

A Novel Cloud Based Application: Resolve

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Abstract: App Service is an integrated solution designed to streamline repeated coding functions, integrate with enterprise and SaaS systems, and automate business processes while meeting your needs for security, reliability, and scalability. App Service brings together the following existing Azure services - Websites, Mobile Services, and BizTalk Services into a single combined service, while adding powerful new capabilities. Mobile cloud computing is differentiated from mobile computing in general because the devices that run cloud-based Web apps rather than native apps. Users subscribe to cloud services and access remotely stored applications and their associated data over the Internet. Typically, mobile devices run a mix of Web-based and native apps. However, the trend is increasingly toward the mobile cloud.

Keywords: Microsoft, Microsoft Azure, HTTP, HTTPS.

I. INTRODUCTION

The app provides the organizations with a solution to their logistical problem which includes physical items such as equipment, material and staff as well as abstract items like time and energy. Usually, when the organization is faced with a problem, the concerned department within the organization gets to know about the problem very late. But with the help of this app the concerned department will get to know about the problem immediately and try to resolve it. The app also has the option of predefined contacts, which the user will have to set, so that no time is wasted in sending the message[1]. The history page provided in the app keeps track of previous complaints and therefore the organization will get to know if it is solved. Organizations can implement the idea on a large scale for a faster and more efficient method of resolving the problem.[2]

A. Background Studies

The background studies were conducted in organizations. Most of the organizations faced issues with reporting problems to the concerned authority. They didn't have an application which would help them take a picture and report the problem to the concerned department immediately. Moreover, even if the concerned department got the issue it would take them a lot of time to resolve it as they would need time to locate the issue. There also wasn't any track of the complaint if ever the user gave. This would cause a lot of issues as one wasn't sure whom to contact on whether it has been fixed or not. Privacy and security was also a concern users feared loss of their data or security about their data.

B. Implementation

Resolve is a cloud based application which helps users and organizations to share their data and problems very easily. It uses Microsoft Azure Cloud infrastructure and transmits data from once device to another. The application has three pages. A user can login and register a complaint to

the specific authority. Login is done using the Google API which helps the app to get the user data without any manual registration work. A secret app ID[3] is given to the application and it is validated with Google servers to check the integrity of the user and to validate if the user is not a bot. This is very important as this helps the app to stop SPAM in the application otherwise it might cause the servers to break down. Every complaint the user posts in this application is transmitted using a SSH key and its highly secured. Everything in this application uses HSTS or HTTPS to transmit the data[4]. This is one of its kind because a security breach is very hard. After this a user clicks a picture and it gets automatically geo tagged using the Microsoft Location API. This is a very important concept being used. When a user takes an image, he wouldn't know the exact geo coordinates. But since the app is preloading the geo coordinates it would help the user to know the precise location and he wouldn't need to enter the location manually. After clicking a picture one can simply select the respective department. The departments can be changed according to the user's requirement. Once the user clicks the department, the user is redirected to use the Share API. The share API will help the user to share the picture with various different apps including any social media platform. In addition to this one can easily click a picture in any desired resolution and in any settings, can also apply filters to make it very precise and accurate. After clicking the picture one has to enter the details about the problem, the geo coordinates and the date is already predefined in the textbox where the user enters his complaint. This enables the user to track his complaint easier. To fetch the date, the app is using the system API called "system.date" [3] and it can be acquired easily. One can forward the complaint using an Email or an SMS. If one wants to use Email, he can use his registered outlook account as the app is using the system email API and syncing the data. The text from the textbox

is transferred to the message body of the Email and the subject, recipient is already defined. One can also SMS through the app again the text remains the same but the numbers change. One can fill in the number and email ID in the settings page in the very beginning. This data gets stored locally in the user's phone. This benefits the user as he doesn't have to always enter the data. Storage class is used. The data is highly encrypted and can only be accessed by the user [5]. To make it more secure the data isn't getting stored in the cloud, but it is stored locally in the user's phone. The user will be able to see the previously registered complaints through the app's history page. The data will be fetched again from the cloud servers and one has to login to view the history. Authentication makes sure that the data is only restricted to that user.[5]

C. Application Areas

This can be used anywhere. Possibly in any organization or any government body. In terms of an organization if a person happens to see a tap leaking in the washroom, he can click a picture of the tap leaking through the camera facility provided in the app and send the information and the image regarding the problem to the concerned department immediately. In addition to this if a person see's garbage or potholes related to civic issues he can also click and send it to the respective government authorities.

II. CONCLUSIONS

In the end of the day the user just has to click a picture and send it to the respective authority removing the need to manually report a problem to the concerned department. This application uses cloud to transmit data which is highly encrypted and its very safe also. In future, this application can be used to report problems to all the major authorities because it uses cloud as its main infrastructure which can be scaled if required to meet the new workflow across devices. The data also is encrypted so in future it can be made more secure by adding HTTP 2.0[6]. Organizations can also implement their own login API to make it more secure and to make it restricted to their company. It can also be linked to any social application to spread a wider awareness.

REFERENCES

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