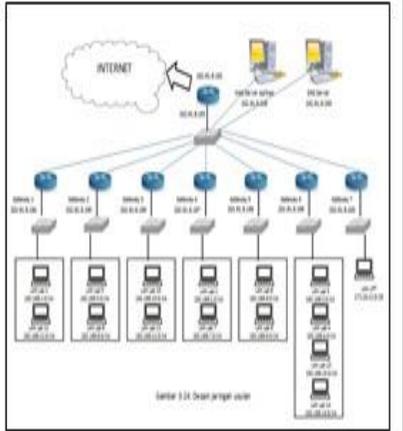
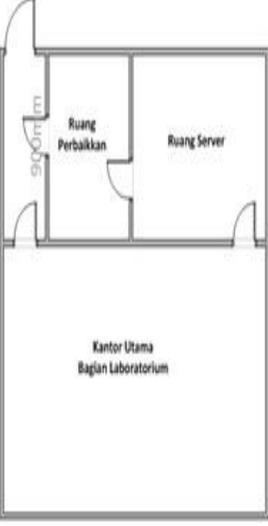
Tabel 3. Kolom How dari berbagai sudut pandang

| Perspektif | Planner | Owner | Designer | Builder | Detailed Representation | Function Enterprise |
|------------|--|--|---|--|--|---|
| Abstraksi | <p>Proses utama yang terjadi didalam sistem :</p> <ol style="list-style-type: none"> 1. Proses Pelaporan kerusakan 2. Proses penanganan kerusakan | <p>Penjabaran proses yang terjadi :</p> <ol style="list-style-type: none"> a. Dosen/asdos melaporkan kerusakan yang terjadi pada komputer (komputer nomor berapa dan di laboratorium mana) b. Teknisi melihat laporan kerusakan yang ada dan kemudian melakukan penanganan terhadap laporan tersebut c. Penanggung jawab laboratorium melihat laporan mana saja komputer yang rusak sesuai dengan laboratorium yang menjadi tanggung jawabnya d. Kepala laboratorium melihat seluruh laporan kerusakan yang terjadi pada komputer di seluruh laboratorium yang ada | <p>pemodelan proses fisik ke dalam <i>Sequence diagram</i></p>  | <p>pemodelan proses yang terjadi didalam sistem informasi ke dalam <i>Sequence diagram</i></p>  | <p>Algoritma proses yang terjadi :</p> <ol style="list-style-type: none"> 1. Proses pelaporan 2. Proses perubahan status 3. Proses cetak laporan   | <p>Contoh hasil print out aplikasi yang sudah dibuat yang digunakan dalam proses pelaporan kerusakan.</p> |
| How | | | | | | |

4.3 Kolom Where

Kolom ini membahas tentang lokasi bisnis utama tempat sitem informasi berada beserta infrastruktur dan konfigurasinya. Detailnya dapa dilihat pada Tabel 4 dibawah ini.

