



Journal Homepage: - www.journalijar.com

INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR)

Article DOI: 10.21474/IJAR01/15627

DOI URL: <http://dx.doi.org/10.21474/IJAR01/15627>



RESEARCH ARTICLE

MOBILE SERVICE DESK: CREATING A MOBILE SERVICE DESK APPLICATION TO OPEN CALLS IN THE IT INDUSTRY IN A BEVERAGE COMPANY

Gabriel De Paula Vieirals, Rayssa Carla Silva, Jean Mark Lobo De Oliveira and Aline Mary Moreira De Melo

Manuscript Info

Manuscript History

Received: 31 August 2022

Final Accepted: 30 September 2022

Published: October 2022

Key words:-

Mobile Service Desk, Help Desk, IT Support

Abstract

In this mobile service desk application was made a system that consists of having an approach to perform the other calls, in which later will be passed to the professional who will provide the service aiming at gratification and resolution of the problem in question of the user who requested the call. This issue that is being passed to be resolved may have its completion in the IT support itself as well, because depending on the level of support being provided the support itself can effect the realization of the problem based on your expertise and experience.

Copy Right, IJAR, 2022., All rights reserved.

Introduction:-

The Information Department (IT) encompasses information systems, telecommunications, automation, multimedia resources, hardware and software used by organizations to provide data, information and knowledge (MARIA DAS GRAÇAS, 2016). Over time, the IT industry began to perform various functions that in turn ended up feeling the need for monitoring a system. To put this system into production, it was made the observation of the existing processes in the company, involving the generation, storage, organization and transmission of information, aiming to build a current diagnosis of the functioning of the customer support sector, IT (FABIANO DA SILVA, 2019). With this some of these problems later solved by técnicos responsible for these tasks needed to be evaluated, based on this began to be created a service aimed at people who worked in the IT Sector whose name was this Help Desk service, because with the benefit that came for organizations in relation to the growth of networks and internet, in addition to the use of more modern computers, began to have a much more complex and extensive amount of information, which eventually contributed to the use of users not having the necessary knowledge for the technical details of computers, maintenance, troubleshooting of networks among others. Over time, these organizations realized that the services provided by IT support mean costs that in turn significantly improved the overall productivity of the organization (GIBSON, 2015). Over time and acquire more features in the care provided the Help Desk became called Service Desk, because it presents a concept of call opening assistance for those who worked in the sector can have a fast and efficient support.

Service Desk is an IT service that facilitates customer service and enables centralized contact in problematic situations related to IT devices. Its mission is to help users by preventing damage or property damage, dealing with multiple service requests, and responding to users' devices and software. The Need

Service Desk services is developing visibly due to the world of business and technologies is constantly changing. The continuous development of information technology and the rapid obsolescence of equipment have become a

challenge for employees in their daily work with the necessary technology. Employees often need call center support to resolve the issues they face (Knapp 2014).

A Aplicum Service Desk has become a differential in the IT sector, because in addition to bringing significant improvements in how the user requests IT service, it also brings improvements in the processes of the company area. This work aims to present a Service Desk application for a beverage company, which has complementary functions in addition to call openings.

Theoretical Reference

A The Mobile Service Desk complication is an application that provides a call opening, however this call will have the task of making a request for a service that will be provided based on the requested request, the service request will be passed to the specialist in one of the areas of the IT sector in which the same will provide that service.

Service Desk System

According to Giacomini (2014) it finds that there are several types of Service Centers, each with its own specific functions. According to the author, the main ones are: Help Desk, Contract Center and Service Desk. Giacomini states that both the Help Desk and the Contact Center end up undergoing a change and come to be seen as Service Desk, because the last mentioned has a greater coverage of services that end up being provided to users and with this bringing more return to the business. Giacomini also points out that to the extent that Service Centers have their own characteristics that differ from the others, they all have a common relationship: Service Centers represent IT for users, contain an assessment of customer satisfaction and are dependent on people, processes and technologies.

Giacomini concluded that users find it much more appropriate to use the Service Desk advantageous for the performance of their activities. The author observe that given the facts that through reports of users it was possible to solve problems without triggering the Service Desk only with the experience and learning of the user. The Service Desk through a "System Quality" analysis obtained a communication and resolution of the user's contact with IT.

