



Development of Municipal Services For Human Welfare by Using SmartPhone

¹Lepakshi Jagunu, ²Kalikiri Jahnavi, ³Dr. M. Saravanamuthu,
¹PG Scholar, ²PG Scholar, ³Assistant Professor
Master of Computer Applications
Madanapalle Institute of Technology and Science, Madanapalle, India

Abstract: In everyday life, municipal corporation services are supplied by physically visiting corporate offices or, to a lesser degree, by accessing their websites. However, certain services such as banking, e-commerce, and booking are delivered utilizing mobile apps. The use of mobile applications for specific purposes is quickly increasing. People prefer to carry out numerous everyday chores via smartphone applications. As a result, a mobile application to assist in the provision of municipal corporation services is required. The former civil service system was based on a webpage, which was inconvenient. As a result, we created a new system, Mobile Applications, that is more convenient and efficient than the prior system. This article proposes a unique and effective approach for providing different company services via a mobile application, which is time, money, and paperwork efficient.

Index Terms - UML Modeling Techniques, Human Welfare, SmartPhone, and Human-Computer Interaction.

I. INTRODUCTION

To obtain municipal corporation services, people go to their offices or go to their websites. Mobile phone usage has skyrocketed. A mobile phone is owned by 91% of the world's population, with 56% owning a smartphone. For 50% of mobile users, their major internet source is their phone. It was also discovered that users spend 80% of their time inside apps. This application is like local government services. This application provides a variety of functions. Mobile users may access these services from anywhere and at any time [8][10].

According to the data above, the customer chooses to access critical daily services using mobile applications. There are many municipal corporation services that residents utilize often, therefore making these services available through apps will be a blessing to humanity [12].

II. LITERATURE REVIEW

This approach is based on the benefits of interacting with numerous municipal companies to engage with a computational device. This application will be built entirely on HCI principles, i.e. User-friendliness, color schemes, and language simplicity [4]. It provides numerous features as a single-touch operation for a variety of services [5]. On the admin side, the records created will be recorded on the webserver. Providing a unique identifier (TID) for each action and service provided in an Android application. During epidemics and other types of crises, the Corporation can send out numerous messages to all users with any essential broadcast information. Users may also use one touch to access municipal services such as reporting a fire to the nearest fire station inside the Corporation Boundaries. This application displays customized notifications based on the user's specified location as filtered by the server administrator. It will also provide users with information on the present corporation committee, available media, and historical and geographical context as an added feature. The following services will be provided by this application:

Services

These notifications will be routed to the administrator. The admin will see all the notifications/messages that the user has received from various locations and difficulties. The service manager will be dispatched by the admin to the locations that are experiencing serious issues.

The service manager will attempt to address the issue and will inform the administrator, who will then notify the user that the problem has been rectified. If the user is still unhappy, he or she might file a complaint with higher authorities, claiming that the matter was not adequately resolved. This procedure is repeated for additional services such as sanitation, drainage, and street lighting. Another service that has been offered is tree planting. Keep your city and its environs clean Trees should be planted.

IV. HUMAN WELFARE USING UML MODELING TECHNIQUES IN MUNICIPAL SERVICES

The municipal services are represented using UML modeling approaches. It has a lot of versatility and is simple to grasp. It depicts the human welfare system using many diagrams, including class diagrams, sequence diagrams, and use-case diagrams.

A. Class Diagram

The user, administrator, and service manager classes are represented in the class diagram. Name, phone number, and address are its properties. Its functions are to enter information, select a service, report an issue, and check the problem, as shown in Fig. 1.