Tabel 4. Kolom Where dalam berbagai sudut pandang

| Perspektif | Planner | Owner | Designer | Builder | Detailed Representation | Function Enterprise | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------------------------|--|--|---|---|--|---|-----|----------------|-------------|--------|---|----------------------|----------|---|---|-----------------|--------------|---|---|-----------------|---------------|---|---|----------------|--------|-------|-------------------|--|--|--|---------------------------------------|--|--|--|--------------------|--|--|--|----------------------|--|--|--|-------------------------------|--|--|--|--------------------|--|--|--|-------------------|--|--|--|-------------------------------------|--|--|--|-----------------------------|--|--|--|--------------|--|--|--|------------------|--|--|--|--------------------|--|--|--|
| Abstraksi | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Where | Lokasi tempat sistem berada : Laboratorium STMIK AMIKOM Yogyakarta di Gd. Unit II lantai 4 Grha STMIK AMIKOM Yogyakarta Jl. Ring Road Utara, Condong Catur, Depok, Sleman, Yogyakarta | Peta jaringan yang telah ada dibagian laboratorium  | Peta jaringan yang diusulkan  | Ruangan dimana sistem informasi akan diletakkan  | Konfigurasi seluruh jaringan laboratorium agar dapat terhubung dengan server dimana Sistem Informasi akan dipasang | Kebutuhan infrastruktur pendukung sistem informasi <table border="1"> <thead> <tr> <th>No.</th> <th>Nama Peralatan</th> <th>Spesifikasi</th> <th>Jumlah</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Mikrotik Routerboard</td> <td>RB 400 G</td> <td>7</td> </tr> <tr> <td>2</td> <td>Switch Gigabyte</td> <td>3 Com 3C16A8</td> <td>1</td> </tr> <tr> <td>3</td> <td>Switch Gigabyte</td> <td>Catalyst 2950</td> <td>1</td> </tr> <tr> <td>4</td> <td>Kabel Jaringan</td> <td>CAT 6E</td> <td>1 Rol</td> </tr> <tr> <td colspan="4">Web Server</td> </tr> <tr> <td colspan="4">-Processor Intel Xeon Quad Core 3 GHz</td> </tr> <tr> <td colspan="4">-Motherboard Intel</td> </tr> <tr> <td colspan="4">-Memory Visipro 4 GB</td> </tr> <tr> <td colspan="4">-Harddisk SATA Seagate 160 GB</td> </tr> <tr> <td colspan="4">-LAN Card Gigabyte</td> </tr> <tr> <td colspan="4">DNS Server</td> </tr> <tr> <td colspan="4">-Processor Intel Core 2 Duo 2,5 GHz</td> </tr> <tr> <td colspan="4">-Motherboard Intel DPRL 309</td> </tr> <tr> <td colspan="4">-Memory 4 GB</td> </tr> <tr> <td colspan="4">-Harddisk 160 GB</td> </tr> <tr> <td colspan="4">-LAN Card Gigabyte</td> </tr> </tbody> </table> | No. | Nama Peralatan | Spesifikasi | Jumlah | 1 | Mikrotik Routerboard | RB 400 G | 7 | 2 | Switch Gigabyte | 3 Com 3C16A8 | 1 | 3 | Switch Gigabyte | Catalyst 2950 | 1 | 4 | Kabel Jaringan | CAT 6E | 1 Rol | Web Server | | | | -Processor Intel Xeon Quad Core 3 GHz | | | | -Motherboard Intel | | | | -Memory Visipro 4 GB | | | | -Harddisk SATA Seagate 160 GB | | | | -LAN Card Gigabyte | | | | DNS Server | | | | -Processor Intel Core 2 Duo 2,5 GHz | | | | -Motherboard Intel DPRL 309 | | | | -Memory 4 GB | | | | -Harddisk 160 GB | | | | -LAN Card Gigabyte | | | |
| No. | Nama Peralatan | Spesifikasi | Jumlah | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Mikrotik Routerboard | RB 400 G | 7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | Switch Gigabyte | 3 Com 3C16A8 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | Switch Gigabyte | Catalyst 2950 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | Kabel Jaringan | CAT 6E | 1 Rol | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Web Server | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -Processor Intel Xeon Quad Core 3 GHz | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -Motherboard Intel | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -Memory Visipro 4 GB | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -Harddisk SATA Seagate 160 GB | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -LAN Card Gigabyte | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DNS Server | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -Processor Intel Core 2 Duo 2,5 GHz | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -Motherboard Intel DPRL 309 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -Memory 4 GB | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -Harddisk 160 GB | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -LAN Card Gigabyte | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

4.4 Kolom Who

Kolom ini membahas tentang sumber daya manusia yang berperan penting dalam proses pelaporan dan penanganan kerusakan komputer pada laboratorium seperti penjelasan pada Tabel 5.

