

Developing a Mobile Fashion Dictionary to Improve Understanding of English Vocabularies for Fashion

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Abstract

Fashion students' difficulty in learning English fashion terms and their meanings in higher educational institutions in the absence of fashion dictionaries inspired researchers to develop an electronic fashion dictionary. This research aimed at designing and assessing the feasibility of the digital application developed for fashion students at universities. The software application development was adapted from Pressman's waterfall process in two steps. The first step was to analyze the software of the electronic fashion dictionary concerning its function, perspective, characteristics, and specification; meanwhile, the second one was to design and employ the design of the electronic fashion dictionary which included the need for external interfaces, detailed planning, and software quality attributes of the electronic fashion dictionary. The result of the research showed that the concept of the electronic fashion dictionary constitutes two parts, the first of which is the database of the electronic fashion dictionary consisting of 9.300 vocabularies, each with a definition and accompanying illustration. The second part is the application of the software system of the electronic fashion dictionary. The application of the software system involves two users: administrator users (admins) and general users (users). Admins have an access and permission to input, update and delete both entries and illustration of FASHCABULARY. On the other hand, users can only access vocabularies in the dictionary and offer some feedback about the performance of the application. Meanwhile, the feasibility study was made by a media pundit to assess the performance, software system attributes, and some other features of the application. In respect of this study, the media pundit stated that the electronic fashion dictionary application was feasible enough to be used by university students or general public who want to learn more about fashion. In conclusion, this media can be said to be useful for fashion students at universities and general public trying to quickly understand English words or terms for fashion or to be self-taught learners of fashion.

Keywords

Fashion dictionary, fashion terms ; higher education ; vocabulary ; media for fashion learning

1. Introduction

Languages constitute a necessary means of communication (Liu, Sung, & Yao, 2013; Patel, 2014; Reboul, 2015). Languages are a requisite skill with which to see the world and compete in the global context (Al-Saadi, 2015; Montclair State University, 2017) as they allow humans to acquire vast knowledge and build up a strong network of relationships worldwide (Fry, Ketteridge, & Marshall, 2008). For this reason, languages are an essential skills everyone, especially university students, should possess in order that they can be competitive enough in the business world or continue their study to the higher level of education. One of the language skills university have to master is English skills. English is a language considered to be the most widely recognized language in the world (Wong & Dubey-Jhaveri, 2015). In fact, it has become an international lingua franca in which communication in almost all fields have been established (Alharbi, 2015; Genç & Bada, 2010) .

Although their national language is not English, it is still important for Indonesian people – particularly for university students as the succeeding generations of the nation – to learn and practice English (Andayani, 2022). however, as a matter of fact, many of the Indonesian students feel afraid to practise English (Mahmudi & Anugerahwati, 2021), just as what happens to fashion students. The fact that English is included in the list of compulsory subjects does not necessarily means that students can practise it fluently partly because it is one of the subjects of which most fashion students are afraid. Besides, they have poor basic skills at English although they did get English lessons at their previous educational institutions (elementary school, junior high school, and secondary high school); meanwhile, they have to accept the fact that the English course they attend at the university requires them to understand and use both spoken and written English according to their own fields.

In their process of learning English, the memorizing and recalling of English vocabularies become the greatest obstacle for those students (Hao, Wang, & Ardasheva, 2021). This has forced them to search for the vocabularies they want to use from the internet, translating tools, dictionaries, and e-dictionaries among others (Alamri & Hakami, 2022). However, those automatic vocabulary building applications they choose do not provide the integrated method or model appropriate for each of their fields. The existing, available e-dictionaries only offer them a narrow definition of each entry without satisfactorily explaining its meaning, not to mention displaying images illustrating the entry. Such factors contribute to the difficulty students have to experience when trying to memorize vocabularies. According to Ibrahim and Alamro (2021), visual images can help streamline the process of memorizing words and other learning processes.