According to Oliveira (2016) obtained the data that the great challenge of the Help Desk is to meet the needs of the user and surprise their expectations. Understanding this fact, the author's analysis of the ITIL (Information Technology Infrastructure Library), effect a change in the Help Desk for Service Desk. This modification aims to meet the great need to improve the performance of the organization.

Service Desk Tarefas include being the first point of contact for the final user, receiving and recording support requests, and prioritizing contacts. In addition, Help Desk experts keep end users informed about the progress of the support request, take care of the support request until it is fechada and make the necessary information (Thejendra, 2014).

Mobile Devices And Technologies

According to IDC (2014), Google's Android operating system was the most distributed on smartphones marketed in the fourth quarter of 2014, with a total of 377.5 million units sold, representing a percentage of 76.6% of the market, a result much higher than apple's main competitor. These data represent the importance of presenting this operating system.

According to IDC (2014), Apple's operating system, IOS, reached 74.5 million units sold representing 19.7% of smartphones sold in the period, being the second best-selling operating system, behind only Google's operating system, Android. However, Apple has always been a reference in all its products, with many positive points such as design and performance and, by these factors, will be presented the architecture of this operating system.

Funcionamentos Do Service Desk

Dependendo of the need of the company the Service Desk system can be implemented in different ways. One of these forms can be the Help Desk type, where the recipient of the contacts records the incident and forwards the contacts to the technical departments to own. The person receiving the contacts can have an experience on a specific support which ends up helping the end user over the phone without the need to move on. In an even more advanced Help Desk, experts provide a much more optimized input, solving a wide range of problems on behalf of

the end user. The Service Desk can also act as the recipient of multiple service requests, in which case the provided support does not need to resolve issues. (Thejendra, 2014).

Service Scan also be implemented internally as part of the IT team or can be outsourced by purchasing the service from an external service provider. An internal Help Desk can work centrally and a certain location or des centralizedacting in different locations, it depends a lot on the need of the company. The advantages of a centralized Service Desk are low costs and avoid duplication of services. A decentralized Service Desk allows efficient operations whenend users need immediate local support (Knapp 2014, Thejendra 2014). The virtual Service Desk provided by an external service provider uses advanced data connections and network technologies. External service providers can also offer combination services that flexibly combine Service Desk and on-site support services. In a third-party Help Desk, the parties sign a service level agreement (SLA) that has the function of defining the terms and conditions of the service provided, for example, the time delay to respond to a service request. An SLA can also be associated with an internal Service Desk, but they are not as legally used as in a third-party Service Desk (Knapp 2014, Thejendra 2014).

It Support Levels

Rganizations typically organize IT support at separate levels. Lower-level experts try to solve the problem as best they can. If they can't solve the problem, transfer the problema to a top-level specialist. Experts on more than one level may also be working on the same problem. Experts at each level record their activities in solving the problem. This will ensure that all expertscan see the full extent of the problem and previous actions to solve it (Gibson, 2015). Figure 1 provides an overview of how levels work.

Figure 1:- IT support levels.



Fonte: Gibson, 2015.

Material And Methods:-

The Sistem of Service Desk Mobile provided will be a system for Android with a Help Desk solution using the platform provided by Google called Google Firebase.

Materials:-

The Project was coded using a mix of languages are java, javascript and xml (Stephen McDonnell, 2017).

The ferramenta being provided is Android Studio and Android Studio NDK which together provide a set of headers and files from shared libraries (Stephen McDonnell, 2017).