Tabel 5. Kolom Who dalam berbagai sudut pandang

| Perspektif | Planner | Owner | Designer | Builder | Detailed Representation | Function Enterprise | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------|--|---|--|--|--|--|---------------|-----------|----------|-------|--------|---------|-----|------|---------|-----|--------|--------|--------|---------|---------|--------|---------|------------------|-------|--------|---------|-------|--------|------------------|-------|--------|---------|---------------|-------|---------------|---------|----------|---------|---------|----------|------------------|------|-------|---------|--------|---------|---------|--------|----------|------------------|------|-------|---------|-------|--------|---------|-------|--------|------------------|----------------|------|---------|----------------|------|---------|-----|--------|---------|------|-------|---------|
| Abstraksi | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Who | Orang-orang yang berperan penting dalam proses tersebut : a. Teknisi b. Penanggung jawab laboratorium (PJ) c. Dosen/asisten d. Kepala Laboratorium | Orang-orang yang ditugaskan untuk pembangunan dan mengelola sistem informasi : a. Pengelola komputer b. Teknisi hardware dan infrastruktur jaringan c. Administrator jaringan d. Desainer web dan grafis e. Programmer web f. Adminsistrator database g. Penanggung jawab Sistem Informasi | Rancangan manual antarmuka aplikasi sistem informasi pelaporan kerusakan komputer yang akan dibangun | Gambaran antarmuka aplikasi sistem informasi pelaporan kerusakan komputer yang akan dibangun yang nantinya akan diterapkan secara nyata. | Konfigurasi hak akses masing-masing user dalam penggunaan aplikasi sistem informasi pelaporan kerusakan komputer | User-user yang akan menggunakan sistem informasi. <table border="1"> <thead> <tr> <th>Nama Karyawan</th> <th>Nama user</th> <th>Golongan</th> </tr> </thead> <tbody> <tr><td>Agung</td><td>tagung</td><td>teknisi</td></tr> <tr><td>Aji</td><td>taji</td><td>teknisi</td></tr> <tr><td>Aji</td><td>kepala</td><td>kepala</td></tr> <tr><td>Andika</td><td>tandika</td><td>teknisi</td></tr> <tr><td>Andika</td><td>kandika</td><td>penanggung jawab</td></tr> <tr><td>Bhanu</td><td>tbhanu</td><td>teknisi</td></tr> <tr><td>Bhanu</td><td>kbhanu</td><td>penanggung jawab</td></tr> <tr><td>Dhani</td><td>tdhani</td><td>teknisi</td></tr> <tr><td>Dosen/asisten</td><td>asdos</td><td>dosen/asisten</td></tr> <tr><td>Fatkhur</td><td>tfatkhur</td><td>teknisi</td></tr> <tr><td>Fatkhur</td><td>kfatkhur</td><td>penanggung jawab</td></tr> <tr><td>Jono</td><td>tjono</td><td>teknisi</td></tr> <tr><td>Lukman</td><td>tlukman</td><td>teknisi</td></tr> <tr><td>Lukman</td><td>kalukman</td><td>penanggung jawab</td></tr> <tr><td>Piko</td><td>tpiko</td><td>teknisi</td></tr> <tr><td>Rukun</td><td>trukun</td><td>teknisi</td></tr> <tr><td>Rukun</td><td>krukun</td><td>penanggung jawab</td></tr> <tr><td>Student staf 1</td><td>tss1</td><td>teknisi</td></tr> <tr><td>Student staf 2</td><td>tss2</td><td>teknisi</td></tr> <tr><td>Tri</td><td>tektri</td><td>teknisi</td></tr> <tr><td>Yudi</td><td>tyudi</td><td>teknisi</td></tr> </tbody> </table> | Nama Karyawan | Nama user | Golongan | Agung | tagung | teknisi | Aji | taji | teknisi | Aji | kepala | kepala | Andika | tandika | teknisi | Andika | kandika | penanggung jawab | Bhanu | tbhanu | teknisi | Bhanu | kbhanu | penanggung jawab | Dhani | tdhani | teknisi | Dosen/asisten | asdos | dosen/asisten | Fatkhur | tfatkhur | teknisi | Fatkhur | kfatkhur | penanggung jawab | Jono | tjono | teknisi | Lukman | tlukman | teknisi | Lukman | kalukman | penanggung jawab | Piko | tpiko | teknisi | Rukun | trukun | teknisi | Rukun | krukun | penanggung jawab | Student staf 1 | tss1 | teknisi | Student staf 2 | tss2 | teknisi | Tri | tektri | teknisi | Yudi | tyudi | teknisi |
| Nama Karyawan | Nama user | Golongan | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Agung | tagung | teknisi | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aji | taji | teknisi | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aji | kepala | kepala | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Andika | tandika | teknisi | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Andika | kandika | penanggung jawab | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bhanu | tbhanu | teknisi | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bhanu | kbhanu | penanggung jawab | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dhani | tdhani | teknisi | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dosen/asisten | asdos | dosen/asisten | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Fatkhur | tfatkhur | teknisi | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Fatkhur | kfatkhur | penanggung jawab | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jono | tjono | teknisi | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lukman | tlukman | teknisi | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lukman | kalukman | penanggung jawab | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Piko | tpiko | teknisi | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Rukun | trukun | teknisi | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Rukun | krukun | penanggung jawab | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Student staf 1 | tss1 | teknisi | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Student staf 2 | tss2 | teknisi | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Tri | tektri | teknisi | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Yudi | tyudi | teknisi | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