The purpose of this research is to develop an interactive learning media in the form of integrated, mobile-based e-dictionary in the field of fashion, called Fashion e-dictionary. Fashion e-dictionary will contain integrated entries on important, technical terms of the fashion field equipped with the definition, explanation and specific images illustrative of the entries. A mobile-based dictionary, Fashion e-dictionary will provide students with easy access to learning processes anytime and anywhere. Besides, this e-dictionary can also be used by the general public concerned with fashion to enrich their knowledge of English terms for fashion.

2. Literature Review

1.1. Integrated English E-Dictionaries

A dictionary is a book containing an alphabetical list of words which provides any information about lexical items for users (Al-M'tassim, 2013). According to Philippe (2001), a dictionary is a tool designed to respond to audiences' real needs, such as their need to communicate with other people speaking different languages. According to this definition, a dictionary can be seen as an important language learning medium providing a large number of vocabularies which can facilitate effective communication in different languages. Zarei and Gujjar (2012) affirmed the importance of vocabularies in second-language acquisition and academic achievements. In short, a dictionary is an important medium in learning languages. According to Tseng, a dictionary can make a good accompaniment for students since it can give them instant and direct access to many things, i.e., it provides second-language learners meanings of foreign words (Zamari & Idris, 2011).

Furthermore, one of the dictionaries is an electronic dictionary, commonly referred to as e-dictionary (Tayoda, 2016). Electronic dictionaries are favored by many people, including university students (Al-M'tassim, 2013). Their flexibility makes electronic dictionaries easier to use than printed ones. E-dictionaries list words in an alphabetical order along with their meanings, or similar words or expressions in different languages; besides, they also give information on how to pronounce and use every single of their entries, in addition the information about the history of each word, namely the time when it was first used. Tuyoda (2016) mentioned that English e-dictionary has been widely distributed, but it is still hard to find the ones compiled specifically for a particular field of study. The existing, widely used English dictionaries contain common words instead of specific technical terms in particular fields. E-dictionaries are by definition in a digital form to be installed on selfphones, smartphones or laptops.

Meanwhile, the integrated English e-dictionary under discussion in this research is the one which will contain technical vocabularies and terms in fashion. In addition to the definition of a word, this dictionary will be equipped with visual images illustrative of the word chosen. These all will be displayed in an integrated way to support each other.

1.2. Mobile Learning

The e-dictionary developed to build students' vocabularies in the fashion field is a mobile-learning dictionary. Mobile learning (m-learning) is a learning process through the internet accessed via digital devices like selfphones or tablets to get subject matters from cellular applications, social interaction, and online education centers (Dias & Victor, 2017; Sung, Chang, & Liu, 2016). This is a flexible learning process which allows students to access subject

matters wherever and whenever they want to (Crane, Benachour, & Coulton, 2011; Sánchez & Isaías, 2013; Looi, Sun, Wu, Seow, Chia, Wong, Soloway, & Norris, 2014) .

Moreover, mobile learning provides educational institutions with some methods for sharing knowledge and delivering educational contents wherever and whenever they need to do so (Ally & Prieto-Blázquez, 2014; Peng, Su, Chou, & Tsai, 2009). At the same time, students use the application and digital devices to finish and submit assignments to their teachers, download course instructions and do assignments in a social-media group (Montrieux, Vanderlinde, Schellens, & De Marez, 2015; Serdyukov, 2017). Therefore, mobile learning can help facilitate effective learning (Wu, 2018).

3. Research Method

The development of the software application of fashion e-dictionary was stimulated by adapting the model of Pressman’s waterfall process (Pressman, 2015), as shown in Figure 1. The main reason of the use of this model was that the characteristic of the product has similarity to the steps in the waterfall process, in which the specification of the product development has been well identified, including the necessary supporting technology.