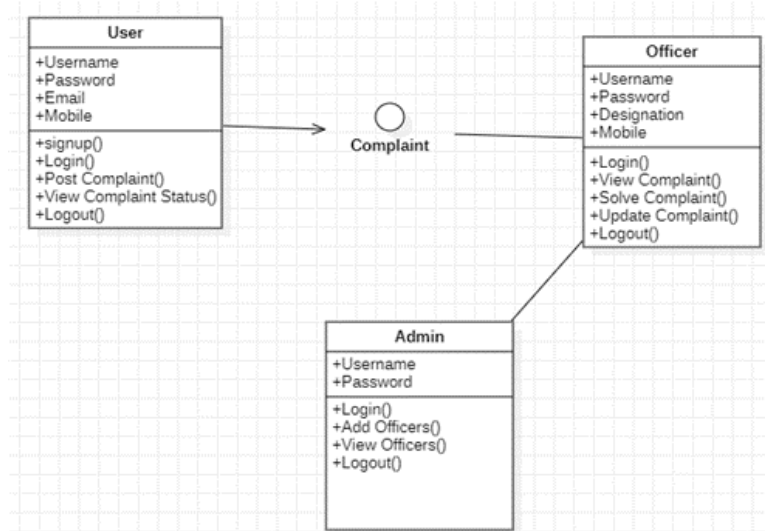


Fig. 1. Class Diagram

B. UseCase Diagram

The use case diagram depicts the use cases and the system's behavior, as shown in Fig. 2.

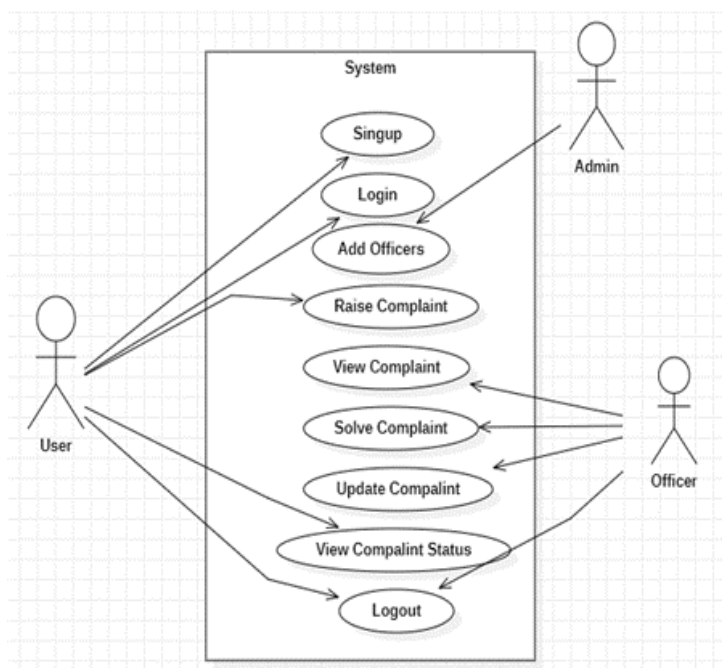


Fig. 2. UseCase Diagram

c. Sequence diagram

It's a particular kind of interaction diagram. It is made up of several sequences, as shown in Fig. 3.

