Development of Android Based Appication ASKResults

Gopika G.[*], **K. K. Gayathri Ramesh, Kripa M. L., Likitha U. B., Shasidhara, Alwyn Edison Mendonca**

Department of Computer Science and Engineering, Srinivasa Institute of Technology, India

Abstract In this growing era of technology, hand held devices are becoming more popular. Of all the hand held devices mobile phones have been an inevitable part of our life. Android has been the most sought after OS by a majority of mobile users. The matter of the degree of publicity or reach an application developed in Android is likely to be more accepted by the people, than the ones developed on other platforms. 'ASKResults'- which is a well-known Firefox Add-on on that enables students of Visveswaraya Technological University (VTU) to check their results without visiting to VTU result websites. ASKResults help students and lecturers to view the results college wise and even class wise and helps users to save the results in local storage which makes it user needed application. Our project aims to get ASKResults features on a mobile platform mainly android for more easier and efficient use of it. It tries to reduce the user burden of viewing the VTU results through multiple links and provides a one spot for comparing the results at various levels.

Keywords Add-on, Firefox, Mozilla, Android Studio, XAMPP

1. Introduction

As the students of VTU, it is always one big deal for students on the result announcement day to search for results in VTU website with so many multiple clicks to reach actual web pages. There are mainly two problems faced by the users during result announcement. The first problem encountered by the users is the network conjunction as many users send the request concurrently at the same time and they get a reply message that the server is busy. The next problem is to check the results once viewed, the users have to revisit the VTU website every time, which makes them repeat all the steps taken during the first visit. ASKResults overcomes the above problems and helps in easy accessing of the results.

"ASKResults"- which is a well-known Firefox Add-on that enables students of Visveswaraya Technological University (VTU) to check their results without visiting to VTU result websites. ASKResults help students or lecturers to view the results college wise and even class wise which makes it user needed application. It provides all the information provided in the official website, i.e. semester results, revaluation results, backlog results and updates on results.

The main objective behind this idea is to provide a faster, easier and convenient access to the VTU results both on the day of result announcement and other days also. We develop a mobile application with   simple Graphical User Interface

(GUI) so that even a beginner can handle the application with ease because user should not spend much of his time just trying to learn how to handle the application.

We try to provide different modes for searching the results and also the result will be stored in the local database, so that even when the VTU server is down, the user can view the result, as the fetching of result will be taken place from the local database to the application.

2. Existing System

Currently we have an add-on developed for Mozilla browsers which helps us to view the VTU results without going through multiple links. It provides features to view the results of an individual student, also to view the result class wise (ie, by giving the desired range of USN). It provides advanced search options where you can enter the range of USN whose results you need to view. It also provides feature of saving the viewed result in local storage.

ASKResults add-on provides three types of search mode under menu option "Search Mode"

- "Normal" search
- "Advanced" search
- "File Import" search

"Normal" search mode contains three fields.

They are revaluation result option, individual result search option and VTU result announcements. If revaluation results are announced, mark "Revaluation Result" option. Individual results can be saved by using save result button.

"Advanced" search mode provides flexible result search option. First select "Region", which will allow you to select

college code. After the selection of college code the following parameters will be shown: Year, Branch, Semester and USN range option. The click on "Load Result" button to display total passed, failed, overall percentage, FCD's, FC's, SC's and total found results. At the bottom of the window you can find the option to save the results. This search mode is helpful to check different college result and percentages.

"File Import" search mode is helpful for those who have student USN list. Here you can import the following file formats only: .txt, .csv and .xls. File formats such as .doc, .docx, .xlsx are not support at present. Use "Browse File" button to choose the file from your computer and the location of the file will be displayed in the empty field, the click on "Load Result" button. Save the results using the "Save Result" button.

This mode of the search is very helpful to find the results of any random set of valid USN's.

ASKResults add-on does not store the results data on any third party servers. The result data is fetched directly from the VTU website into the add-on. You directly parse the result webpage and display the data. Results are only available when the VTU website is up.

3. Proposed System

The proposed system is a mobile application since affording a smart phone is no big deal these days. The proposed system or the mobile application in particular needs a mobile device running any of the higher versions of Android. ASKResults mobile application aims to provide all results more efficiently and faster to the user. In this system we need not re-enter the USN and send the request to VTU website if the result has already been viewed. The viewed results can be seen again by just selecting the stored result option in the application. It implements the existing features of add-on and adds more to it trying to give users a more delightful experience of viewing the VTU results of both the old and new scheme on their fingertips even when the server is down.

The main objective behind this idea is to provide a faster, easier and convenient access to the VTU results both on the day of result announcement and other days also. We develop a mobile application with simple Graphical User Interface (GUI) because user should not spend much of his time just trying to learn how to handle the application. We try to provide different modes for searching the results and also the result will be stored in the local database, so that even when the VTU server is down, the user can view the result, as the fetching of result will be taken place from the local database to the application.

The proposed system is developed using Android Studio 2.3 for the front end. PHP, which is a server side scripting language, is used for retrieval and parsing of data at the back end. The local database, from which the android application gets the result, is created using XAMPP.

4. System Requirement Specification

The main purpose of System Requirement Specification (SRS) is to translate the ideas in the minds of a client into a formal document. Through SRS the client clearly describes what it expects from the proposed system and the developer clearly understands what capabilities are required to build the system. The purpose of this document is to serve as a guide to developers and testers who are responsible for the development of the system.

Functional Overview:

- User enters the intended USN and semester.
- Clicks on the submit button.
- User can store the result in the local memory for future use.

The different modules of the system are:

A) Announced Result Page

The announced and available results on the application are listed out in this page. This page is the first page that is visible to the user when the user opens our application.