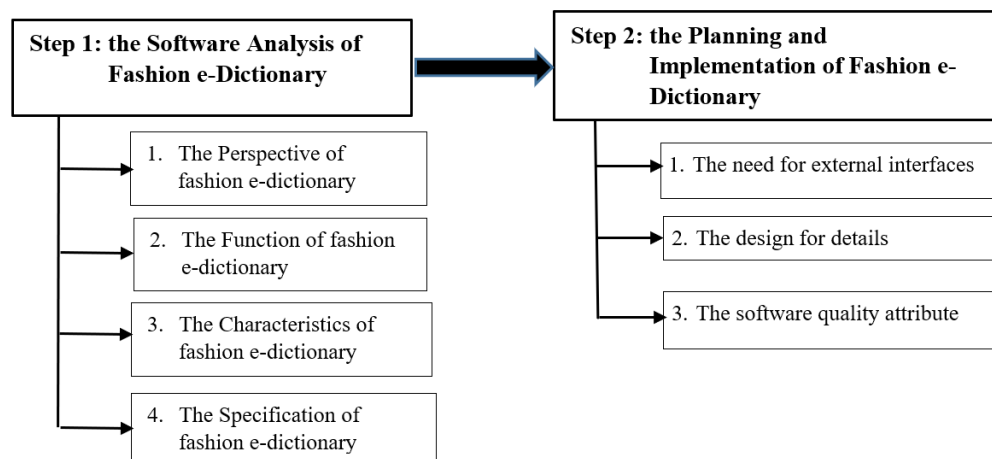


Figure 1 The Waterfall model adapted from Pressman (2015)

Figure 1 shows that the model follows two steps: the software analysis and the planning and implementation of fashion e-dictionary. The first step included the perspective, function, characteristics, and specification of fashion e-dictionary; the second step included the need for external interfaces, detailed planning, and the software quality attribute of fashion e-dictionary. the following is the detailed explanation of both steps.

1.3. The First Step: the Software Analysis of Fashion e-Dictionary

The steps consist of four. The first is the perspective of fashion e-dictionary. Fashion e-dictionary is an application designed specifically for fashion students. On the menu bar are some words or terms users can choose by clicking them. Once users choose a particular term, the dictionary will display an image illustrating the term along with the definition of the term in English. The programming language used in this software included java, xml, html, JSON and PHP; meanwhile, the application used to design this software included Android Studio, Sublime and phpMyAdmin. Second step is the function of fashion e-dictionary. The function of this software includes Admins to access the data on admin’s web and Users (to display particular categories for word search). The third is the characteristics of fashion e-dictionary. The characteristics can be seen from what admins and users can do. Admins are allowed to do data processing and change or add entries to be displayed, while users are allowed only to search for the definition of words with which they have not been familiar. The last stage is the specification of fashion e-dictionary. For this application to be used needs the Internet access and the use of Android platforms.

1.4. The Second Step: The Planning and Implementation of Fashion e-Dictionary

The first stage id the need for external interfaces for fashion e-dictionary. This was divided into four parts: user interface, hardware interface, software interface, and communication interface. User interface allows users to run

the application of fashion e-dictionary with the help of smartphones. This application displays menus and images to users directly on their smartphone screen and accept user input through the menu button and the button on screen. Users process the input by touching the screen. Hardware interface can be used only with general hardware in the form of smartphones. Another requisite for the system is the Internet connection which can be accessed via SIM cards or WiFi. Meanwhile, software interface is shown by the application of fashion e-dictionary which can be accessed via smartphones with Android operating system with the support of the Internet connection. Indeed, users should have downloaded the files of the application and installed them on their smartphones. Communication interface requires the Internet connection to connect mobile devices of users, server, and admins.

The second is the design for the details of fashion e-dictionary. The design included use case, performance, software system attribute, and other requisites. Use case planned this information system to have 2 actors: admins and users. Admins are responsible for making dictionary entries and updating data and images of fashion e-dictionary. users can access the data of fashion e-dictionary and process inputs to the application that has been run. The performance of fashion e-dictionary can be seen from the need for response time, data availability, and recovery time. The response time needed to access data is 10 seconds at maximum. As long as the server is on, the data will be available 24 hours a day, 7 days a week. Meanwhile, the recovery time expected is 24 hours after an error is detected. The software system attribute consists of error-handling, message, security, and probability. Other requisites for the application include the application display, the menu format, the color of the application, and font styles.

