



Design and Development of Hair Cutting Service Search and Call Application Using Android-Based Waterfall Method

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ABSTRACT

The design of a barber service search and call application using the Android-based Waterfall method is about creating an application that makes it easy for users to search for and call barber services via the Android platform. The Waterfall method is used in the design process of this application to ensure that the resulting application truly meets the needs and desires of users. In the stages of designing this application, Waterfall involves users in the process of collecting information, Requirements, System Design, Implementation, Testing, and Maintenance. By involving users in each design stage, it is hoped that the resulting application can be more intuitive, easy to use, and meet user expectations. This application has features such as searching for barber services based on location. Users can also see barbers, and make reservations directly through the application. This application also has communication features such as chat between users and barbers, Thus, users can provide instructions or consultations before getting a haircut.

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1. INTRODUCTION

Haircut services are a basic need to maintain appearance. In Indonesia, demand for this service is very high, especially because many institutions such as schools and workplaces implement rules to keep students' and workers' hair neat. Almost all schools and some universities require this.

However, some groups of people, such as the elderly, the sick, or those with limited mobility, have difficulty visiting a barbershop in person. This makes them have to rely on family members or others, which requires additional time and costs.

To overcome this problem, an Android-based Haircut Search and Call Application was developed using the Waterfall Method (Ahmad, 2010; Audina *et al.*, 2019; Safitri *et al.*, 2021; Surahman & Setiawan, 2017). This application makes it easy for users, especially those with disabilities, to order haircut services without having to come to a physical location. Users can call a haircut service according to their needs via an Android device.

It should be noted that the cost of a haircut service called to the house is different from that at a physical location. Distance factors, modes of transportation, and additional costs such as fuel also affect the cost of services called to the customer's place.

2. METHODS

The research method is a framework or systematic approach used to plan, implement, and evaluate a study (Wulandari & Nurmiati, 2022). In developing this barber service search and call application, the method used is the Waterfall method. The Waterfall method is one of the methods used in software development, especially for large-scale projects, and has a long development period (Wahid, 2020; Pricillia, 2021; Maulana & Ikasari, 2023; Badrul, 2021, Nugroho, 2021). This method consists of several stages (see **Figure 1**), namely:

2.1. Requirement

This stage includes collecting complete requirements which are then analyzed and defined. The needs that must be met by the program to be built are clearly defined. This phase must be carried out thoroughly to produce an accurate design.

2.2. Design

At this stage, the developer designs the system as a whole, including determining the software flow and detailed algorithms.

2.3. Implementation

The stage where the entire design is converted into program code. The resulting program code is still in the form of modules that later be integrated into a complete system.

2.4. Verification

At this stage, the modules that have been created are combined and then tested to ensure that the software is by its design and to detect any functional errors.

2.5. Maintenance

Maintenance includes installation and system repair processes as agreed, as well as long-term maintenance to ensure the software continues to function properly.

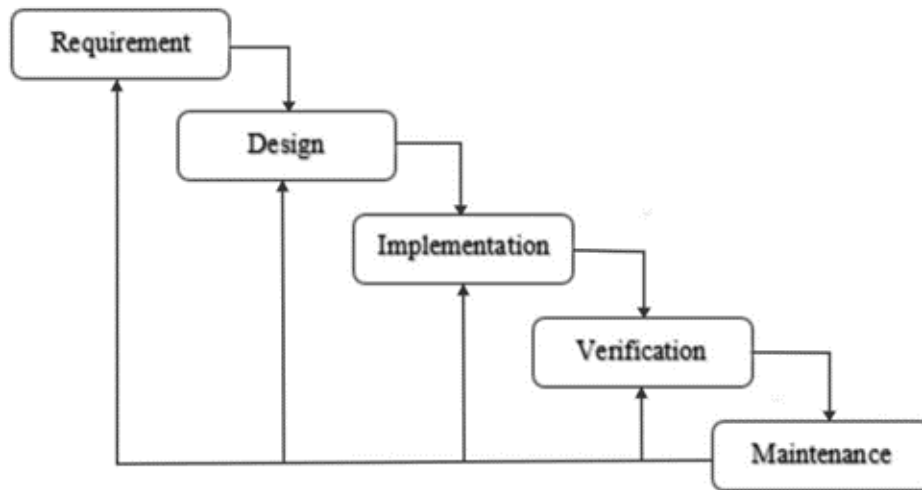


Figure 1. Waterfall method stages.

3. RESULTS AND DISCUSSION

3.1. CukurSantai App

The CukurSantai application is an application used by users to search for and call hair-cutting services which have several features and functions as follows:

- (i) Home Page. This home page functions to display several features such as search crop to enter the search crop page, bottom navigation chat functions to enter the chat page, notification functions to enter the notification page, history functions to enter the history page, and profile functions to enter the user profile page (see **Figure 2**).