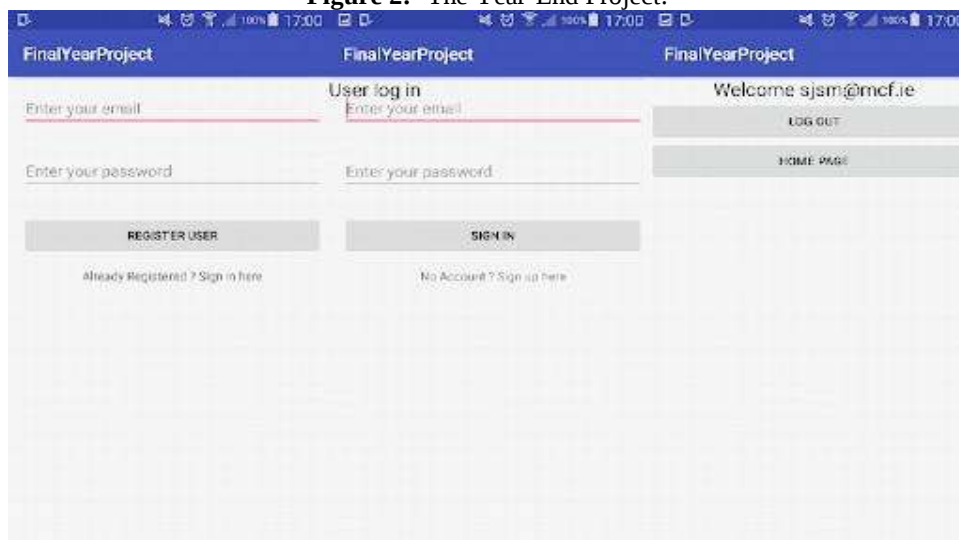
Methods:-

The provided Android App is built using a number of activities that perform various linked tasks using the various GUIs. When a user who is not logged in starts the application they are brought to MainActivity, it is here in this event that the user has the option to register for an account or log in if they already have an account. Registration and sign-in features are built using Google Firebase. Google Firebase allows real-time feedback for a database that is hosted by Google, but linked to the app based on the package name and a downloaded google-services.json file. It is this json file that allows communication between the application and the Firebase database. This json file is inserted into the source pasta at the application level (Stephen McDonnell, 2017).

The MainActivity File is essentially the application registration page. Here the user is asked to enter the email address and password. The user cannot proceed to the application's initial page until they have registered and logged in. The registration process is quite simple in terms of encoding with both email and password being declared as strings waiting for user input. If the user does not enter data in the field, a warning message is configured to appear asking the user to type in the provided field. As soon as the user completes the registration process a progress dialog box appears on the screen informing the user that they are being registered. This feature adds to the GUI and user experience. The Firebase service now takes effect to register the user in our database (Stephen McDonnell, 2017).

LEVEL 1	Specialist and Service Desk provide a first level of basic support to users. Service Desk experts have the basic skills, knowledge, and rights to solve simple and common problems (Gibson 2015).
LEVEL 2	Experts with greater expertise and experience with broader access rights. Level 2 experts can help level 1 experts solve more complex problems. Level 2 housing specialists usually have level 1 work experience. Experts often also work for others on special tasks such as server maintenance or network infrastructure (Gibson 2015).
LEVEL 3	Administrators and experts of the highest level perform the diagnosis and solve the most difficult or complex problems. Level 3 specialists also often have other tasks. For example, they may be working on IT projects related to expanding IT services or migrating older systems and data to newer systems (Gibson 2015).

Figure 2:- The Year-End Project.



Fonte: Stephen McDonnell, 2022.

The figure above shows the registration and login fields both with the email and password fill fields as described, on the right have the log out function to exit, and the home page action to go to the main screen.

Once the user has been successfully registered, they will be redirected to the ProfileActivity page. The terminate function has as action to complete the current task as soon as its requirement has been met, already the StartActivity function working together with the Intent function initiate the user profile. The login page is also quite similar to the registration page with email and password being declared as strings and a link to the Firebase database using the firebaseAuth function. This function checks with fire based if the user is actually registered in the app (Stephen McDonnell, 2017).

Once registered, the user is taken to ProfileActivity which is based on their email address provided in the registration process. ProfileActivity pulls the email address registered by users and provides an on-screen welcome message with two button options, sign out, or go to the app's homepage. Once logged in to the app's homepage, the user can select the 'IT Support' button to register a ticket with IT Support (Stephen McDonnell, 2017).

Results:-

The functionality of the graphical interfaces in relation to the system with the different user decision making, presenting four layout screens being them: Logged into the system, application homepage, user interaction pageto generate a t icket that will be sent from the user to IT support and the last screen refers to the operation of an unwanted interruption of the system informing the user.

