

# Enterprise Architecture Design of Information Media at Little Ambulance in Sumedang Regency

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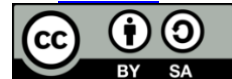
Information Media

Information System

## ABSTRACT

In this modern era, disseminating information is easier and faster through the latest technology, including publications using information media. Little Ambulance is a social institution in the field of public health that requires information media to build public trust. Enterprise Architecture (EA) is a reference framework used to build an information architecture that suits the needs of Little Ambulance. Little Ambulance, by using this EA, is able to identify ongoing transactions and operations and design a blueprint for the future. The required information architecture includes information about location, news, volunteer search, and donation transaction reports. Creating this website can help Little Ambulance gain trust and support from volunteers who want to join, as well as ensure transparency of expenditure made by Little Ambulance to increase public confidence.

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## 1. INTRODUCTION

In this modern era, the latest technology allows information to spread quickly throughout the world [1], [2]. This is very different from the past, where the dissemination of information was limited to print media such as newspapers, banners, and brochures, which required high costs and took quite a long time to process and deliver [3], [4]. This limitation is challenging for institutions, including Little Ambulance, in promoting it to the public. Little Ambulance is a humanitarian agency under the Little Project Humanitarian Foundation. This institution was founded in 2022 as a free ambulance team. Little Ambulance has recently expanded its program, which focuses on community health needs, providing ambulance facilities and free oxygen for those in need. However, during its two months of productive life, Little Ambulance faced several shortcomings in administration, lending systems, and especially publications that required further development.

Publication is the dissemination of a planned message for the benefit of an organization or individual, usually at no cost to the media [5], [6]. Information media functions are to collect and organize information so that it is useful for the recipient and allows interaction between people [7]–[9]. Publication media is designed to introduce and maintain the name and honor of an organization or individual to the public with the aim of creating attraction [8], [10], [11]. This publication is very important for Little Ambulance because this institution still needs the trust of donors and the community. Therefore, information media is required to make it easy to manage with fast, precise, and accurate presentation without being limited by time and place.

Donors are a crucial aspect of Little Ambulance because the activities of this institution depend on support from donors. Donor data collection and donation information must be managed well through the information media of Little Ambulance. Apart from that, the publication of activities conducted by Little Ambulance must be well regulated so that the public knows and is interested in these activities. The large number of documentation activities are not well managed, so a good publication platform is required to increase the trust of the public and potential donors. One method for building an information architecture that suits

business needs is Enterprise Architecture (EA), which supports business activities and achieves the mission of the organization [12]–[14]. An enterprise is a group of people organized for a real purpose and to produce a product or provide a service. Meanwhile, architecture is the design or design of various types of structures, whether physical or conceptual, real or intangible. Enterprise Architecture (EA) serves as a strategic guide for current transactions and operations and provides a blueprint for future development, tailored specifically to meet the operational needs and strategic goals of Little Ambulance. The goal of Enterprise Architecture is to meet the strategic business needs of an organization, which combines information needs, information system components, and supporting technology. Information architecture is a combination of information system architecture and information technology which has several definitions. Enterprise Architecture Planning (EAP) describes the data, application, and technology architecture needed to support an organization's business. The results of EAP design are in the form of a blueprint for data, application and technology architecture as well as an implementation plan, which can help in running the business [15]–[17]. To optimize the management of information media at Little Ambulance, it is necessary to design an enterprise architecture including activity documentation, donor data management and information about the institution. Therefore, this can support the management of documentation and donor data in a more structured manner and increase the credibility of Little Ambulance.

## 2. METHOD

The development system in this research uses Unified Modeling Language (UML), which includes Use Case Diagrams and Class Diagrams. Use Case Diagram is a modeling to describe the behavior of the system to be created. This use case diagram will describe an interaction between one or more actors and the system that will be created with quick understanding. Meanwhile, Class Diagram describes the system structure in terms of defining the classes that will be created to build the system [18].

UML is a language that uses graphics to visualize, define, develop and document OOP (Object Oriented Programming) based software systems [19], [20]. UML is not a programming language but a set of models associated with various programming languages that allow direct mapping of models created with UML[21].