Figure 2. Home Page.

- (ii) Search Page. This page is used to display a list of barbershops that can be called by users. Users can search for barbershops based on the highest rating, nearest location,

or using keywords. After selecting the desired barbershop, users can click on one of the barbershops to start the call (see **Figure 3**).

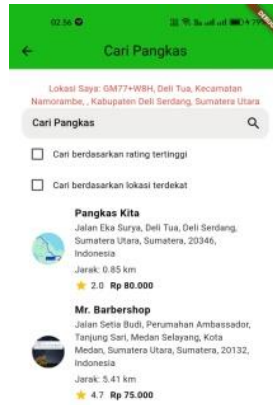


Figure 3. Search Page.

- (iii) Call Page. The Call page is used to call a barber. Users be asked to enter an address, name, and notes (optional), then click the Call button to start the call. After that, users must wait for confirmation from the barber (see **Figure 4**).

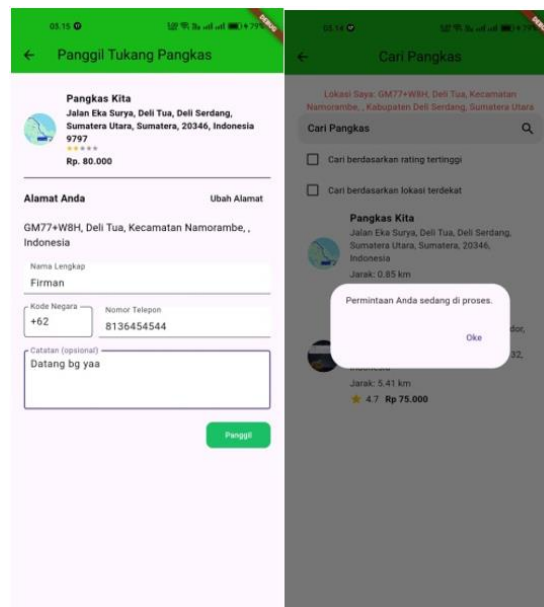


Figure 4. Call Page.

- (iv) Notification Page. This page is used to display notifications from the barber after making a call. Users can see notifications that have been confirmed or canceled by the barber. After the barber confirms, users can click the chat icon to communicate. In addition, users also receive notifications after the barber cancels the service for a certain reason. After the service is complete, users can give ratings and reviews to the barber (see **Figure 5**).

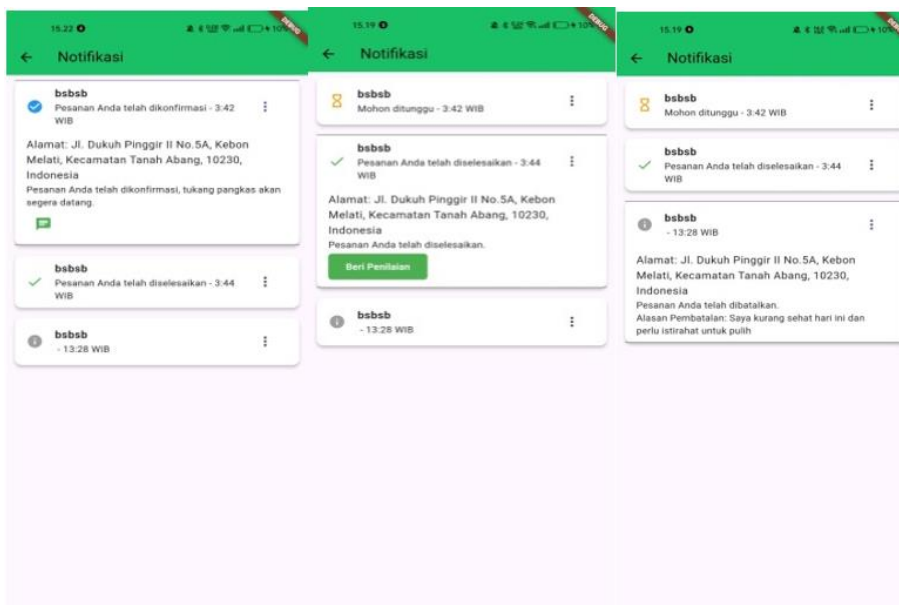


Figure 5. Notification Page.

- (v) Chat Page. This Chat List page is used to display all chat lists from barbers. Users can click on any of the chats to communicate with the barber (see Figure 6).