4.5 Kolom When

Kolom ini membahas tentang kejadian atau kegiatan beserta jadwalnya. Kegiatan utama yang akan dibahas adalah yang berkaitan dengan pelaporan kerusakan komputer. Lihat penjelasan pada Tabel 6.

Tabel 6. Kolom When dalam berbagai sudut pandang

| Abstraksi | When | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Perspektif | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Planner | Kegiatan atau kejadian yang terjadi berkaitan dengan pelaporan kerusakan : a. Pencatatan kerusakan yang terjadi pada form kerusakan yang sudah tersedia b. Form kerusakan dikumpulkan dan dicek oleh para teknisi c. Teknisi menulis daftar kerusakan dipapan kerusakan d. Teknisi melakukan pengecekan dan penanganan kerusakan yang ditulis di papan pengumuman e. Teknisi memberikan keterangan dipapan kerusakan ketika kerusakan sudah ditangani | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Owner | <table border="1"> <thead> <tr> <th rowspan="2">No</th> <th rowspan="2">Rencana Kegiatan</th> <th rowspan="2">Target Ouput</th> <th colspan="4">Maret</th> <th colspan="4">April</th> <th colspan="4">Mei</th> <th colspan="4">Juni</th> </tr> <tr> <th>1</th><th>2</th><th>3</th><th>4</th> <th>1</th><th>2</th><th>3</th><th>4</th> <th>1</th><th>2</th><th>3</th><th>4</th> <th>1</th><th>2</th><th>3</th><th>4</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Persiapan Proyek</td> <td>- Pendefinisian masalah - Penetapan Jadwal Proyek</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td rowspan="2">2</td> <td rowspan="2">Fase Analisis dan penerapan kedalam framework Zachman</td> <td>- Pengambilan data</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>- Menentukan kebutuhan sistem - Membuat prototype permasalahan dengan matrik Zachman dengan penentuan kolom What, How, Where, Who, When, Why dengan penyelesaian masalahnya</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>3</td> <td>Implementasi</td> <td>Mendapatkan prototype aplikasi</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </tbody> </table> | | | | | | | | | | | | | | | | | | | | | | | | | | | | No | Rencana Kegiatan | Target Ouput | Maret | | | | April | | | | Mei | | | | Juni | | | | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | Persiapan Proyek | - Pendefinisian masalah - Penetapan Jadwal Proyek | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | Fase Analisis dan penerapan kedalam framework Zachman | - Pengambilan data | | | | | | | | | | | | | | | | | | | | | | | | | | | - Menentukan kebutuhan sistem - Membuat prototype permasalahan dengan matrik Zachman dengan penentuan kolom What, How, Where, Who, When, Why dengan penyelesaian masalahnya | | | | | | | | | | | | | | | | | | | | | | | | | | | | 3 | Implementasi | Mendapatkan prototype aplikasi | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 3 | Implementasi | Mendapatkan prototype aplikasi | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Designer | <table border="1"> <thead> <tr> <th rowspan="2">No.</th> <th rowspan="2">Event</th> <th colspan="3">Mei</th> <th colspan="1">Juni</th> </tr> <tr> <th>2</th><th>3</th><th>4</th><th>1</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Penentuan Entitas</td> <td></td><td></td><td></td><td></td> </tr> <tr> <td>2</td> <td>Perancangan Use case Diagram</td> <td></td><td></td><td></td><td></td> </tr> <tr> <td>3</td> <td>Perancangan ER Diagram</td> <td></td><td></td><td></td><td></td> </tr> <tr> <td>4</td> <td>Perancangan Database</td> <td></td><td></td><td></td><td></td> </tr> <tr> <td>5</td> <td>Perancangan Antarmuka</td> <td></td><td></td><td></td><td></td> </tr> </tbody> </table> | | | | | | | | | | | | | | | | | | | | | | | | | | | | No. | Event | Mei | | | Juni | 2 | 3 | 4 | 1 | 1 | Penentuan Entitas | | | | | 2 | Perancangan Use case Diagram | | | | | 3 | Perancangan ER Diagram | | | | | 4 | Perancangan Database | | | | | 5 | Perancangan Antarmuka | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| No. | Event | Mei | | | Juni | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 1 | Penentuan Entitas | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | Perancangan Use case Diagram | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | Perancangan ER Diagram | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | Perancangan Database | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | Perancangan Antarmuka | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Builder | <table border="1"> <thead> <tr> <th rowspan="2">No.