## 3. RESULT AND DISCUSSION

### 3.1. Use Case Diagram

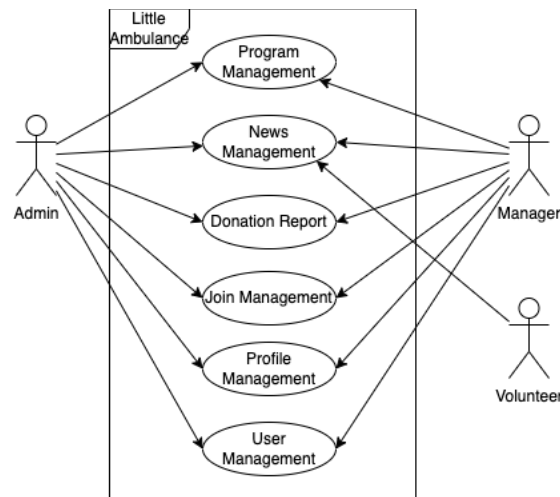


Figure 1. Use case Diagram

Figure 1 depicts the use case of Little Ambulance which consists of three actors, namely: Admin, Manager and Volunteer. An administrator or “Admin” is someone who has a position below the manager, Manager comes from the English word which describes a person who carries out a process of planning, organizing, leading and supervising the efforts made by the organization to achieve organizational goals [22]. In the context of Little Ambulance, the manager is someone who is responsible for supervising all staff. At Little Ambulance, the managers are the chairman, secretary and treasurer. The definition of a volunteer, according to Schroeder [23], [24], is an individual who is willing to contribute energy or services, abilities and time without receiving financial reward or without expecting material benefits from a service organization that coordinates a particular activity in a formal form. In addition, the activities performed by volunteers are voluntary to help other people without any expectation of external rewards. Volunteering is the activity of giving time for free. in the system that will be built, managers and admins have the same access rights, namely

managing programs, news, joining, profiles, reports and donation reports, while volunteers have different access, namely only managing news.

### 3.2. Class Diagram

Class has what is called attributes and methods or operations, as follows.

- Attributes are variables owned by a class.
- Attributes describe properties with a line of text within the class city.
- Operations or methods are functions that belong to a class.

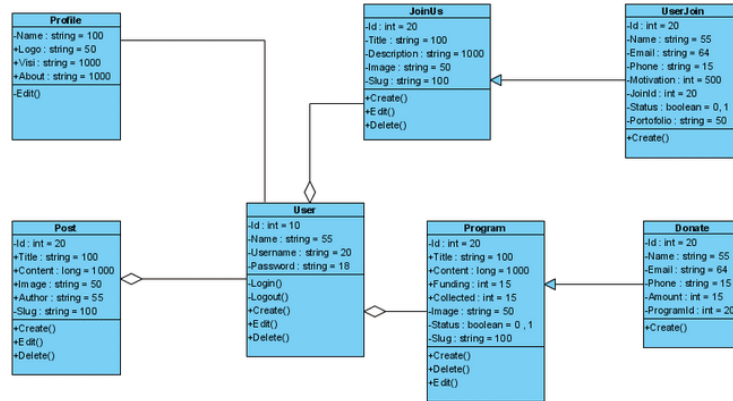


Figure 2. Class Diagram

### 3.3. Coding

Coding is a code used to differentiate between one transaction and another, which can be seen by humans. Encoding is different from ID because the encoding appears on the display while the ID or primary key is the code used by a machine or computer to differentiate one transaction from another.

The coding available here is transaction coding for users who have donated. The coding structure is as follows:

Table 1. Coding

2023.01.11	LA	00001
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#### Description:

- 2023.01.11 = Transaction Date  
 LA = Little Ambulance  
 00001 = Serial number of donors

### 3.4. Website

#### 3.4.1. Visitor

Access that can be used by visitors is as follows:

- Main Page Display

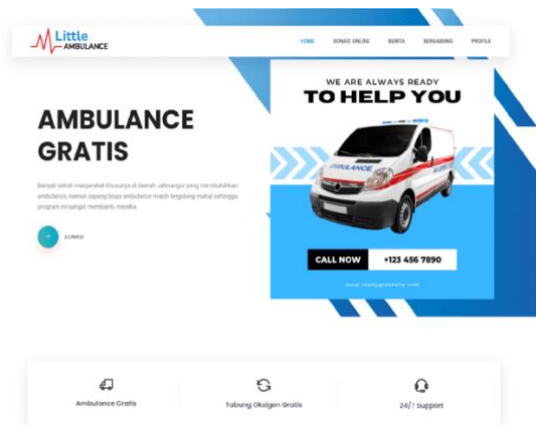


Figure 3. Main Page Display

On the main page display, there is information prioritized by the admin/ administrator. This aims to make it easier for users if they want to donate with a display, shown in Figure 3. This priority display can change depending on the admin choosing which program is prioritized. Apart from displaying the program, potential donors can also donate directly. An image of the donation form is appeared in Figure 3. Apart from the program, there are also services available at the Little Ambulance, such as free ambulances, free oxygen cylinder filling and 24-hour service.