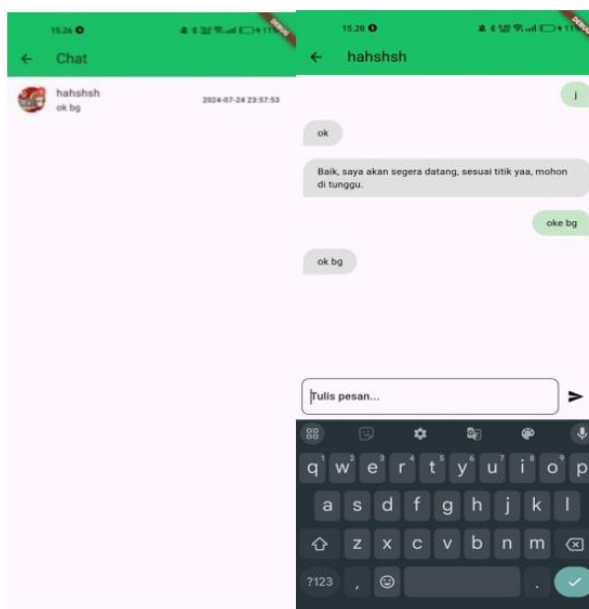


Figure 6. Chat Page.

3.2. BarberQ App

The BarberQ application is an application used by users as a hairdressing service provider. The BarberQ application has several features as follows.

- (i) Home Page. This home page functions to display several features such as the on/off button, when clicked on the data appears on the user search page, when clicked off the data disappears on the user search page. In addition, there are also Notifications, bottom navigation chat, history, and profile. This page also displays the price of the haircut determined by the barber (see Figure 7).

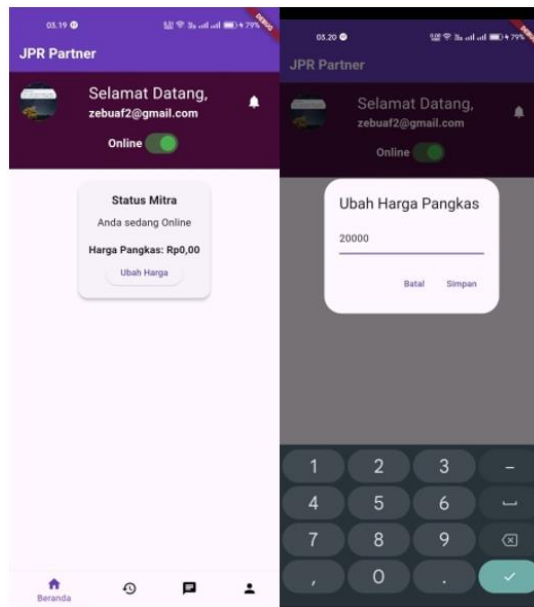


Figure 7. Home Page.

- (ii) Notification Page. This Notification page functions to display notifications when a customer calls a barber, then on this page, a notification is displayed, and the user is given two options. Where the first is if the user chooses to cancel for a certain reason, the customer receives a reason according to the reason chosen by the user/barber. If the barber chooses to confirm, it is sent to the user that the barber come soon. After the barber confirms, the confirmation button is replaced with the finish button which functions to complete the call (see **Figure 8**).

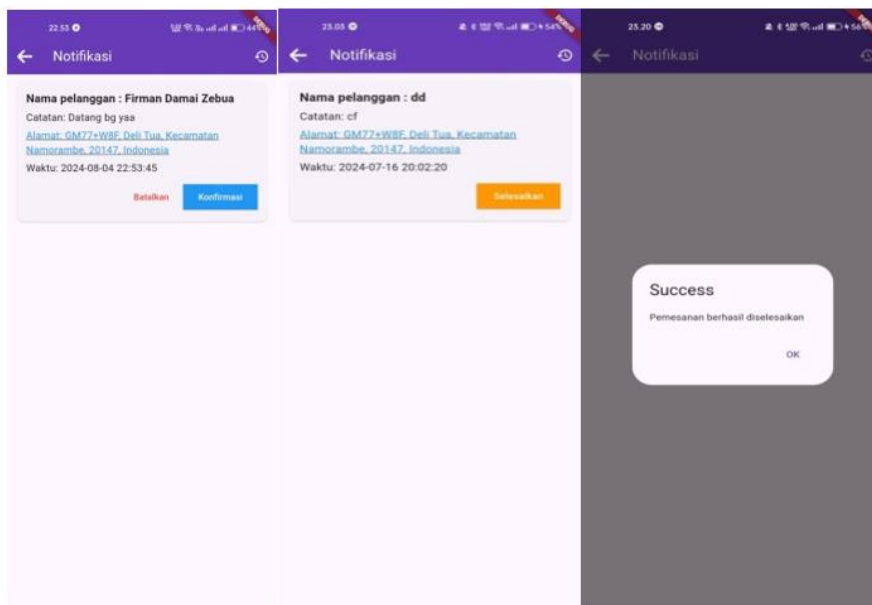


Figure 8. Notification Page.