The third is the software quality attribute of fashion e-dictionary. This is divided into two parts: reliability and maintainability. The reliability of this application makes it easy for students, especially those in the field of fashion, to search the application for fashion terms in foreign languages to the extent that they can differentiate meanings of those terms by knowing their equivalents in English terms. The maintainability of the application can be seen from the ease with which admins perform maintenance activities, namely updating the database with new terms.

4. Results and Discussion

Based on the development process of fashion e-dictionary, the discussion will highlight two aspects of fashion e-dictionary, namely its database and the application of its software system. The detailed exploration of both aspects is as follows.

1.1. The Database of Fashion E-Dictionary

The preparation for the database development involved 93 students from three English classes. Those students were asked to collect fashion-related words or terms frequently used in their activities in the field of fashion. This was considered to be effective enough considering that in the process of manufacturing fashion products, they often found English fashion terms which they did not understand. During this process of vocabulary collection, as many as 9,300 vocabularies were collected; however, this number of vocabularies should have been selected to avoid the repetition of the same words. After the selection, the collection of words was arranged in an alphabetical order, and then each was given a definition. Subsequently, visual images suitable to each of the words or terms were inserted. The next step was to check and confirm the overall data to ensure suitability of words, definitions and images before the programmer input the data into the software. The process of collecting the database could be repeated many times as the database development continues. The following figure 2 illustrates the process.

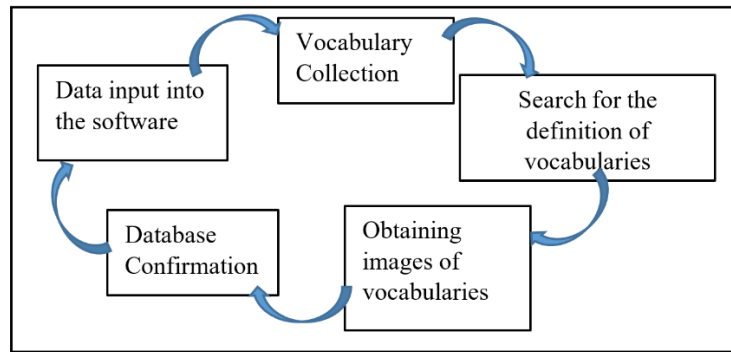


Figure 2 The Process of the Database Development

1.2. The Application of the Software System of Fashion E-Dictionary

The first step taken was to prepare an analyze the need of the software developed. This step was taken to specifically describe the application of fashion e-dictionary developed. To obtain information about the contents and features expected to be input into the application of fashion e-dictionary, the researcher conducted interviews and information processing. The data obtained from those processes was subsequently analyzed and categorized in accordance with the need of the system and its purposes.

The next step was to design the system of the software. Developing the system’s design suggested was an application whose software could translate and describe particularly chosen words and display visual images illustrating the words. The programming language involved in this process of developing the software included java, xml, html, JSON and PHP. Meanwhile, the application used to design the software included Android Studio, Sublime and phpMyAdmin. The product perspective of the system application can be seen in Figure 3.