Logging In To The App (GUI)

In this interaction with the application the user ends up sendthe directed to the login screen when opening it, in which the logo is adjusted to stay at the top of the screen. The user enter their username in the first field, the second field it tells them their network password, and in the last field they enter the securitycode and then use the login button.

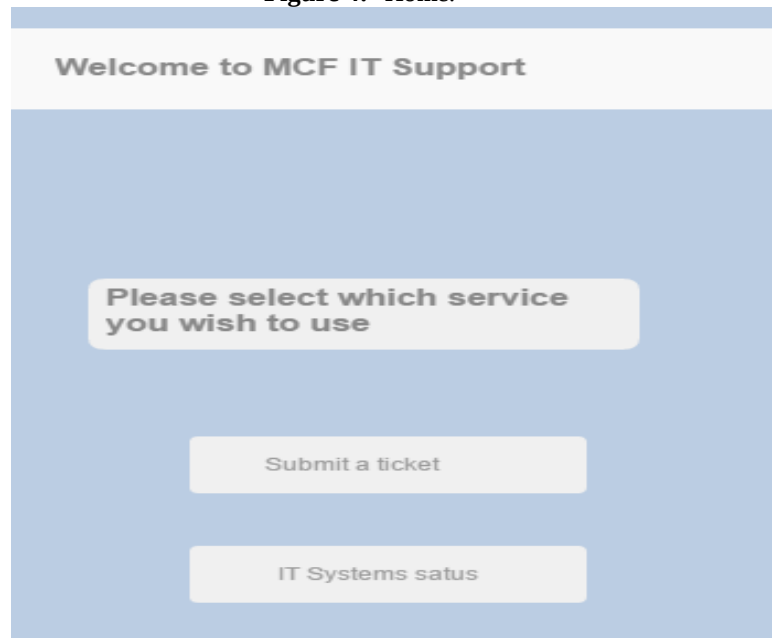
Figure 3:- Log in.



Fonte: Stephen McDonnell, 2022.

Application Homepage (GUI)

This is the home page of the application as soon as the user is logged in correctly, from this page the user can select any service they want to use by directing to the screens to send a ticket or inform status of the system.

Figure 4:- Home.

Fonte: Stephen McDonnell, 2022.

Send In-App Ticket (GUI)

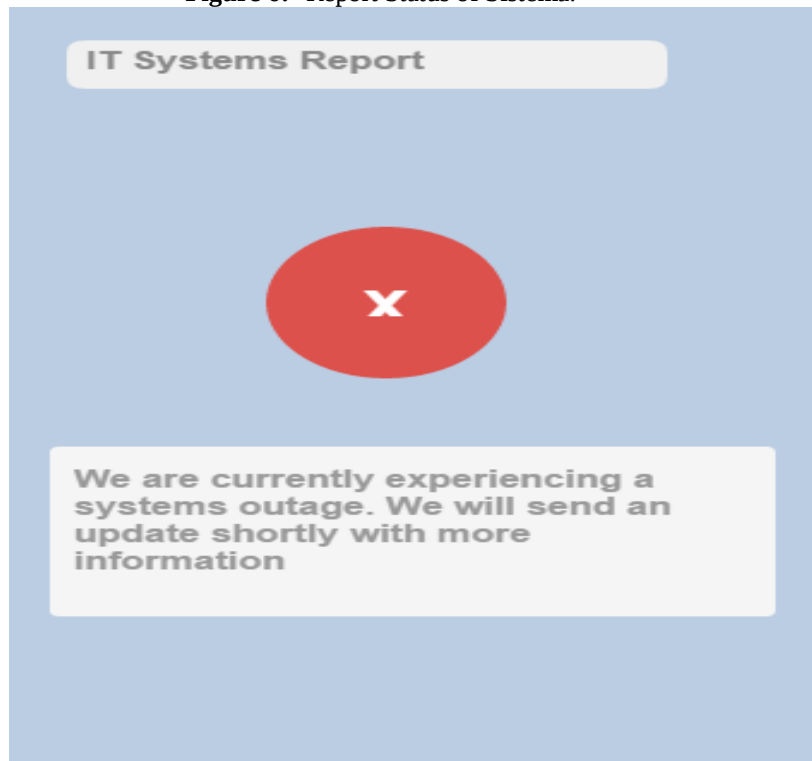
The figure below shows a primary version of the submission page for a case, in which the user sends a ticket to the system that directs to IT support. When filling in the problem description field stating the same, it will request the solution and can check in the checkbox box in the lower right corner if the problem is urgent or just a call without priority. Marking the issue as urgent the ticket sent will be directed to all members of the support team.