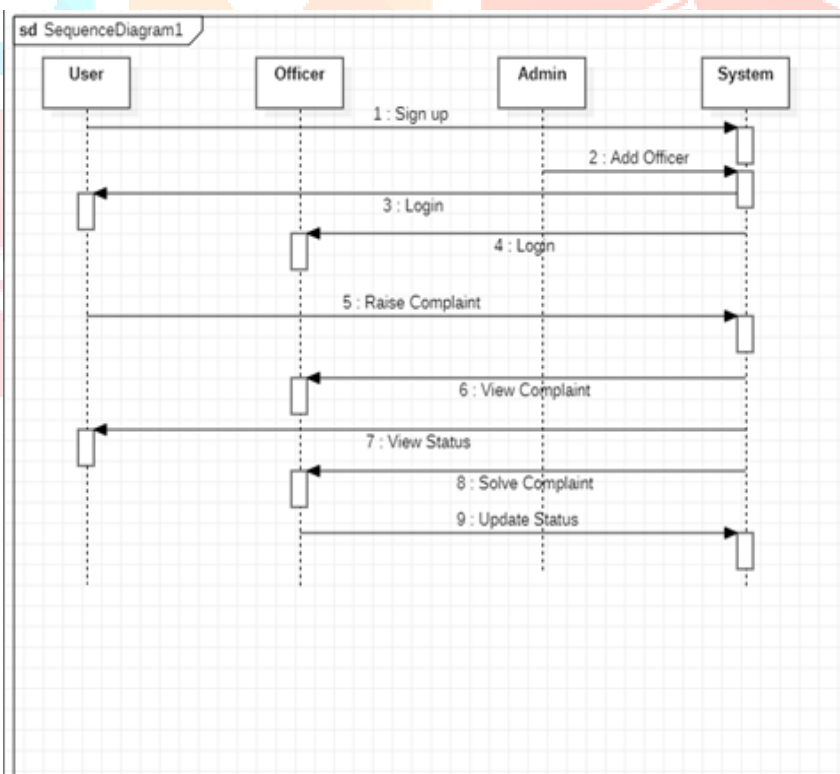


Fig. 3. Sequence Diagram

V. WORKING WITH THE PRESENT SYSTEM

The present system can be reassembled by going to the company headquarters or visiting their websites. This application outperforms the present system in terms of speed and accuracy. Notifications, Active Tenders, Certificates & Online Forms, Complaint & Feedback, Taxes & Bills, Emergency Toolkit, Job Opportunity, and Elected Wing are some of the services it offers.

The following are some of the benefits:

- a) An easy-to-use interface
- b) User-friendly, including transaction id creation and other features upon complaint registration.

c) Ease of utilizing the Application created to access Municipal Corporation Services [7].

MODULES

- ✓ User
- ✓ Server Admin

User

It provides numerous features as a single-touch operation for a variety of services. Users may also use one-touch to access municipal services such as reporting a fire to the nearest fire station inside the Corporation Boundaries. The user's location will be relayed to the Fire Station using the Global Positioning System. Other services include Pothole Reporting. Complaints concerning certain departments, for example.

Server Admin

This server stores user information. TID is provided for each operation and service. Also, during epidemics and other crises, the corporation can send out numerous messages to all users regarding any essential broadcast information. The user's location will be relayed to the Fire Station using the Global Positioning System. Other services include pothole reporting, department complaints, and so forth [9]. This program displays customized notifications based on the user's specified location as filtered by the server administrator. It will also provide users with information on the present corporation committee, available media, and historical and geographical context as an added feature, this is shown in the android architecture in the below,

