



Faculty of Computer Science and Information Technology

**Preserving Bidayuh Cultural Heritage through Collaborative Approach:  
*Bi-Jagoi* Traditional Costume**

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**Bachelor of Computer Science with Honours  
(Information System)**

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**PRESERVING BIDAYUH CULTURAL HERITAGE THROUGH  
COLLABORATIVE APPROACH: *BI-JAGOI* TRADITIONAL COSTUME**

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This project is submitted in partial fulfilment  
of the requirements for the degree of  
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## ABSTRACT

*Malaysia is a multi-racial country that is diverse with culture and heritage due to the existence of different groups of people. Bidayuh or the 'Land Dayak' is the name for several groups of indigenous people who live in Sarawak, Malaysia. The Bidayuh is famous for its unique cultural heritage which includes traditional costume, dance, crafts, beliefs, practices, and many more. However, the information on this cultural heritage is not easy to access because of the lack of accessibility to culturally related material resources. Moreover, due to urbanization, cultural heritage gradually extinct through time. To overcome those problems, Bidayuh Cultural Heritage platform will be developed to store and preserve the culture and heritage of the Bidayuh. There are three objectives of this project: to design and develop a platform to preserve the Bidayuh cultural heritage, to create implicit knowledge of Bi-Jagoi traditional costume through collaborative approach and to create a recommendation system that applies a collaborative filtering algorithm to verify the content of the Bidayuh cultural heritage before publishing the content. This work describes the development of the Bidayuh Cultural Heritage platform. This platform will provide for systematic documentation of the Bidayuh culture and heritage information, easy access as well as provide for effective information for the public.*

## **ABSTRAK**

Malaysia adalah negara berbilang kaum yang beragam dengan budaya dan warisan kerana kewujudan kumpulan orang yang berbeza. Bidayuh atau 'Dayak Darat' adalah nama untuk beberapa kumpulan orang asli yang tinggal di Sarawak, Malaysia. Bidayuh terkenal dengan warisan budaya yang unik yang termasuk kostum tradisional, tarian, kerajinan, kepercayaan, amalan, dan banyak lagi. Walau bagaimanapun, maklumat mengenai warisan budaya ini tidak mudah diakses kerana kekurangan akses kepada sumber bahan berkaitan budaya. Lebih-lebih lagi, disebabkan oleh perbandaran, warisan budaya secara beransur-ansur telah pulih dari masa ke semasa. Maka dengan itu, platform Warisan Budaya Bidayuh akan dibangunkan untuk penyimpanan dan pemeliharaan warisan budaya kaum Bidayuh. Terdapat tiga objektif projek ini: untuk merekabentuk dan membangunkan platform untuk memelihara warisan budaya Bidayuh, untuk mewujudkan pengetahuan tersirat tentang kostum tradisional Bi-Jagoi melalui pendekatan kolaboratif dan untuk membuat sistem cadangan yang menggunakan algoritma penapisan kolaboratif untuk mengesahkan kandungan daripada warisan budaya Bidayuh sebelum menerbitkan kandungan. kerja ini menggambarkan perkembangan platform Warisan Budaya Bidayuh. Platform ini akan menyediakan dokumentasi kebudayaan dan warisan Bidayuh yang sistematik, akses mudah serta menyediakan maklumat yang berkesan untuk orang ramai.

## CHAPTER 1: INTRODUCTION

### 1.1 Background

Malaysia is a multi-racial country that is diverse with culture and heritage due to the existence of different groups of people. Bidayuh or the 'Land Dayak' is the name for several groups of indigenous people who live in Sarawak, Malaysia. The name 'Land Dayak' was firstly used by James Brooke, the white Rajah of Sarawak. The word 'Bi' means people while the word 'Dayuh' means the 'Land' which will create the terms of 'People of the land' (Johari et.al, 2017). Normally the Bidayuh can be found in the area of Lundu, Bau, Padawan, and Serian district. These people are divided into several groups based on their spoken dialects (Jecky, 2017). For example, in the Bau area, there is a group of people known as the *Bi-Jagoi* who live in the Jagoi area.