Figure 5:- Send Ticket.

Fonte: Stephen McDonnell, 2022.

System Status (GUI)

In this interaction the system shows what happens if an error occurs, although the application already does this when the interruption occurs in the system the user can also view this occurred through a functionality.

Figure 6:- Report Status of Sistema.

Fonte: Stephen McDonnell, 2022.

Test Phase

In the test phase, a type of test was performed with the feature called express test writer in which it generates a test in application script format. This script consists of checking the various functionality of the application, such as the buttons if they are performing their respective functions. In the test script focused on the send email functionality, the script runs from the login functionality to the send-e-ail functionality in which it was presented as the last step.

Express Test Recorder is a feature that proves popular with developers because this feature lets you create UI tests by recording interactions with your application. It will then produce a test code and it will reflect the test you performed. After that Android Studio will show in the console the success response of the test or failure. In this mobile application were performed some usability tests between the other users.

Final Considerations

The article contains an application of Service Desk Mobile that uses a wide variety of technologies and tools, in which the application seeks to perform a functional system to make an opening of calls and pass them if there is a need for the determinado specialist, if there is no need to pass the information only inform the user how to proceed to carry out the solution of the call in question.

The Application consists of being a tool of great importance and help in the work of it as an internal or external application, because through it you can guarantee great performance and assistance in a certain task that will be solved later.

Reference:-

1. AFONSO, Fabiano Da Silva. Help-Desk system in ERP companies: Implementation of Help-Desk System at ERP Alfotec S.A. Repositório Universitário da Anima, Santa Catarina, Palhoça, August 14, 2019. Available from: <<https://repositorio.animaeducacao.com.br/handle/ANIMA/9007>>. Access: 03 Oct. 2022.
2. DA SILVA SOUZA, Maria das Graças. et al. Use of the Hierarchical Process Analysis (AHP) Technique for choosing a Help Desk System. Espacios Magazine, v. 37, n. 16, p. 13, Feb./Mar. 2016. Available in: <<https://www.revistaespacios.com/a16v37n16/16371613.html>>. Access: 03 Oct. 2022.

3. DE MELO, Mahelder Carvalho; BY ASSIS RIBEIRO, Michel David; LUCAS, Carlos Alberto. FASTLINE: Mobile application for snack bars. *Electronic Journal of Information Systems and Technology Management*. v.6, n.2, 2015. Available from: <<http://periodicos.unifacef.com.br/index.php/resiget/article/view/1141>>. Access: 03 Oct. 2022.
4. MC DONNEL, Stephen. Mobile Support Desk Application: Technical Report. National College of Ireland. November 2, 2017. Available from: <<https://norma.ncirl.ie/2736/>>. Access: 03 Oct. 2022.
5. NIEMELÄ, Eemil. Using management on mobile devices at work Service Desk. Laboratory of the University of Applied Sciences Tradenomi (AMK). 2022. Available in: <https://www.theseus.fi/bitstream/handle/10024/752380/Niemela_Eemil.pdf?sequence=2>. Access: 03 Oct. 2022.
6. VARELA RODRIGUEZ, Flávio de Lira; DA SILVA FERNANDES, Ronaldo Augusto. How A Well-Structured Service Desk Positively Impacts User Satisfaction – A Case Study In A Public Company In Brasilia. *Cosmopolitan Electronic Magazine in Action*, v.8, n.1, p.10-17, 2021. Available in: <<http://revistas.icesp.br/index.php/Cosmopolita/article/view/1690>>. Access: 03 Oct. 2022.