Web-Based Application Design based on Usability Attributes for Sport Reservation Places: FUTSALKUY Apps

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Abstract. Along with the growing world of information technology, website application become extremely popular as medium and channel that offers variety of ways in presenting information. It offers high interoperability and accessibility, which provide ease of use and learn despite different of user demographic. Therefore, the web development often faces several problems such as requirement are unclear and less defined, frequent changes in each phase, hard to launch due to budget or time, not ready to scale incomplete input validation and so on. Thus, this study utilize design thinking in the pre-development to offer complementary approach to the problem-solving through encouraging active participation from users and iterative cycle of phases.

1. Introduction

In the current digital era, technology is developing very fast, including the technology that can give the benefits for business people, government and common people such as in the financial sector to support business transaction. Web-based applications are the simple program developed that can be accessed on the internet while its use is increasingly widespread in various place around the globe. Many growing companies from multinational and startup utilizing this type of application to present information at very least, which discussed in planning meeting for their resources and for managing their operational companies. It also can be used for a variety of different purposes such as creating invoices and provides an easy way to store data in a database or even for inventory management due to its very useful features, which often serve for monitoring purposes in terms of displaying systems. Even now the numbers are endless and can be ordered as well as modified accordingly to consumer needs in just blink of eyes, while various add on provided by third party for the customization. Apart from these functions, one of the competitive advantages of a web browser as an application is that it is very light and has the ability to operate through different browsers, which users only connect to the internet to have service from the server. This means that users can easily access any data or information via a laptop, smartphone, even a home computer, unlike desktop applications where users have to install programs or applications that are only needed to access such data and information.

In this decades, business thinking have some challenges regarding the outcome produce which at certain cases misunderstand the user demand and have short-life in the market. Thus, Design thinking comes into the picture as a set of principles for a practical approach to problem solving using human-centred design in a design-centric culture where the emotional, cognitive and aesthetic needs of users are likely to be met. As a client-side designer, the core activity tries to understand the client's needs as deeply as possible as a contextual and cultural goal. Then, when executing the design process, the designer acts like the user as if he or she is using the user's mind by making sure that the problem occurs
in the individual case. Who are the future users of your digital product, what determines the target audience, what are their habits, what are their online behaviours, where are the points, and what are the user's needs that must be met? The answers to these questions can help the designer get a head start on creating features. At a later stage, you should start thinking about the steps your users need to take to use a website, progressive web application, online shop, or other form of web presentation to be successful. This can include planning user journeys and identifying any issues they may encounter interacting with your site. Design thinking focuses on human-centred design, which means providing solutions to humans, with an emphasis on meeting specific human needs.

To meet the user requirements, designers must know the pain points of the user's experience of saying, doing, feeling and listening as the correct solution through fulfilling the rising expectation that has never met before with digital ecosystem [1, 10, 11]. When creating UI or UX designs, it will provide a distinct solution experience as an alternative design interface for a pleasant and satisfying user experience, which designers should focus on. Designing a solution that meets the needs of a specific user requires a thorough understanding of the problem. If the problem is not identified correctly, you may gain limited knowledge of its scope, and you may come across an incorrect solution. The design thinking process will help you think beyond the obvious, and begin employing strategies you have never thought of before. When you identify a problem, you should try several alternative solutions and simulations before settling on the final solution. Creating a business model helps deal with complex design problems. That's why optimizing a beta site and getting it public is always a good decision. The most valuable comments will come from real users. Mistakes when designing UI / UX are inevitable, but the important thing is to find them while there is still time to fix them. That's why prototyping testing is an essential part of any web design process. There are several online web development testing tools that can be of great help during the evaluation phase of the business process based on the functionality and the solution.

2. Theoretical Basis

Startup is implementation of business plan where all something that has been in business plan and all of them projected in poured and realized in the form of startup. As business models continue to change to create value, new business strategies continue to emerge and digital innovation becomes an ongoing necessity. The nature of competition in important economies versus the economies of the past is changing much change. While increasing their customer base provided a clear advantage to traditional product and service companies, the competition has become much more intense. As Amazon has proven time and time again [1], the e-commerce revolution is driving much change. While increasing their customer base provided a clear advantage to traditional product and service companies, the competition has become much more intense. As Amazon has proven time and time again [1], the e-commerce revolution is driving much change.

According to a global e-commerce report [2], more than half of global online purchases are calculated as follows: 58% for fashion products, with an average of 55% representing travel products or services, while book sales, music and stationery account for 50%, and at the same time accounting for 43% for IT and mobile, event tickets represent 41% of the total attendees worldwide. The characteristics that drive innovation vary greatly, in that the current standards and thresholds for leveraging the co-benefits of innovative molecules may not represent the marginal benefit generated by the contextual technology but rather the business-oriented demands [3]. At the end of the transformation process to become a market leader that dominates the market, successful industrial companies must engage creatively in breakthrough innovation, with physical products at the core, and add innovative digital interfaces and data-driven services [4].

