

# Developing e-Commerce of Unique Indonesian Souvenirs with Web Engineering

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## Abstract

*E-Commerce Unique Regional Souvenirs in Indonesia is a buying and selling application made to make it easier for tourists to find a place or location for typical regional gifts and make it easier for tourists to order souvenirs during a pandemic like now, as well as a means for traveler's local souvenir sellers to promote their products online. Making regional e-commerce specialties in Indonesia uses the Web Engineering paradigm and system modeling with UML (unified modeling language) with business cases, activities, use cases, and class diagrams. At the same time, the database management software uses MySQL with the PHP programming language and the Laravel Framework. The system design is expected to make it easier for people to find local souvenirs based on the place or location of souvenir merchants and local souvenir sellers to promote their products online.*

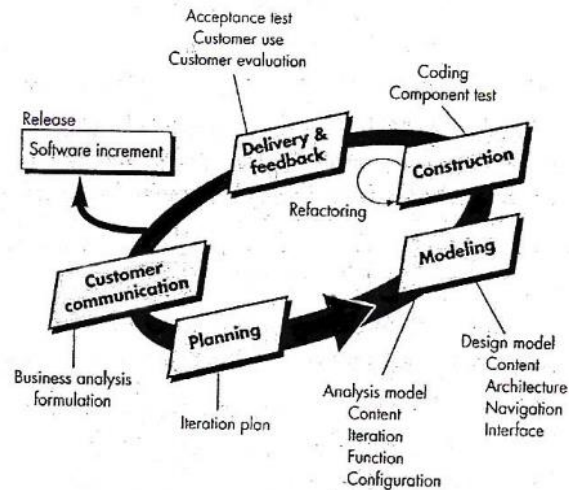
**Keywords:** e-Commerce, Web Engineering, Souvenirs, UML

## 1. Introduction

In today's era of technological development, e-Commerce is progressing very rapidly, especially during a pandemic like this where e-commerce is a substitute for income sources and retail sales. [1]. Some of the e-commerce that the customer loves now is the type of marketplace [2]. With tourism conditions going down, finally, people who want to buy specific SME products cannot buy directly at tourism places. They can buy in e-commerce [3]. When traveling, local or foreign tourists often have difficulty finding the location of a typical regional souvenir merchant and ordering souvenirs, and knowing the kinds of souvenirs that exist in that location. In addition, many merchants selling souvenirs are still not well known, and it is still difficult to promote their products so that local or foreign tourists still do not know the location of the merchant and the products they sell[4]. Using e-commerce, it is hoped that local or foreign tourists can easily find the nearest souvenir merchant place or location and make it easier to order souvenirs and souvenir sellers to promote the products they sell online easily.[5]. From this formulation, what will be discussed in this research is how to develop e-commerce that sells regional souvenirs using the Web Engineering method with the aim of a pandemic situation not dampening the business of tourism SMEs and making it easier for tourists to find a place or location by - regional specialties and make it easier for tourists to order souvenirs, as well as a means for sellers of regional specialties to promote their products online.

## 2. Research Methodology

Web Engineering (Web Engineering) is an engineering process to create web-quality applications with a systematic approach and a gradual process so that high-quality systems and web applications can be obtained[6][7]. Web engineering processes are taken from the Web Engineering Framework developed by Pressman [7].



**Figure 1. Web Engineering Process.**

The stages in developing this application are following the web engineering process engineering.

1) Customer Communication

In this stage, to determine the goals to be achieved, namely making it easier for tourists to find and order souvenirs typical of the region, as well as providing information services on what products are in that location and making it easier for souvenir sellers to promote their products, it is necessary a web-based application to make it easier for tourists to find the website [www.oleholekhasregion.com](http://www.oleholekhasregion.com) when looking for local souvenirs. In addition, the application provides a complete map. It supports GPS (Global Positioning System) technology which can provide information about making it easier to find a place or location quickly and accurately using the google maps API library (Application Programming Interface). The application is made using PHP and the Laravel framework. MySQL is a storage medium for locating the coordinates of a place or as an attribute (non-spatial data) to be stored. Given the breadth of the problem, this study only discusses a few things as follows:

- a) Make it easier for tourists to find a souvenir merchant location by using a map.
- b) Make it easier for tourists to see their location using a map.
- c) Make it easier for tourists to order souvenirs.
- d) Make it easier for souvenir merchants to promote their souvenirs.
- e) Make it easier for tourists to view information on souvenirs.
- f) Managing souvenir merchant data.
- g) Does not guarantee the authenticity of a souvenir merchant published by the gift seller.
- h) Does not guarantee the authenticity of a product promoted by a gift seller.

2) Planning

This research was carried out with the estimation of costs and personal scheduling of the researcher, and in the unclosed condition, the planning stage was still carried out in this research effort.

3) Analysis

Needs analysis is an activity to parse, sort, and regroup the needs needed in building a system. Needs analysis in this e-commerce system is the need for visitors, namely the product shopping process and product management needs for merchant owners or admins. The following are the functional requirements needed in this e-commerce described in a business case that the user will use.