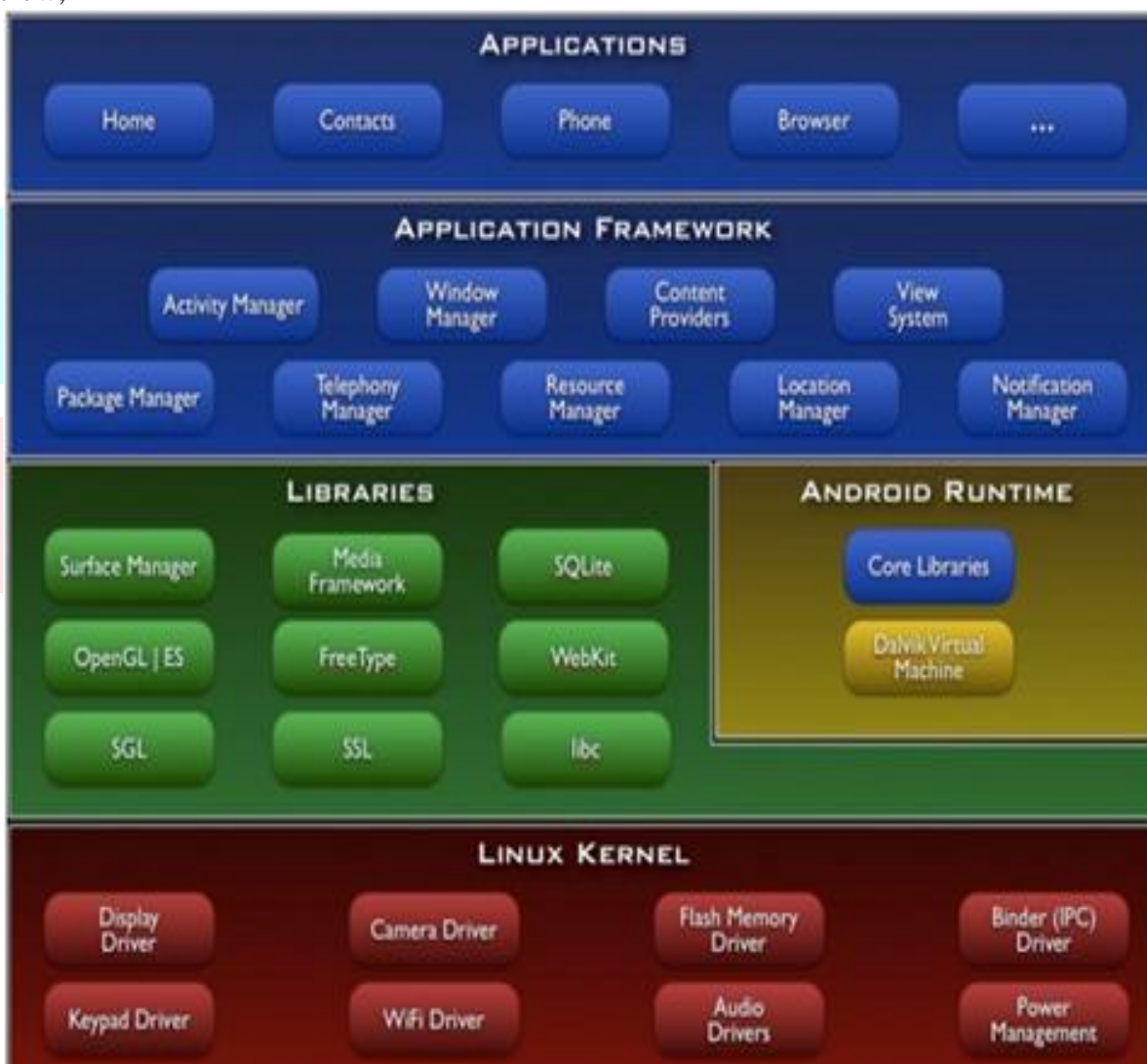


Fig. 4. Android Architecture

VI. Implementation of Municipal services of the Human welfare system

Android is used to implement municipal services related to human welfare systems. The system's results are displayed below [10][11].

The below screenshot depicts Municipal Human Welfare System services. There are two types of logins: user and admin, Fig. 5 Shows



Fig. 5. Municipal Services for Human welfare System.

The below screenshot shows the Login page, which includes Login and Signup information. Fig. 6. Shows