The Bidayuh is famous for its unique cultural heritage which includes traditional costume, dance, crafts, beliefs, practices, and many more. This cultural heritage demands proper preservation, management, and promotion. However, the information on this cultural heritage is not easy to access because of the lack of accessibility to culturally related material resources (Nalini, et.al, 2006). Moreover, due to urbanization, cultural heritage gradually extinct through time. This is because the younger generation is not interested in inheriting the cultural heritage (Soliha & Yazid, 2017).

Thus, Preserving Bidayuh Cultural Heritage through Collaborative Approach: *Bi-Jagoi* Traditional Costume project is proposed to overcome the problem by designing and developing a platform that can store and preserve the Bidayuh cultural heritage. Preserving Bidayuh Cultural Heritage through Collaborative Approach: *Bi-Jagoi* Traditional Costume project will also highlight how community participation can contribute to the preservation of the cultural

heritage. By using the case study of *Bi-Jagoi* traditional costume, it will show how the implicit knowledge of the costume gain from the collaborative approach. The collaborative approach applies here has the same ideology with the crowdsourcing approach where the data are gathered from the crowd. Nowadays there is lots of collaborative platform such as Wikipedia. However, the information can be manipulated from time to time. Thus, the data is not trusted. To overcome this, the Bidayuh Cultural Heritage platform will have a recommendation system that applies collaborative filtering algorithm to verify the content before publishing it for the usage of the public reader.

## **1.2 Problem Statements**

Due to urbanization, most of the younger generation is not interested in inheriting the cultural heritage (Soliha & Yazid, 2017). Thus, cultural heritage will slowly extinct through time. Most of the younger generation does not know much about their cultural heritage due to the lack of information provided to educate them about their culture and heritage. Moreover, a large portion of the cultural heritage is in privates or in individual hands and many people do not know about it. Currently, there are a few platforms that provide information about the Bidayuh culture and heritage such as Wikipedia. However, most of the information is not reliable and effective for the usage of the public reader. Therefore, there is a need to develop a platform that can store and preserve the Bidayuh cultural heritage. This platform will also provide information about the Bidayuh culture and heritage for the public especially the younger generation to learn and know more about their culture and heritage. Moreover, this platform will engage the local community to participate in preserving their cultural heritage.

### **1.3 Project Objectives**

The aim of this project is to preserve the Bidayuh cultural heritage. The objectives of this project are as follow:

- i. to design and develop a platform to preserve the Bidayuh cultural heritage
- ii. to create implicit knowledge of *Bi-Jagoi* traditional costume through collaborative approach
- iii. to create a recommendation system that applies a collaborative filtering algorithm to verify the content of the Bidayuh cultural heritage before publishing the content

### **1.4 Project Scope**

Bidayuh Cultural Heritage platform is about preserving the Bidayuh culture and heritage. This platform will be able to collect information about the Bidayuh culture and heritage from the local community and display posting of the Bidayuh culture and heritage. This platform is for the usage of the author, domain expert, administrator, and public reader. Below is the brief information regarding the user of this platform.

- i. Author

A user who is responsible to create the content that is related to the Bidayuh cultural heritage.

- ii. Domain Expert

A user who is expert about the Bidayuh cultural heritage and responsible to give review of the content in order to help the administrator to verify the content.

iii. Administrator

A user who is responsible to manage and maintain the platform and responsible to verify the content based on the recommended publish content given by the recommendation system before the content being published for the usage of the public reader.

iv. Public Reader

A user who is interested and want to know more about the Bidayuh cultural heritage.