B) Individual Search Page

The user has to enter the USN of an individual student whose result he/she wants to view along with the semester. Then click on Submit button to get the result.

C) Advanced Search Page

The user has to enter the range of USN (which must be continuous values) whose result he/she wants to view. Then click on Submit button to get the result. On clicking the individual student in the obtained list you can get his individual result comprising of all the semesters that is stored in the database with the active semester at the top.

D) File Import Search Page

The user has to choose a file in the .txt or .xl format from his phone which has the random USN"s that are comma separated. Then click on upload button so as to retrieve the results for the USN present in the file. The result will be retrieved in the advanced search format.

E) Result Viewing Page

Once the user clicks the submit button, the requested data is fetched at the back end either from application's database or website and displayed to the user in the readable form. Here we have the save button to save the viewed result so that the user can view it later without connecting to the database again.

5. System Design

High Level design which is sometimes also called system design, aims to identify the modules that should be in the system, the specifications of these modules, and how they interact with each other to produce the desired results.

At the end of system design all the major data structures,

file formats, output formats, as well as the major modules in the system and their specifications are decided.
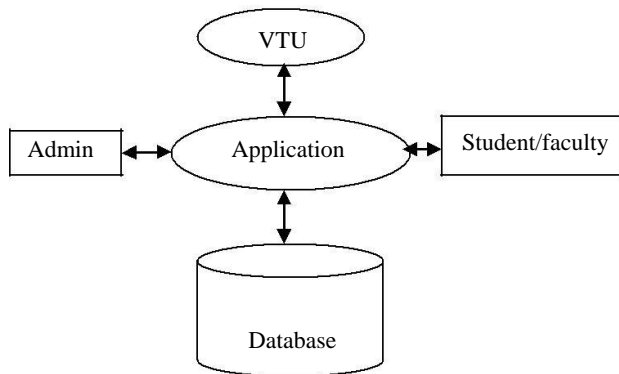
Figure 5.1 shows the framework of ASKResults Application.

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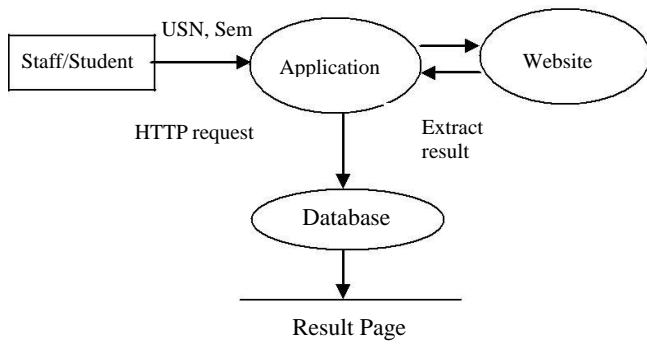

Figure 5.2. Architecture of ASKResults Application

Figure 5.2 shows the architecture of ASKResults. The user opens the application and chooses the category, from announced results, save results and search result. If he wishes to search for the results, he chooses the mode of search for result after clicking on search result. Then enter the USN and semester which acts as the input. The application sends an http request to the local database maintained by us. The required result is fetched from the database and displayed. If the result is not found in the local database, then request is sent to website to get data.

6. System Implimentation

System Implementation (SI) is the stage where the theoretical design is converted into a working system. The system is implemented using Android Studio, using the JAVA language. Android Studio is the official integrated development environment (IDE) for Android Platform Development. Its purpose built for Android to accelerate development and helping in building the highest quality apps for every Android devices. We are using XAMPP for maintaining our database. XAMPP is a free and open source cross-platform web server solution stack package developed by Apache Friends, consisting mainly of the Apache HTTP

Server, Maria DB database and interpreters for scripts written in the PHP and Perl programming languages.

Working of ASKResults Application Algorithm:

Step 1: User enters the USN and clicks on submit button.

Step 2: The request is sent to application's server.

Step 3: If the result matching the respective USN found, the server responds to the application by sending the requested result.

Step 4: If the result matching the respective USN is not found, the server sends the request to VTU website.

Step 5: The result is then fetched from the VTU website and sent back to the application and application's server simultaneously.

The various operations at user side are as follows:

- User first select the type of search mode from the menu provided in the navigation view
- User has to enter the USN and semester, then click on submit button in the Individual Search Mode.
- If the user chooses Advanced Search Mode, user has to enter the range of USN's. Initially the stream is entered, then the from and to range is entered.
- If the user chooses File Import Mode, user has to import the file which contains the list of USN.
- The file needed to be uploaded will be present either in the internal storage or external storage.
- There is an option to save the result, which stores the result in application's memory.
- On clicking on stored results, the saved result can be viewed.
- A delete button is provided in the stored result page to delete the stored results if not needed.

The various operations at server side are as follows:

- The server accepts the request from the application.
- Searches if the requested data is present in its storage.
- If found, returns the result to application. If not found, sends the request to VTU Website.
- The website sends the result back to server and application simultaneously.
- Next time, when the same sets of inputs are given, the data is fetched from the local database and not from the VTU website.
- Saving of result in the local memory makes the working of application faster, when the user uses it for the second time.

7. Conclusions

ASKResults – is an android application of the existing Firefox add-on with the same name that enables students of VTU to check their results without visiting to VTU result websites very frequently. This paper incorporated the ASKResults features and tries to reduce the user burden of viewing the VTU results through multiple links. The user can use our application to view the interested results even when

the VTU server is down. There is save and share option provided. On sharing, a text file is generated and the result can be shared.

The future work that can be added to this project may be, comparing the departmental wise results of various colleges of a given region and show the statistical status of it. As mentioned earlier, there is a share option, which shares the file in text format. It can be implemented as sharing in pdf format.

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