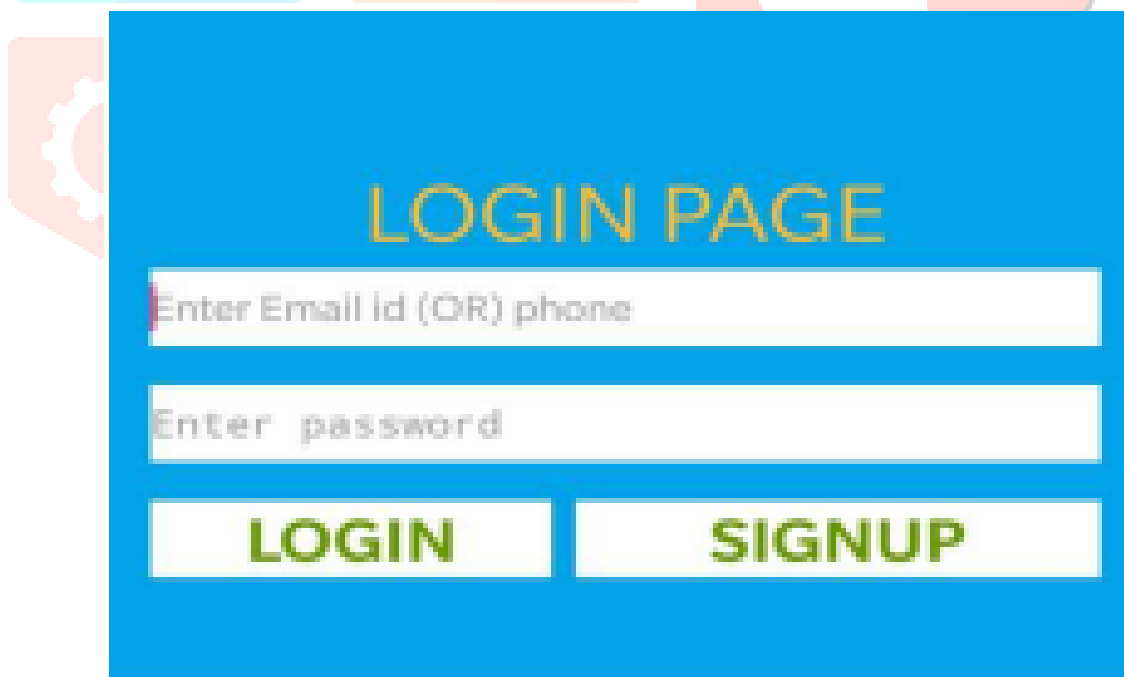


Fig. 6. Login Page

The below screenshot shows the Login page, which includes Login and Signup information. Fig. 7. Shown



Fig. 7. Login & Signup

Water, Cleanliness, Drainage, Street Lighting, Planting, Feedback, Update Details, View Response, and Logout Details are all examples of municipal services problems shown in the picture below. Fig. 8. Shows.

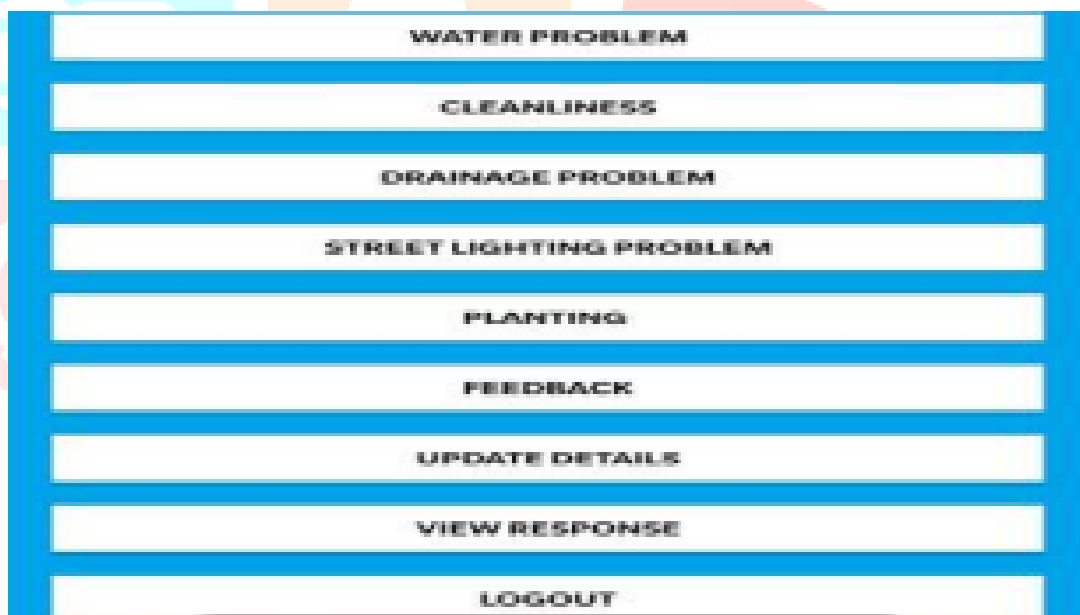


Fig. 8. Different Municipal Services Problems

Water wasting is depicted in the below screenshot, which includes water wastage and inadequate water. Fig. 9. Shows.