An important parameter in the software development process is usability assessment, which allows the production of usable products by allowing users to interact with the interface design, and evaluations are carried out using metrics for task completion, errors, time used and personal satisfaction questionnaires. Therefore, possible errors and weaknesses in the system can be identified through usability assessment [5]. Ease of use designed for the mobile web plays a different role than desktop websites. Basically, mobile sites come with a whole new set of considerations to think about as they
provide a different user experience. With the mobile web, the importance of fit, reliability, speed, flexibility, customization, and other variables take center stage over design and aesthetics. In fact, the measurement can be categorized as the product effect related to output, effectiveness and satisfaction at the time of use of the product), then product attributes such as interfaces and interactions, the following process is used for product development and finally organizational capabilities [6]. Currently, usability assessment is based on a focus on improving user interface while usage context is treated as a given, which assumes that the user's needs and goals are expressed as a set of requirements for the behavior of the product used.

3. Research Methods

Usability discusses more about whether a user can easily perform tasks and handle user satisfaction so that a website can be used should be both aesthetically attractive and pleasant. It is also related to the extent to which the product is used by specific users to achieve certain goals, with effectiveness, efficiency and satisfaction in the context of a particular use. The several stages of the research method to be carried out can be seen in the figure below. The most important aspects related to the attempt to understand the given context of the system and the literature to categorize the user requirement. Therefore, the designer is required to utilize the identification of the function from previous stage to transform into several features applied within the application.

![Design Scheme](image)

Figure 1. Design Scheme.

4. Results and Discussion

An interactive website plays an important role in increasing purchase intention for online users, something that requires integration with marketing and advertising communications in terms of attracting potential buyers using the application. This interactive website also increases the credibility of the message and a stronger sense of identification within the platform, which also improves the company's reputation and word of mouth. Thus, positive information about it will spread to all consumers thereby increasing the intention of other buyers to carry out more transaction activities [7].

Meanwhile, entity relationship diagram (ER) is a type of flow chart used in the design process to describe how entities such as people, actions, cardinalities, objects, or concepts relate to each other in a system with the aim of correcting relational database errors in fields. When documenting a system or process, thorough research in various ways enhances understanding of that system, especially iterative methods for process improvement. It is commonly used in conjunction with data flow diagrams to display data store contents to visualize how data is communicated in general and is very useful for creating relational databases. The essence of the idea of design thinking is that the designer focuses on an overarching goal, rather than saying a specific problem to solve, or selecting and selecting several problems that can be conclusively solved. In this case, the manager might approach the employee saying it is necessary to increase web traffic for a given month by 50%. Perhaps the traditional way to solve this problem is to increase your ad spend, run a social campaign, or just look at tactics dedicated to building traffic. A design-thinking approach to this problem is to ask the question "Why?" Perhaps a 50% increase in traffic is expected to lead to an increase in leads. Now, instead of lowering the cost of the paid advertising
process to increase your traffic and leads, perhaps a better solution is to optimize the conversion rates for your existing traffic.

Developers need to take advantage of app usage in a very efficient way, so the need for hidden navigation is very important so that space can be saved for unnecessary use. Since navigation is an integral part of the app, users need to be notified that the navigation pane is hidden when not being used before using the app. Otherwise, some users might not know how the Navigation Pane works. The
second point is the clean interface. The clean interface in the app design proves to be a trendsetter. The clean design means that the app's interface is streamlined instead of adapting too much to style and colour. Although the design is streamlined, it can still look elegant and work efficiently. Aside from saving screen space, it also reduces apps loading time. Users might get upset if the app takes too long to load an interface that they don't use often. The third thing to pay attention to is the design of applications that can be connected to other things. Since a mobile phone is a device that is always connected to its owner, the mobile device can be controlled using the remote control [8]. There are feature information for register, select, order and payment that provide a lot of information about availability fields that can be booked. Usability is very important because if users are unable to achieve their goals efficiently, effectively and in a satisfactory manner, they are likely to seek alternative solutions to achieve their goals. Therefore, designers who wish to develop products with longevity need to ensure that these products are usable or risk losing users to their competitors.

Ease of use is the result of a user-centred design process. It is a process that examines how and why users will adopt a product and seeks to evaluate that use. This process is an iterative process and looks for continuous improvement after each evaluation cycle. Much of the product's effectiveness stems from the support provided to the user when working with the product, therefore in this application, defining the payment and transaction fields so that only accepting entering valid card numbers can reduce data entry errors and help the user do his job properly. There are many different ways to provide support, the
key is to be as informational as possible in a user-targeted way such as schedule details and roster for match requests. The study also examined the number of steps as well as the number of clicks in some basic business processes in an application to achieve specific objectives to help develop effective processes. Meanwhile, a comfortable layout, readable print, and easy navigation all come together to offer proper user interaction and make it attractive. However, the best thing about this website app is about minimizing errors that occur and making sure that users can easily recover from errors and return to their intended purpose or previous activity.

5. Conclusions
The conclusion obtained from the design of this FUTSALKUY application is that the application can run in accordance with the design that has been planned. With this application, it provides benefits and added value for customers and managers in the relation of the futsal field. This FUTSALKUY marketplace application is also a new breakthrough as a search and booking tool to facilitate the booking process, which offer the digital ecosystem. This system brings incremental innovations where the public can search the field efficiently and effectively by comparing several fields regarding services and prices. Furthermore, the public can also immediately order and look for opponents if there are less players. The start-up company should utilize the big data to understand the users’ characteristic by letting them reach out to their desired so the features developed can be aligned with the implicit requirement that somehow have been neglected.

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