The class diagram below illustrates the connection between objects in this e-commerce.

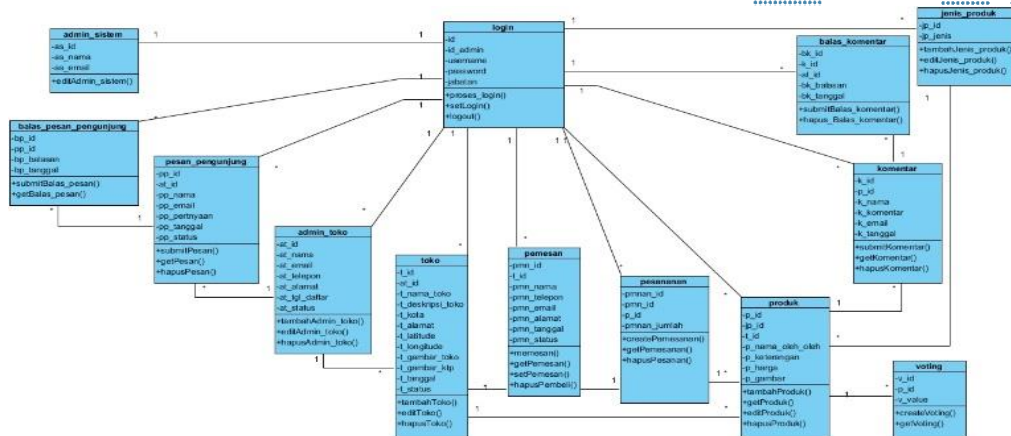


Figure 3. Class Diagram

### 3. Result and Discussion

In this engineering stage, there is also an e-Commerce interface design process, as follows:

#### a) E-Commerce Main Page

The website's main page interface is the website's interface when visitors first open the local souvenir website. Here is the main page interface of the website:



Figure 4. User Interface of E-Commerce Main Page

#### b) Merchant User Interface

The main page interface of the merchant's website is the website's interface when a visitor opens the merchant's website for typical regional souvenirs. Here is the main page interface of the website::

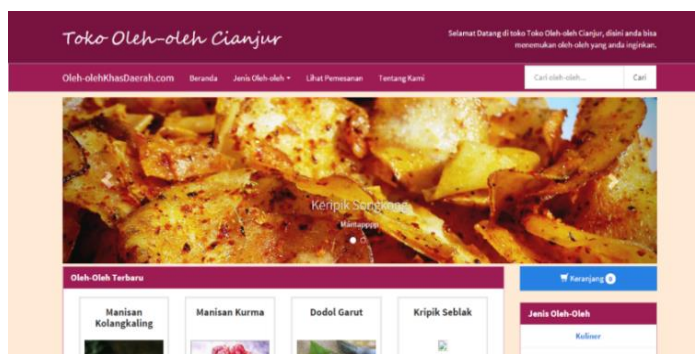
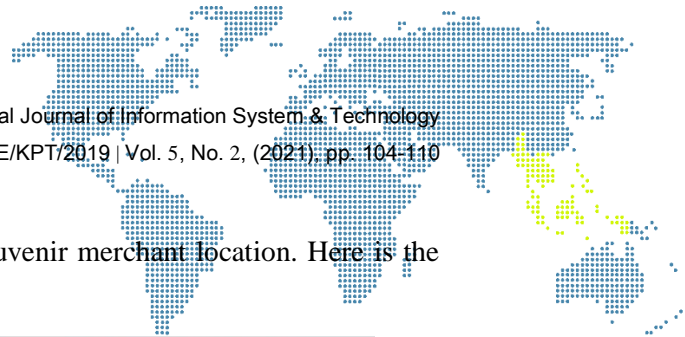


Figure 5. Merchant





c) Location Merchant Search User Interface

Visitors use these interfaces to search for the souvenir merchant location. Here is the user interface:



Figure 6. Location Merchant Search

d) Souvenirs Location User Interface

The souvenir search product interface is the interface used by visitors to search for souvenir products. Here is the souvenir product search interface:



Figure 7. User Interface Souvenirs Location

e) Order Souvenirs User Interface

The souvenir ordering interface is the interface used by visitors to order souvenir products. Here is the souvenir ordering interface:

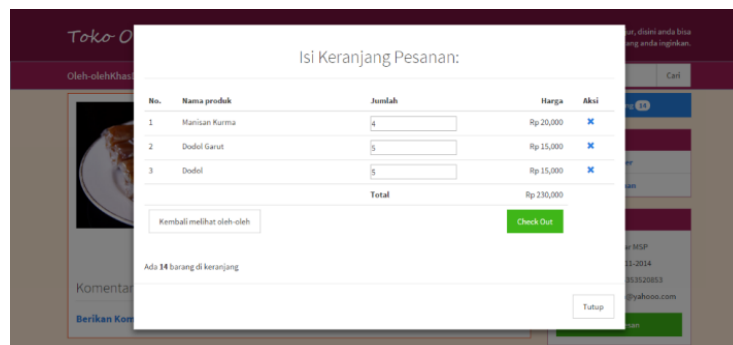
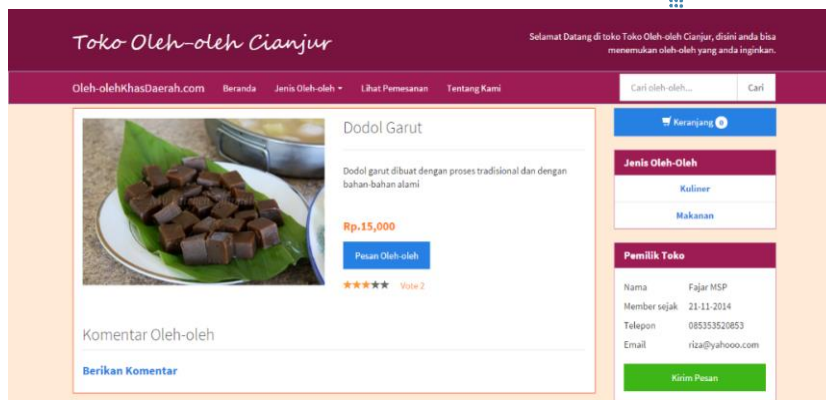


Figure 8. User Interface Order Souvenirs



f) Vote Souvenirs User Interface

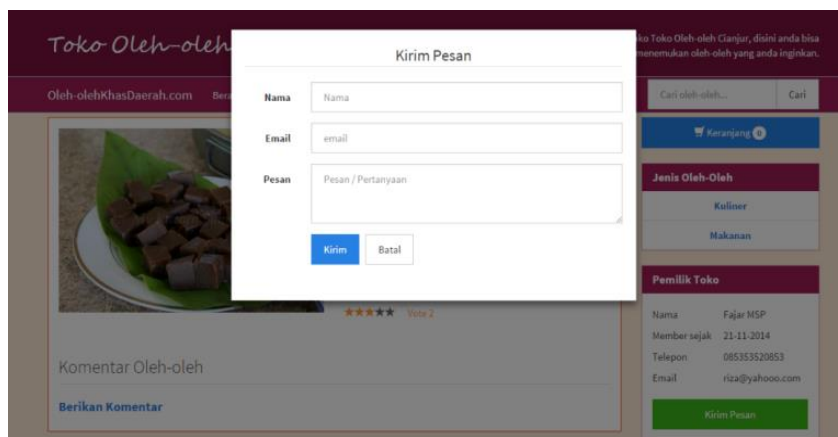
The souvenir vote interface is the interface used by visitors to vote for souvenirs. Here is the souvenir vote interface:



**Figure 9.** User Interface Vote souvenirs

g) Message Merchant User Interface

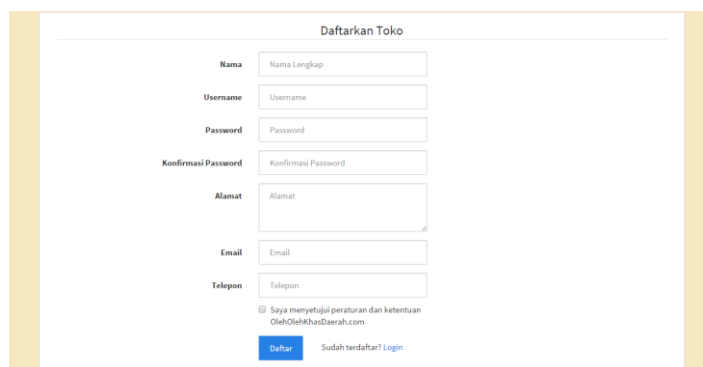
The visitor message interface is the interface used by visitors to send messages to the merchant owner or merchant admin. Here is the visitor message interface:



**Figure 10.** User Interface Visitor Message

h) Merchant Registration User Interface

The merchant admin registration interface is the interface used by visitors to register as merchant admin. Here is the merchant admin registration interface:



**Figure 11.** User Interface Merchant Registration



#### 4. Conclusion

From the results of the discussion of research that has been carried out, it can be concluded as follows:

- 1) This study produces E-commerce Typical Regional Souvenirs in Indonesia to make it easier for tourists to find Indonesian souvenirs.
- 2) The system can generate information related to the location of typical regional souvenirs by using maps and locations.
- 3) This system is accompanied by a cart system and payment gateway so that it can be categorized as a unique marketplace for souvenirs

The development of this e-commerce using web engineering methodology has been successfully carried out, but there are several suggestions:

- 1) E-Commerce is still website-based. It is better to develop mobile-based applications for both Android and IOS in the future.
- 2) We recommend integrating with popular marketplaces such as Tokopedia

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