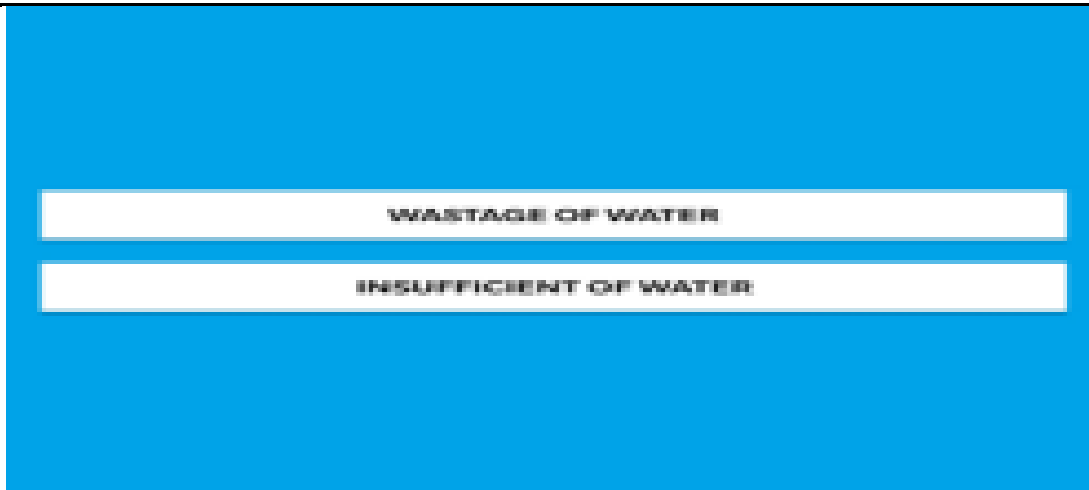


Fig. 9. Water Wastage Problem

The screenshot below depicts several levels of municipal service issues. There are three levels: high, medium, and low. Fig. 10. Shows



Fig. 10. Different levels of Municipal Services Problem

11. The screenshot below shows a feedback form that includes input on problem resolution. In below Fig.



Fig. 11. Feedback Page

This screenshot shows how to recover a forgotten password in below. Fig. 12 shows.

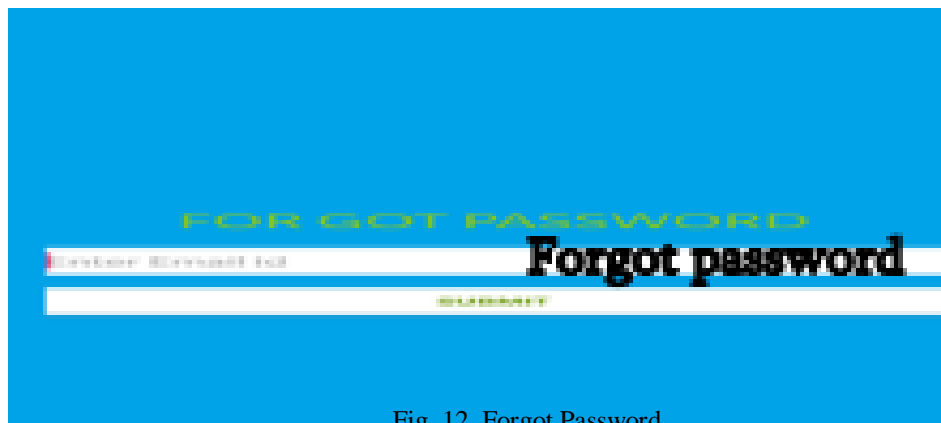


Fig. 12. Forgot Password

This screenshot shows the specifics of changing your password, which include inputting a new password and verifying your new password. Shown in Fig. 13.



Fig. 13. Change Password.

Details about feedback may be seen in the screen photo below, Fig. 14.

