ICFICE 2022

THE 14TH INTERNATIONAL CONFERENCE ON FUTURE INFORMATION & COMMUNICATION ENGINEERING

12-14th January, 2022
Ramada Jeju City Hall, Jeju

Proceedings
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Editor-in-Chief
Seong-Real Lee
Department of Division of Navigational Information System, Mokpo National Maritime University
Mokpo National Maritime University, 91, Haeyangdaehak-ro, Mokpo
Tel: +82-61-240-7264   **e-mail:** reallee@mmu.ac.kr

Dongsik Jo
School of IT Convergence, University of Ulsan
University of Ulsan, 93, Daehak-ro, Nam-Gu, Ulsan
Tel: +82-52-259-1647   **e-mail:** dongsikjo@ulsan.ac.kr

Welcome Message from General Chair

Dear respected scholars and professionals,

On behalf of the conference committees, it is my great pleasure to welcome all of you to ICFICE2022, the 14th International Conference on Future Information & Communication Engineering that is being held in Jeju Island, on 12th-14th January, 2022.

As new and diverse technologies continue to appear after the COVID-19 pandemic, it is now an era in which everyone should study technology.

As the spread of vaccines and the development of therapeutics become visible, it is time to think about life after the pandemic. Humanity, who has been living in a pandemic for about two years, is no longer the same as before. Our ICT researchers and companies are paying attention to the desires of people who are accustomed to a world that crosses online and offline, virtual and reality, and are preparing more diverse and interesting technologies and services than ever before.

Information and communication researchers should select six industries (metaverse, streaming, ESG, AI, network, finance) where pent-ups are concentrated and predict and prepare for changes in IT technology trends and the future.

As the general chair of ICFICE2022, I am pleased to announce that notable papers have been published here and several have been published in relevant SCOPUS indexed journals, including JICCE, to share their work with researchers around the world. We would like to thank the Program Committee and Organizing Committee members, keynote speakers, judges and authors who contributed to the success of this conference. I hope this conference will be a meaningful and happy time for you.

Dr. Seong-Yoon Shin
General Chair of ICFICE2022

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Conference Schedule Overview

◉ 12th January, 2022

・Registration

- Time : 15:30 ~ 16:30 (12th, January, 2022)
- Place : Meeting Room B(B2), Ramada Jeju City Hotel, Korea

・Opening Ceremony / Keynote Speech

- Time : 16:30 ~ 18:00 (12th, January, 2022)
- Place : Ball Room(B2), Ramada Jeju City Hotel, Korea
- Keynote Speech

  Title : Scalable Predictive Analysis using Multiple GPUs leveraging Big Data
  Speaker : Prof. Jongwook Woo
  (California State University College of Business&Economics, USA)

・Dinner

- Time : 18:00 ~ 20:00 (12th, January, 2022)
- Place : Restaurant(1F), Ramada Jeju City Hotel, Korea

◉ **13th January, 2022**

・Registration

- Time : 9:40 ~ 12:00 (13th, January, 2022)
- Place : Meeting Room B (B2), Ramada Jeju City Hotel, Korea

・Chair. Meeting

- Time : 10:20 ~ 10:40 / 13:00 ~ 13:20 (13th, January, 2022)
- Place : Ball Room (B2), Ramada Jeju City Hotel, Korea

・Technical Session

- Time : 10:40 ~ 12:00 / 13:20 ~ 15:30 (13th, January, 2022)
- Place : Ball Room / Meeting Room A(B2), Ramada Jeju City Hotel, Korea

・Lunch

- Time : 12:00 ~ 13:00 (13th, January, 2022)
- Place : Restaurant(1F), Ramada Jeju City Hotel, Korea

◉ **14th January, 2022**

・Business Benchmarking

- Time : 9:30 ~ 13:30 (14th, January, 2022)
- Place : KAKAO Corp.

Design of Self-Evaluation Model for Smart City in Bandung

Aisyah Nuraeni[1], Yiyi Supendi[2] and Daniel Rohmatulloh[3]

[1,2,3]Department of Informatics, Langlangbuana University, 42061, Indonesia
[Email: aisyahnuraeni20@gmail.com]

Abstract

Smart City Self-Evaluation is used to measure the implementation of smart the city independently. This measurement aims to determine the level of stability of the cities application to make improvements or stimulation in achieving the desired smart city goals by utilizing Information Technology and Technology (ICT) and can be innovative potential in solving various urban challenges in all fields. This research focuses on designing self-assessment software to simplify data collection as smart city assessment entry. This study uses an object-oriented concept with development requirement analysis, software design, and design evaluation for the research stages. The result is a software design consisting of process business, use cases, and user interface tailored to the needs of the local government of Bandung in supporting the smart cities concept.

Index Terms: Design, Smart City, Self-evaluation, Bandung, Object Oriented

I. INTRODUCTION

City is the center of human civilization with various facilities and facilities provided. Its existence continues to develop into a magnet for residents to come and stay in urban areas. In 2025 Indonesia is currently around 59.35% of the population living in urban areas is estimated to be 67.66% and will reach 82% in 2045[1]. As the population grows, City continues to grow significantly and raises problems such as housing, education, health, public services, etc. And to solve the problem, various solutions have been developed, one of which is the concept of Smart City [2].