</th> <th rowspan="2">Event</th> <th colspan="3">Juni</th> <th colspan="2">Juli</th> </tr> <tr> <th>2</th><th>3</th><th>4</th><th>1</th><th>2</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Pembuatan Database</td> <td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>2</td> <td>Desain antarmuka aplikasi</td> <td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>3</td> <td>Pembuatan Kode Program</td> <td></td><td></td><td></td><td></td><td></td> </tr> </tbody> </table> | | | | | | | | | | | | | | | | | | | | | | | | | | | | No. | Event | Juni | | | Juli | | 2 | 3 | 4 | 1 | 2 | 1 | Pembuatan Database | | | | | | 2 | Desain antarmuka aplikasi | | | | | | 3 | Pembuatan Kode Program | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| No. | Event | Juni | | | Juli | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 1 | Pembuatan Database | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | Desain antarmuka aplikasi | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | Pembuatan Kode Program | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Detailed Representation | Waktu yang digunakan dalam proses pengkodean atau coding ini adalah 4 bulan. Dimulai dari bulan Juli minggu ke-3 dan ke-4 sampai dengan bulan Agustus minggu ke-1 dan ke-2. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Function Enterprise | <table border="1"> <thead> <tr> <th rowspan="2">No</th> <th rowspan="2">Rencana Kegiatan</th> <th rowspan="2">Target Ouput</th> <th colspan="4">April</th> <th colspan="4">Mei</th> <th colspan="4">Juni</th> <th colspan="4">Juli</th> <th colspan="4">Agustus</th> </tr> <tr> <th>1</th><th>2</th><th>3</th><th>4</th> <th>1</th><th>2</th><th>3</th><th>4</th> <th>1</th><th>2</th><th>3</th><th>4</th> <th>1</th><th>2</th><th>3</th><th>4</th> <th>1</th><th>2</th><th>3</th><th>4</th> </tr> </thead> <tbody> <tr> <td rowspan="10">1</td> <td rowspan="10">Perancangan dan desain sistem</td> <td>- Pengambilan data</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>- Menentukan kebutuhan sistem</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>- Perancangan sistem :</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>a. 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Pengkodean</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>2</td> <td>Implementasi</td> <td>Mendapatkan prototype aplikasi</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </tbody> </table> | | | | | | | | | | | | | | | | | | | | | | | | | | | | No | Rencana Kegiatan | Target Ouput | April | | | | Mei | | | | Juni | | | | Juli | | | | Agustus | | | | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | Perancangan dan desain sistem | - Pengambilan data | | | | | | | | | | | | | | | | | | | | | | | | | | | - Menentukan kebutuhan sistem | | | | | | | | | | | | | | | | | | | | | | | | | | | - Perancangan sistem : | | | | | | | | | | | | | | | | | | | | | | | | | | | a. Penentuan Entitas | | | | | | | | | | | | | | | | | | | | | | | | | | | b. Perancangan usecase system | | | | | | | | | | | | | | | | | | | | | | | | | | | c. Perancangan ER Diagram | | | | | | | | | | | | | | | | | | | | | | | | | | | d. Perancangan Detailed Usecase | | | | | | | | | | | | | | | | | | | | | | | | | | | e. Perancangan Database | | | | | | | | | | | | | | | | | | | | | | | | | | | f. Perancangan Antarmuka | | | | | | | | | | | | | | | | | | | | | | | | | | | - Desain Sistem : | | | | | | | | | | | | | | | | | | | | | | | | | | | a. Pembuatan Database | | | | | | | | | | | | | | | | | | | | | | | | | | | b. Pembuatan Antarmuka | | | | | | | | | | | | | | | | | | | | | | | | | | | c. Pengkodean | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | Implementasi | Mendapatkan prototype aplikasi | | | | | | | | | | | | | | | | | | | | | | | | | |
| No | Rencana Kegiatan | Target Ouput | April | | | | Mei | | | | Juni | | | | Juli | | | | Agustus | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 1 | Perancangan dan desain sistem | - Pengambilan data | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | - Menentukan kebutuhan sistem | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | - Perancangan sistem : | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | a. Penentuan Entitas | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | b. Perancangan usecase system | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | c. Perancangan ER Diagram | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | d. Perancangan Detailed Usecase | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | e. Perancangan Database | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | f. Perancangan Antarmuka | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | - Desain Sistem : | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| a. Pembuatan Database | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| b. Pembuatan Antarmuka | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| c. Pengkodean | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | Implementasi | Mendapatkan prototype aplikasi | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