b) Online Donation Menu

Visitors who want to donate can click on online donations on the donation page provided by all Little Ambulance programs as shown in Figure 4. If visitors want to see details of one of the programs, they can click on one of the programs, then visitors will be taken to the details page donation.

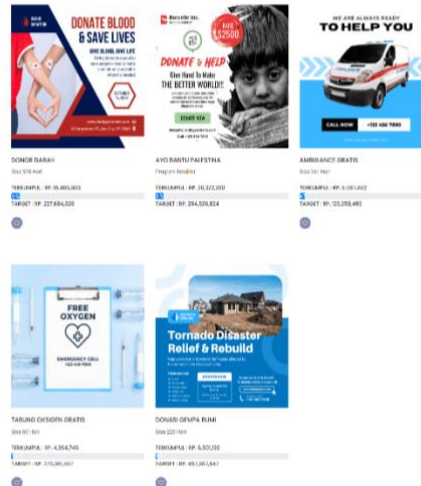


Figure 4. List of Program

c) News Menu

There is information regarding the latest news regarding Little Ambulance or the progress of the program conducted by Little Ambulance which is useful for users to know all the progress being performed.

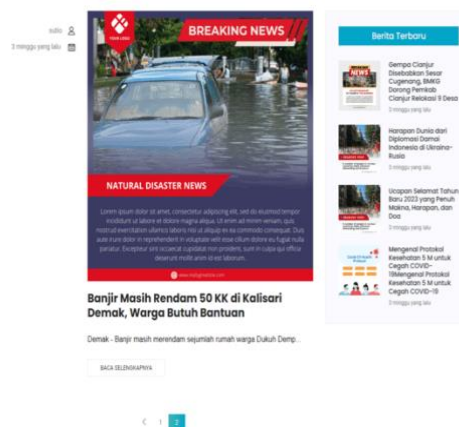


Figure 5. List of News

d) Join Volunteer Menu

In this menu, there is a collection of vacancies for volunteers to join Little Ambulance.



Figure 6. List of Volunteer Vacancies

e) About Menu

“About” section provides more complete information about Little Ambulance, including the aims and objectives of Little Ambulance's activities. This section helps visitors to understand more about Little Ambulance. There is also a map display of the location of Little Ambulance to make it easier for visitors to find the position easily. In addition, there is a form provided to allow visitors to provide input and suggestions to Little Ambulance.

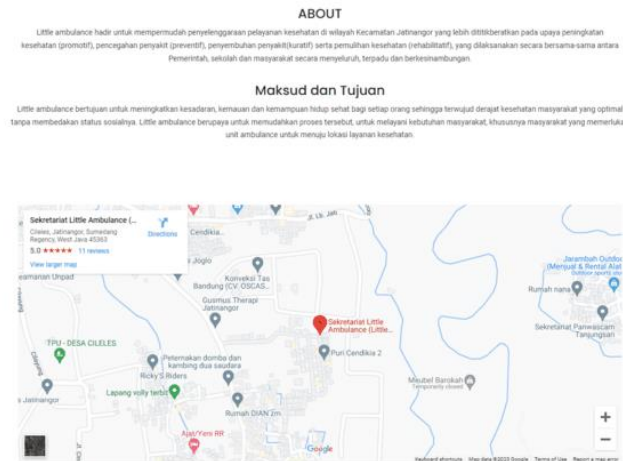


Figure 7. Display of profile and location

3.4.2. Donor / Potential donor

Donors or prospective donors are individuals or organizations who intend to make donations to support one or several programs provided by Little Ambulance. Before making a donation, potential donors must fill in personal information such as name, address and contact details. Then, the donor determines the amount of donation he or she wants as shown in Figure 8. This data is important to ensure that donations are received and forwarded accurately.