The performance of local governments to be faster, responsive, innovative, and trustworthy solutions for rapid development of cities and regencies in Indonesia requires. To bring this speed, like it or not, the Regional Government needs technological assistance. The Government of Indonesia has implemented a Smart City initiation policy that utilizes Information Technology and Technology (ICT) which is one of the technologies that has innovative potential to solve various urban challenges effectively on all sides of the Regional Government [3].

The City Regional Government has carried out various initiatives and has a Grand Design towards a Smart City that focuses on the use of ICT to ensure effective and efficient use of resources, city administration, public services and can solve various city challenges using innovative, integrated solutions, and sustainable to provide infrastructure and provide urban services that can improve the quality of life and meet the needs of the population [4]. The problem is that cities have not been able to carry out an independent evaluation of the implementation of a smart city in a measurable manner according to the

city's needs [5]. However, it requires advanced support for the development and operation of applications in a complex and dynamic environment [6].

Through this study, a software design will be developed that can assist in collecting data on the evaluation indicators for measuring the implementation of smart cities so that the city gets an initial picture and can determine strategies in increasing the value of implementing smart cities following city goals.

II. SYSTEM MODEL AND METHODS

RAD (Rapid Application Development) was chosen as a system development model because it requires a little time in its development and analysis of the requirement has been identified. Tailored with the pressman says that the application of the RAD method will run optimally if the application developer has formulated the needs and scope of application development [7].

While the system development model uses UML (Unified Modeling Language), which can help analysts define, visualize, and document software system models, including their structure and design, by meeting all software requirements and helping analyze and design appropriate solutions. [8].

The following are the stages of the research that has been carried out
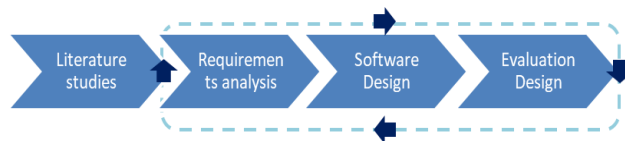

Fig. 1. Research Stages.

III. RESULTS

A. Process Business

There are 8 stages in smart city self-evaluation process business.
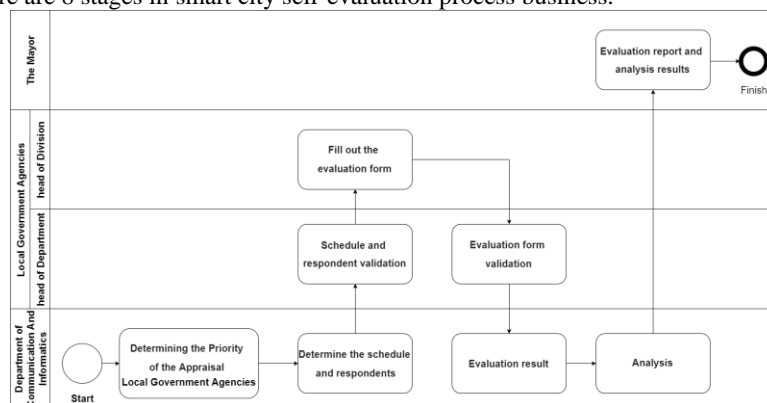

Fig. 2. Process Business for Bandung Smart City self-valuation model.

B. Use case

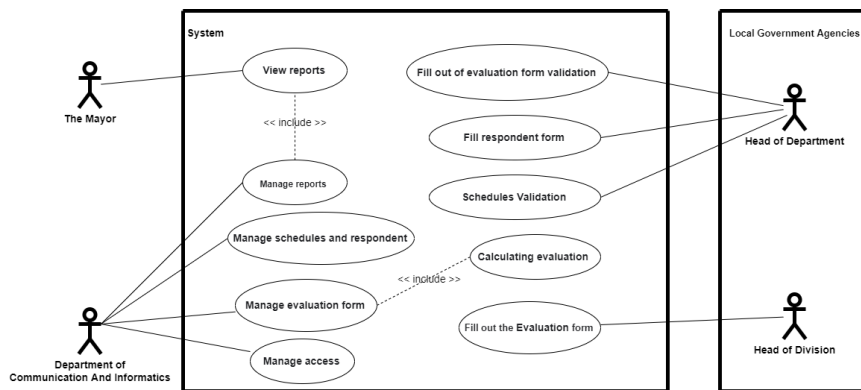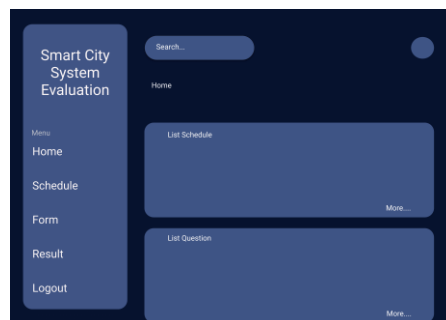There are 10 use cases and 4 actors in smart city self-evaluation.

Fig. 3. Use case for Bandung Smart City self-valuation model.

C. User Interface design

.

(a)

(b)

Fig. 4. User interface design for Bandung Smart City self-valuation model, dashboard (a), evaluation form(b).

(a)   (b)

IV.

Based on the research that has been done, it can be concluded that:

a. Design application following Bandung Smart City Evaluation Model.

b. Design through the stages of literature study, requirements analysis, software design and evaluation.

ACKNOWLEDGMENTS

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