4.6 Kolom Why

Menjabarkan tentang tujuan, motivasi dan inisiatif serta batasan-batasan yang ditetapkan berkaitan dengan sistem informasi yang akan dibangun. Tabel 7 merupakan penjelasan tentang kolom why.

Tabel 7. Kolom Why dari berbagai sudut pandang

| Perspektif | Planner | Owner | Designer | Bullder | Detailed Representation | Function Enterprise |
|------------|---|---|---|---|--|---|
| Abstraksi | | | | | | |
| Why | <p>Pada kolom ini dijelaskan tentang visi dan misi secara umum bagian laboratorium.</p> <p>a. Visi "Menjadi laboratorium komputer pertama tingkat perguruan tinggi yang diakui dunia"</p> <p>b. Misi 1. Melakukan standarisasi internasional dalam pengelolaan laboratorium komputer 2. Menjadikan laboratorium komputer sebagai media dalam meningkatkan kecerdasan bangsa 3. Menghasilkan mahasiswa-mahasiswa yang mampu bersaing dalam pasar internasional</p> | <p>Tujuan yang diharapkan dengan adanya sistem informasi yang baru :</p> <p>a. Ingin merubah citra laboratorium yang kurang baik khususnya dimata dosen dan asisten praktikum sehubungan dengan banyaknya kerusakan komputer yang tidak tertangani dengan cepat</p> <p>b. Ingin membuat manajemen yang lebih baik di laboratorium</p> <p>c. Memaksimalkan kinerja laboratorium</p> <p>d. Mengefektifkan waktu untuk perbaikan komputer yang rusak</p> | <p>batasan-batasan atau aturan yang diterapkan dalam proses perancangan sistem :</p> <p>a. Batasan tabel atau entitas (atribut, tipe data dan primary key)</p> <p>b. Nilai dari atribut "status_laporan" adalah belum diperbaiki, sedang diperbaiki, sudah diperbaiki.</p> <p>c. Laporan yang statusnya sudah diperbaiki tidak bisa dilakukan pengeditan atau perubahan lagi.</p> <p>d. Laporan yang statusnya sedang diperbaiki hanya dapat dilakukan perubahan status oleh teknisi yang bersangkutan.</p> <p>e. Entitas tidak akan muncul hanya jika status laporan dirubah ke mode sudah diperbaiki.</p> <p>f. Hak akses masing-masing user berbeda.</p> | <p>Aturan-aturan yang digunakan dalam pembuatan aplikasi :</p> <p>a. Software yang digunakan adalah yang bersifat open source atau freeware. Maka perangkat lunak yang digunakan adalah sebagai berikut :</p> <p>1. Software database menggunakan MySQL dan diolah dengan menggunakan Phpmyadmin.</p> <p>2. Bahasa pemrograman yang digunakan adalah PHP, HTML dan Java.</p> <p>3. Desain layout aplikasi menggunakan metode CSS.</p> <p>4. Aplikasi web server yang digunakan adalah Apache</p> <p>b. Aplikasi hanya dapat dijalankan dari jaringan lokal Laboratorium</p> | <p>Dalam proses pengkodean ini ada beberapa hal yang harus diperhatikan :</p> <p>a. Script untuk login harus aman dari berbagai macam gangguan keamanan yang dapat mengakibatkan rusaknya sistem.</p> <p>b. User yang diberikan otoritas penuh terhadap sistem tidak boleh membaginya dengan user lain.</p> <p>c. Sistem dibuat auto log off apabila terjadi proses idle pada penggunaan sistem.</p> <p>d. Disable error reporting pada file index.php di root dengan cara mengganti state men error_reporting(E_ALL); menjadi error_reporting(0) (angka nol).</p> <p>e. Disable beberapa fungsi yang mengancam keamanan sistem yang terdapat pada file php.ini.</p> | <p>SOP dalam menggunakan aplikasi sistem informasi pelaporan kerusakan komputer</p> |