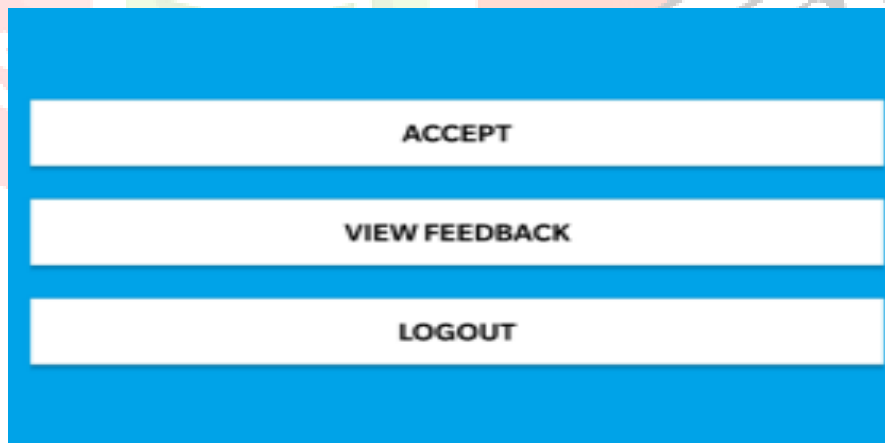


Fig. 14. Feedback Details

VII FUTURE SCOPE

Future advances in the application will be accommodated as well. The whole functioning of the application is safeguarded [14]. This project can be expanded into a website application in the future.

VIII CONCLUSION

This study provides a favorable and useful framework for the existing Municipal Corporation structure. This method was created with great care to ensure that it is error-free while still being efficient and time-saving. One of the most crucial features is the application's data security [13].

Future advancements in the application are also accommodated. The application's complete operation is protected.

REFERENCES

- [1]. Louise Mullagh, Lynne Blair, Nick Dunn (2013) "Beyond the SMART CITY": Reflecting Human Values in the Urban Environment".
- [2]. A. Townsend, Smart Cities, ser. Big data, civic hackers, and the quest for a new utopia. London: W.W Norton and Company, Inc., Mar. 2013.
- [3]. Fakhreddine Karray, Milad Alemzadeh, Jamil Abou Saleh and Mo Nours Arab (2008), " Human-Computer Interaction: Overview on State of the Art", International Journal on Smart Sensing and Intelligent Systems, Vol. 1, No. 1, March 2008
- [4]. Juwel Rana, Johan Kristiansson, Josef Hallberg, Kare Synnes (2009), "An Architecture for Mobile Social Networking Applications", 2009 First International Conference on Computational Intelligence, Communication Systems and Networks.
- [5]. Kuo-Ying Huang (2009), "Challenges in Human-Computer Interaction Design for Mobile Devices" Proceedings of the World Congress on Engineering and Computer Science 2009 Vol I WCECS 2009, October 20-22, 2009, San Francisco, USA.
- [6]. J. Kim and A. L. Steenkamp, "Analysis of Smart City Models and the Four-Foci Taxonomy for Smart City Design," The Visibility of Research, 2013, p. 637.
- [7]. C. Anderson, S. G. Hirsh, and A. Mohr, "Wheels around the world: Windows live mobile interface design," in Proceedings of the SIGCHI Conference on Human Factors in Computing Systems, 2008, pp. 2113–2128.
- [8]. G. Galdon-Clavell, "(Not so) smart cities: The drivers, impact, and risks of surveillance-enabled smart environments," Science and Public Policy, vol. 40, no. 6, pp. 717–723, Dec. 2013.
- [9]. A. Sellen, Y. Rogers, R. Harper, and T. Rodden, "Reflecting human values in the digital age," Communications of the ACM, vol. 52, no. 3, p. 58, Mar. 2009.
- [10]. J. Grudin and S. Poltrock, "Computer supported cooperative work," in The Encyclopedia of Human-Computer Interaction, M. Soegaard and R. Dam, Eds. Oxford: Interaction Design Foundation, Sep. 2013.
- [11]. Satu Jumisko-Pyykkö and Teija Vainio (2008), "Framing the Context of Use for Mobile HCI" Volume 2, Issue 4, 2008.
- [12] C. G. Susanne Dirks and M. Keeling, "Smarter cities for smarter growth," pp. 1–24, Jan. 2014.
- [13] J. Kim and A. L. Steenkamp, "Analysis of Smart City Models and the Four-Foci taxonomy for Smart City Design," THE VISIBILITY OF RESEARCH, p. 637, 2013.
- [14] "<https://developer.android.com/google/gcm/gcm>. HTML", last accessed on 20/10/2014, 22:00