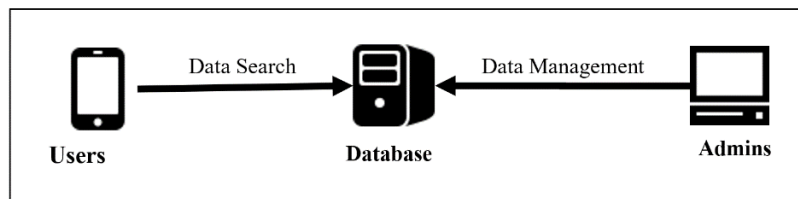


Figure 3 The Product Perspective of the System Application

Figure 3 shows how the concept of the data of the application was formulated, namely the data input from the computer of the server/admins was stored in the server. The data in th server was then accesible by mobile devices and could be displayed on the devices. According to the concept, the application of fashion e-dictionary was designed to be used by university students, especially fashion students, to help them search for technical terms used in the fashion field by choosing the displayed menus. In each menu are choices of English words or terms. If users choose one of those words, they will see an image and definition of the word given in English displayed on their screen (see Figure 4). The application of Fashion e-dictionary is called FASHCABULARY. It has no specific hardware interface but a hardware in the form of smartphones. Additionally, the operation of the application of this system needs the Internet connection provided by SIM cards or WiFi.

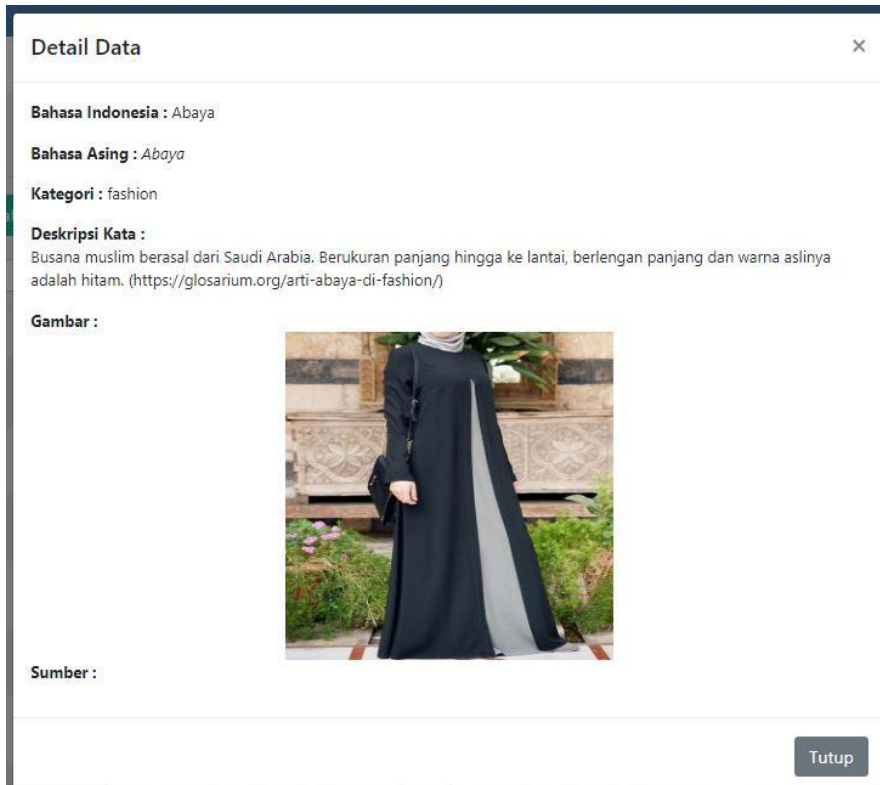


Figure 4 The Detailed Display of the Terms Chosen by Users

Subsequently, this software has two actors: admins and users. Admins can process data input, issue updates, and delete the data or images on FASHCABULARY; users can access the data on FASHCABULARY and submit feedback or suggestion concerning the application that has been run. As shown in Figure 5, admins and users establish different relations with the application as regards what each can do. The application-admin relation deals with data management. Admins are offered a full access to some features of the application like data input, data deletion, data update, and data information; however, such access is given only if admins log in using the registered username and password. Meanwhile, the application-user relation allow users merely to search and access the data input by admins.