5. IMPLEMENTASI

Implementasi dari hasil perancangan menggunakan Zachman Framework selanjutnya diimplementasikan dalam bentuk *prototype* aplikasi yang dibangun. Dimana *prototype* ini hanya mengutamakan dari sisi fungsionalitas sajasehingga nantinya masih dapat dikembangkan lebih lanjut.

6. KESIMPULAN DAN SARAN

6.1 Kesimpulan

Dari pembahasan yang sudah dipaparkan, maka peneliti dapat menarik beberapa kesimpulan, antara lain :

1. Dalam perancangan sistem pada penelitian ini dengan *Zachman Framework* harus menguraikan secara detail kolom dan baris yang ada didalam matrik Zachman agar didapat gambaran sistem secara utuh dari berbagai macam sudut pandang.
2. Untuk mengisi sel yang ada didalam matrik Zachman terkadang membutuhkan data-data pendukung yang dapat diambil dari luar lingkungan organisasi. Misalkan data harga peralatan atau infrastruktur fisik yang tidak didapat dari data internal organisasi. Pengisian tiap sel pada Zachman harus konsisten dan terurut karena masing-masing sel akan menjadi acuan pengisian sel pada sudut pandang berikutnya.
3. Gambaran *prototype* sistem baru dapat dilihat secara jelas ketika penguraian matrik Zachman sampai pada perspektif desainer.

6.2 Saran

Agar penelitian dimasa mendatang dapat lebih baik, maka ada beberapa saran yang dapat diambil :

1. Data-data untuk menunjang pembuatan sistem dengan *Zachman Framework* sebaiknya tidak hanya bertumpu pada data utama saja tetapi harus ditambahkan dari data pendukung lainnya.
2. Pengembangan sistem dapat dilihat melalui Perspektif *Owner* agar pengembangan sistem tidak melenceng dari sistem yang sudah ada.
3. Penelitian ini untuk kedepannya dapat dilakukan pengujian dengan metode yang lain karena dalam metode Zachman pengujian hanya dilakukan secara *white box*.

7. DAFTAR PUSTAKA

Cook, Melissa A., *Building Enterprise Information Architectures*, Prentice Hall, 1996

Federal Chief Information Officer Council (FCIOC), "*A Practical Guide to Federal Enterprise Architecture*", Februari, 2007

John A. Zachman, "*John Zachman's Concise Definition of the Enterprise Framework*", Zachman International, 2008

MIT Center for Information Systems Research, Peter Weill, Director, as presented at the Sixth e-Business Conference, Barcelona Spain, Maret, 2007

Internet :

<http://www.zachmaninternational.com> akses pada tanggal 20 juli 2012 jam 10.20