### 1.5 Methodology

The proposed methodology for this project is by using the agile development model. The Agile model is an iterative and fast development model that can help to design and develop the system with better functionality. The phases involved in agile development model can be seen in figure 1.1 below:

1.1 below:

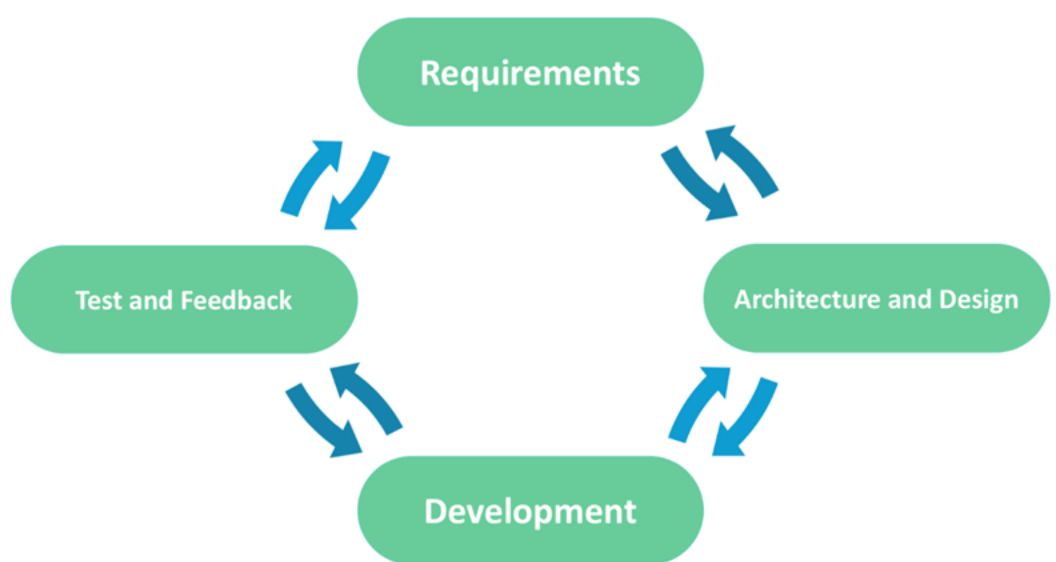


Figure 1. 1. Agile development model.

Adapted from Osetskyi (2017).

## **i. Requirements**

During this phase, the requirements needed to develop the Bidayuh Cultural Heritage platform is defined. The requirements include the functional and non-functional requirements of the proposed platform. The process involves in gathering the requirements are reviewing the existing works that are correlated to the proposed platform and distributing the questionnaire to the public. Data collected from the review, and the questionnaire will be analyzed in order to find the suitable requirements that can be implemented into the proposed platform. Reviews of the existing works are further discussed in Chapter 2 while data analysis based on the questionnaire will be discussed in detail in Chapter 3.

## **ii. Architecture and Design**

After the requirements needed to develop the Bidayuh Cultural Heritage platform are defined and analysed, the system architecture and design of the proposed platform are created. During this phase, the flow of the proposed platform will be created by using the Unified Modeling Language (UML) diagram. UML diagram is the visual presentation of the system along with its actors, roles, actions, and classes in order to be able to understand the information about the system (Ceta, 2019). UML diagram includes the use case diagram, sequence diagram, activity diagram, and class diagram. Based on the requirements and UML diagram, the wireframe of the Bidayuh Cultural Heritage platform will be designed.

### **iii. Development**

This phase focus on the constructions of real coding of the Bidayuh Cultural Heritage platform. Construction is based on the flowchart, UML diagrams, and wireframe created in the previous phase. The features of the platform are based on the features that have been discussed in the requirements phase.

### **iv. Test and feedback**

The complete platform is tested to make sure it is working as expected. The testing for functional and non-functional also been done in this stage to check the platform meet the requirement or not. This stage is also useful to finds and fixes error that occurs during the platform execution. Users will give their feedback on the Bidayuh Cultural Heritage platform.

## **1.6 Project Significant**

The significance of this project is to educate the younger generation about their culture and heritage. This platform indirectly provides awareness to the younger generation to keep and embrace their cultural heritage. This platform can promote the Bidayuh culture and heritage among the public. Moreover, the public can get reliable information related to Bidayuh cultural heritage. Lastly, this platform will engage the participatory of the local community to contribute in data collection of their cultural heritage for preservation purposes.