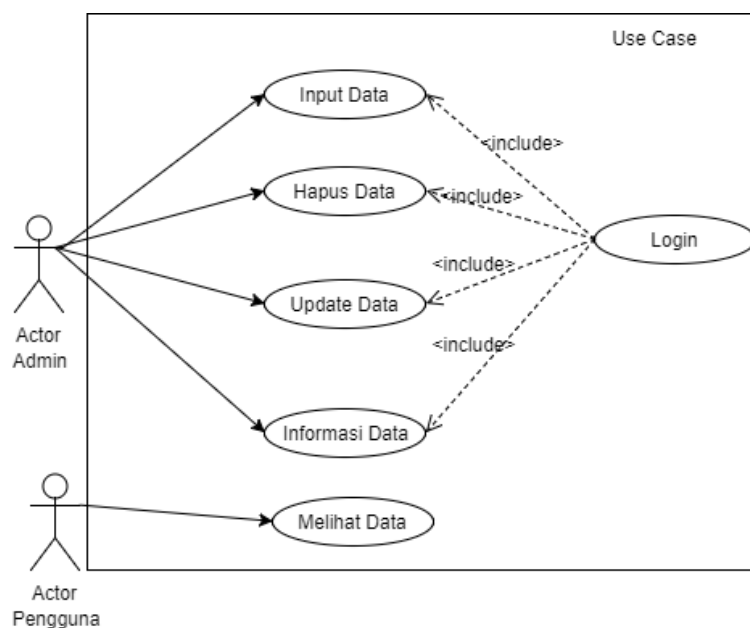


Figure 5 The Relations of the Application with both Admins and Users

Needless to say, in order to make use of this application, users have to download the application beforehand. This step can be seen in Figure 6, which shows that after being installed via APP Store, if opened, the splash screen of the application will display its logo, name, and brand, just as illustrated in Figure 6a. Subsequently, the main menu (see Figure 6b.) will display the main features of the application: search, about, and exit. The search menu offers two choices: search for vocabularies and search for meanings. The search for vocabularies is the menu which posts a list of fashion terms in English (Figure 6c.); the search for meaning is the menu posts a list of fashion terms in Indonesian, or Bahasa Indonesia (Figure 6d.). In this search menu is a sub-feature which allows users to perform a keyword search manually by clicking on the search icon in the upper part of the application (Figure 6e.). Meanwhile, the detail menu as shown in Figure 6f. presents information of the dictionary which including images, English fashion terms, Indonesian fashion terms, and the description of those terms in.

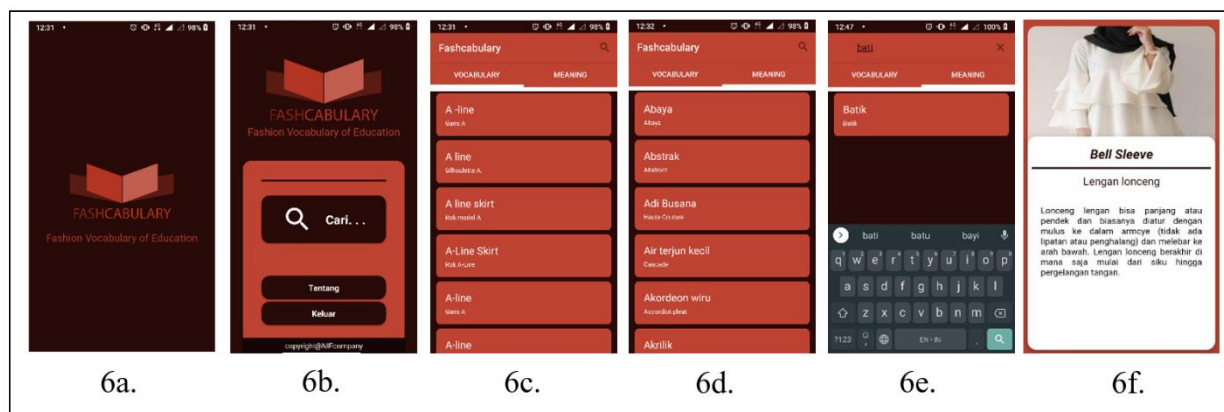


Figure 5 Users' Process of Accessing the Application

The feasibility study of this application involved media experts to assess its eligibility. The components under study included performance, software system attributes, and other requisites. The indicator and result of the assessment of each component can be seen in Table 1.