- (iii) Chat Page. This Chat page is used to display several chat lists and chat content from barbers and customers. Users can communicate on this page (see **Figure 9**).

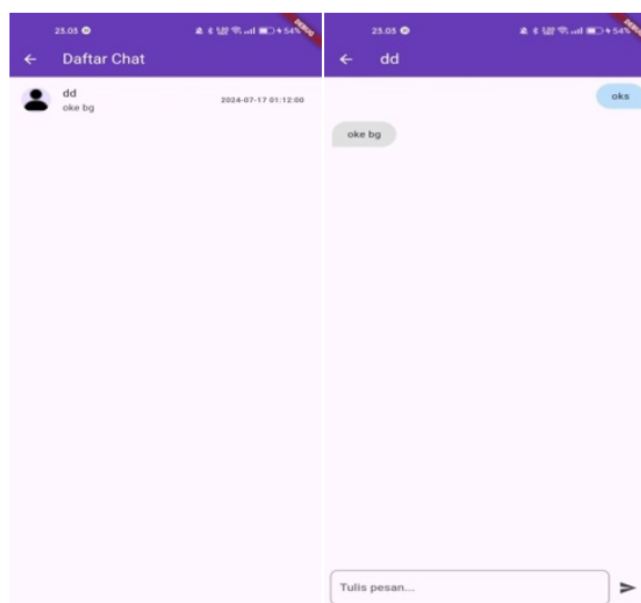


Figure 9. Chat Page.

4. CONCLUSION

From the results of designing a search and call application for barber services using the Android-based waterfall method, it can be concluded that with this search and call application for barber services, users find it easier to search and call barber services just by using an Android smartphone without having to come to the physical location of the barbershop.

5. AUTHORS' NOTE

The authors declare that there is no conflict of interest regarding the publication of this article. The authors confirmed that the paper was free of plagiarism.

6. REFERENCES

- Ahmad, Z. (2010). Pengenalan android. *Forum Android Indonesia*, 2(1), 6.
- Audina, L.S., Mentari, H.L., and Efta. I. (2019). rancang bangun aplikasi sistem ujian saringan masuk sma berbasis android (Studi Kasus SMA Amir Hamzah Medan). *Jurnal Sistem Informasi dan Ilmu Komputer Prima (JUSIKOM PRIMA)*, 2(2), 9.
- Badrul, M. (2021). Penerapan metode waterfall untuk perancangan sistem informasi inventory pada toko keramik bintang terang. *PROSISKO: Jurnal Pengembangan Riset dan Observasi Sistem Komputer*, 8(2), 57-52.
- Maulana, R., and Ikasari, I. H. (2023). Literature review: Implementasi perancangan sistem informasi perpustakaan sekolah berbasis web dengan pendekatan metode waterfall. *JRIIN: Jurnal Riset Informatika dan Inovasi*, 1(1), 247-251.
- Nugroho, M. R. A., Zaidiah, A., and Afrizal, S. (2021). Perancangan sistem informasi penjualan pada kedai kopi pujangga dengan metode waterfall berbasis web. In *Prosiding Seminar Nasional Mahasiswa Bidang Ilmu Komputer dan Aplikasinya*, 2(2), 371-382.

- Pricillia, T. (2021). Perbandingan metode pengembangan perangkat lunak (waterfall, prototype, RAD). *Jurnal Bangkit Indonesia*, 10(1), 6-12.
- Safitri, D., Khermarinah, K., and Mukti, W. A. H. (2021). Pengaruh penggunaan aplikasi android berbantuan appsgeyser. com terhadap hasil belajar siswa pada mata pelajaran ilmu pengetahuan sosial. *JPE: Journal of Primary Education*, 1(1), 3.
- Surahman, S., and Setiawan, E. B. (2017). Aplikasi mobile driver online berbasis Android untuk perusahaan rental kendaraan. *Ultima InfoSys: Jurnal Ilmu Sistem Informasi*, 8(1), 35-42.
- Wahid, A. A. (2020). Analisis metode waterfall untuk pengembangan sistem informasi. *Jurnal Ilmu-ilmu Informatika dan Manajemen. STMIK*, 1(1), 1-5.
- Wulandari, T., and Nurmiati, S. (2022). Rancang bangun sistem pemesanan wedding organizer menggunakan metode RAD di shofia ahmad wedding. *Jurnal Rekayasa Informasi*, 11(1), 79-85.