**Petunjuk Pembayaran**

01. Isi data diri  
 02. Pilih pembayaran bank  
 03. Transfer ke BSI 7197976492 a/n: Little Ambulance  
 04. Upload bukti pembayaran

Nama

Email

No Hp

Jumlah Donasi

Metode Pembayaran

BRI  BCA  BSI BANK SYARIAH INDONESIA

AMBULANCE GRATIS

Bukti pembayaran

Figure 8. Donation Form

**3.4.3. Volunteers**

Volunteers or volunteer candidates must register first on the web. This registration is performed voluntarily, where volunteers register on their own initiative and without any coercion or obligation. Volunteers can access the registration form in the "join" section on the Little Ambulance website as in Figure 9. After the registration form is filled in and sent, the volunteers will receive further information about the next process and the training schedule if accepted as a volunteer.

Registrasi Volunteer

Nama

Email

No Hp

Motivasi  
 Message

Masukan CV atau Resume Anda

Figure 9. Join Form

**3.4.4. Administrator (Admin)**

Administrator or admin is someone who manages all the content in Little Ambulance. Administrators have almost all access except adding users because adding users can only be conducted by the manager. To enter the "admin" page, users must add the url with the suffix “ /login”.

a) Login

To log in, users can use 2 login methods such as entering their registered username or email. If the username or email and password entered are correct, the user will be redirected to the dashboard page.

## b) Dashboard Page

The dashboard page is the first page visited after logging in. In the dashboard, there is some information such as total news, total programs, and total programs that have been completed.

## c) News Management

News is a report of current events, opinions, situations, important things that are interesting and updated. News can also reach the public as quickly as possible. In the news manager, administrators have access to add, edit and delete news.

## d) Program Management

The program is an online donation made by the admin. To access program management, the user clicks on "program" button. In program management, the admin has access to add, edit and delete programs. In program creation, there are validations as follows:

- All columns must be filled in
- Write donation targets in numerical form without additional currency or semicolons
- Priority function for the program is placed at the top of the main page.
- The file types that can be uploaded are images with the extension .jpg or .png

## e) Join Management

Join management is a vacancy created for volunteers interested in Little Ambulance activities. Joining can only be performed by an administrator with access to add vacancies, edit vacancies, or delete vacancies. To access join management, users can click "join" button, then a join list will appear.

### 3.4.5. Manager

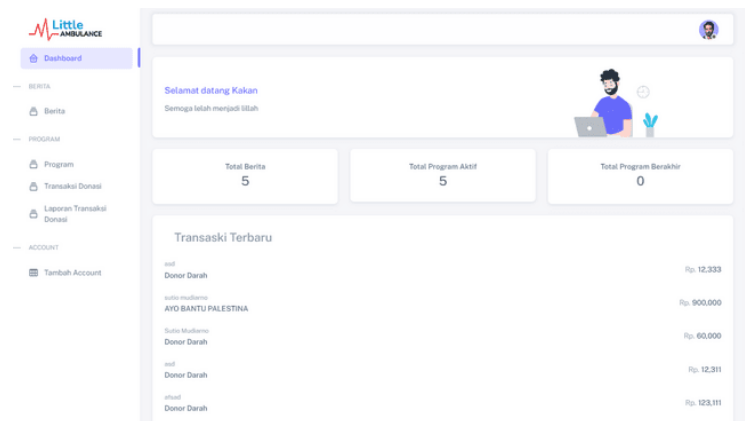


Figure 10. Manager Dashboard Page

Managers are people who have access to control users. Like "admin" or administrator, they must log in first to enter the user's dashboard as in Figure 10. The features that can be accessed by managers are similar to the features that can be accessed by admin, but managers cannot manage news, programs or vacancies. Managers can only see that information.

## a) Manager Account

Manager can add accounts, delete, edit users. Apart from that, the manager can also restart the password. The default password for all accounts is "password". To access this, account management clicks the "add account" button. The following is an explanation of how to manage an account.

## b) Donation Transaction

Manager can see transactions that have been entered by clicking the "donation transaction" button. Apart from that, the manager can save the transaction into an Excel file so that it can be processed into a donation transaction display report. To access the save transaction feature, managers can click on "transaction report" and then select "start date" and "end date" of the desired report. Managers can also select the programs they want to save.

### 3.3.5 Volunteer

Volunteers have limited access, unlike admins and managers, who can access all existing features, but volunteers can only access news. The volunteer dashboard display is shown in Figure 11.



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