Table 1 The Assessment Result of the Feasibility Study of the Application of Fashion E-Dictionary

Components	Indicators	Assessment Result			Average Scores	Conclusion
		Expert 1	Expert 2	Expert 3		
Performance	Response time	86	85	86	85.67	Very feasible
	Data availability	86	82	84	84	Feasible
	Recovery time	90	90	88	89.33	Very feasible
Software system attributes	Error-Handling	90	90	90	90	Very feasible
	Security	88	87	86	87	Very feasible
	Portability	89	90	90	89.67	Very feasible
Other requisites	Application display	80	81	83	81.33	Feasible
	Menu format	82	80	81	81	Feasible
	Application color	78	76	80	78	Feasible enough
The average score					85.11	Very feasible

Based on the result of the assessment process shown in Table 1, it was concluded that media experts considered the application fashion e-dictionary was feasible enough to be used by fashion students. The performance criterion of this application was 10-second response time to access data – a long waiting time for accessing data will make users feel a sense of discomfort or have a trouble; the data of the application remained accessible for 24 hours; and the time for recovery or maintenance in case of an error was at maximum 24 hours. The criterion for software system attribute of this application dealt with error-handling, security and portability. The error handling criterion is shown to overcome problems of bugs and errors when the application is run. The security criterion is shown to ensure data protection and give data access only to authorized users. Meanwhile, the portability criterion is to provide easy access when the application is run. The last component is other requisites, the indicators of which include the application's display, the menu format, the color of the application, and font styles. The display of the application is shown in the form of an image which can let users log in and lead them to the next page by clicking the image. The format of menus is shown in the form of a button arranged vertically downwards to make it easy for users to

interact with interfaces. The application is orange in color, which stands for warmth and cheerfulness to provide users with a sense of comfort. The orange color is combined with the white color to make the application look interesting and easy to remember. Eventually, the font style used in the application is Arial font.

4. Conclusion

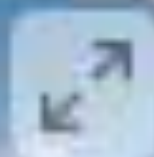
The application of fashion e-dictionary is developed in a system media experts considered to be feasible. The next step to take is to put the application to the field test to assess the effectiveness of the product developed. The test should be in various higher education institutions to test the effectiveness of the application in a wider range of users and, in turn, to receive more constructive feedback and advice from those users. The success of the development of this application will introduce innovations in helping fashion students to learn English terms and understand their definition.

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Preface

Long-term sustainability is a spark of the green economy which comes up with solid solutions to limited resources. Sustainability, with lenses to the Agenda of UN with its 17 SDGs, manages social, economic as well as environmental perspectives of the globe. Sustainable approach is mandatory; however, the sustainability in long term is possible through the diffusion of the innovation because the innovation is heart of the suitability. Innovation and creativity are the essential in all fields so creativity and sustainability are important and necessary segments of human life for their survival. Creativity is deep rooted in different practices of the culture, social, economic, and environment. Therefore, it is essential to mitigate the barriers of affordability, scalability, replicability, and sustainability so that the combination of the creativity and sustainability which can be approached from the different perspectives of thematic, disciplinary, trans-disciplinary, intercultural way. Creativity paves way for the all kinds of the development including the creative intelligence. Creative intelligence is new and dynamic field of knowledge, which empowers the potential of create, connect, and inspire. The combination of creativity and artistic manifestation postulates inspiration, energy, and empowerment. Design is important perspective of the creativity as well as culture.

After the adoption of emerging technologies, cultural industries are transformed into the creative industries with more modernity and economic growth. Cultural industries pave the way for the creation, production, and commercialization which results in creative content. The outcome of the creative industries appears in different versions such as journalism, studios of the artists, studios of design, architectural offices, media production, film houses, and cinema.

Thus, this book focuses on all perspectives as discussed above and touches on the new zone of knowledge.

Bhitshah, Pakistan

Muhammad Nawaz Tunio

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