

TESTING THE COMPATIBILITY OF U-VERSE APPLICATION FOR COMPUTER TABLETS

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Abstract: U-verse telecommunication service, offered by AT&T through its operating telephone companies in many areas, uses a single very high speed digital subscriber line (VDSL) over a cable pair, or a comparable fibre link, to deliver to a residence telephone service, high-speed Internet access, and television programming. This article explains about the application of U-verse for android tablets as well as the pairing interface between an STB (Set Top Box) Receiver. It also explains the process of software testing & software quality processes that were involved as a part of this role. It also demonstrates the ways in which parts of a testing process can be automated to improve the time-effort efficiency of software quality assurance.

Keywords: STB (Set Top Box), Notification, Search, Show cards

I. INTRODUCTION

The telecommunication industry in emerging markets offers abundance opportunity for growth and expansion. Specifically in the recent markets, one of the primary targets is to have ubiquitous connectivity. Mobiles and tablets have been widely used in this modern world. AT&T U-Verse (a 100 percent IP-based television service) brings some of the most dynamic and feature-rich services to its users with its IP technology. Through AT&T U-verse, consumers can now benefit from integrated services that converge across the three screens they

value the most: the TV, the PC and the wireless phone. This paper is focused around a software application developed by AT&T called "AT&T U-Verse App". The focus of this paper is testing the compatibility of U-Verse App with computer tablets to watch videos & television channels on TV and on tablets with or without Wi-Fi and also verifying the data across the back-end as well. Another, yet relatively new feature of this app which is widely used these days in market is the U-verse Remote. With the help of this remote, a user can pair with any U-verse STB to view his programs. The U-verse Remote app harnesses the

power of the AT&T network to better and more intuitively connect users to U-verse TV, ultimately simplifying their lives.

II. RELATED WORK

Several approaches have been studied in the literature for testing the U-Verse app along with various other parameters. Meeyoung Cha, Gagan Choudhury, Jennifer Yates, Aman Shaikh and Sue Moon, [1] presented a paper on Resilient Backbone Design for IPTV Services which promises personalized, intelligent and seamless delivery of a virtually unlimited number of videos to customers. One of the fundamental challenges for network providers is to re-evaluate their networks and design an extremely reliable and cost-effective network infrastructure for IPTV. Xidong Wu, Yali Liu, Jin Wang, [2] presented a paper on QoS Monitoring and Troubleshooting of a Large Scale IPTV Deployment for U-verse which discusses about one of the largest IPTV deployments in the world. Furthermore, case study discusses on how to troubleshoot the U-Verse IPTV system with the data collected by current QoS monitoring and troubleshooting infrastructure. Yarali A., Cherry A., [3] presented a paper on IPTV discussing issues involved with delivering IPTV over DSL. Jussi Ala-Kurikka, Juuso Ohtonen, Erkki Harjula, Mika Ylianttila, [4], presented a paper on Improving multiple mobile application interaction with Unified Session Management which explains about a novel mobile application interaction concept using Application Super networking. Also, the use of resources can be optimized through so called Supersessions, which is an important factor especially in mobile devices.

A. Outline of Work

This paper deals with testing the compatibility of application for computer tablets. The proposed testing method is evaluated using Perl Lang. along with MYSQL database. Testing the app includes verifying the client with the server information at the back end, pairing the application with a STB (Set Top Box) Receiver, also checking whether the program information matches with the database.

The remaining of this paper is organised as follows. Section II describes the Related Works.

Section III explains about methodology. Experimental results are discussed in section IV. Finally, Section V concludes the paper followed by references.

III.METHODOLOGY

Fig.1 explains the block diagram of U-verse with STB. A video is given as input is then relayed over IP Network which then produces the output on TV via a cable connected to STB. IP network plays a major role in U-verse. Most of the TV programs are based on the network. There are certain restrictions for U-verse app as it does not allow streaming outside USA.

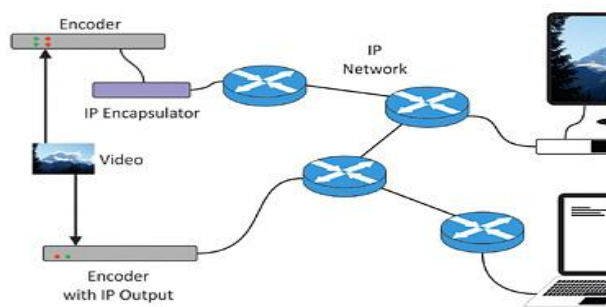


Fig.1: Block Diagram of U-verse app with STB

This application follows the Testing maturity model integration (which itself based on Capability Maturity Model (CMM)) Level-II, called Definition. By virtue of this model, testing is defined a process, so there might be test strategies, test plans, test cases, based on requirements. Testing does not start until products/builds are completed, so the aim of testing is to compare products against requirements.

Each of these sections contains description on the task performed, goal of the tasks, methodology followed and any automation, if applicable, that has been applied. Automation of the testing has been demonstrated with PERL with MySQL as backend.

Automating a section of the manual-testing has been the goal. Usually, automation is applied to those sections of application testing which involve some of the following:

- Creation of environment variables
- Input data for testing
- Creating/documenting different testing scenarios

IV. EXPERIMENTAL RESULTS

In this section, the proposed approach is evaluated using PERL Lang and MYSQL database. The experiments are carried out in Perl Editor on a

computer. The following tabs in U-verse exhibit the output. Starting with Notifications, Notification is one where in a user gets a pop-up message about a channel he/she wished to view. In order to receive the notification, a user sets the timing for the program he wishes to watch. Once, the timing is set, a message appears as “You will receive a notification 30 minutes before new episode of (show name)”.

Second result is from Search tab is a feature where a user can search for his favourite programs, shows etc. in the app on the tablet. This feature has been extended in such a way that a user can search his favourite with just first 3 letters of the name of the show and he can get a related list of all the programs, cast & crew members, movies and many more with the search. An important point to be noted here is that, this search function cannot be performed with 2 or less characters in the search field.

Once, a search has been performed, a number of display on the screen. There was a scenario that was tested based upon the following and resulted in the search results header displaying incorrect number of show-cards as compared to the Search result. This is the third result.

RESULTS AND DISCUSSIONS:

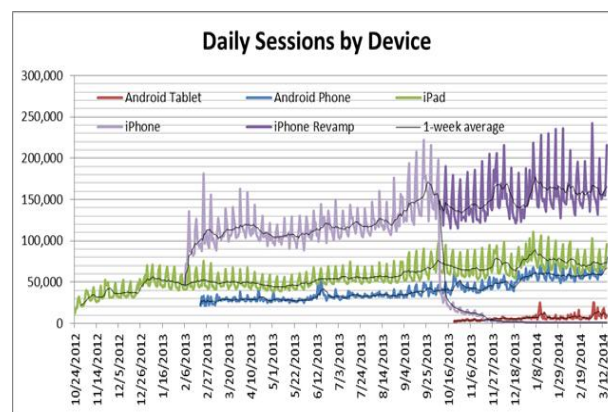


Fig 2: Daily Sessions by Device

The above graph describes the number of app sessions for Android Tablet, Phone, iPhone, and iPad.

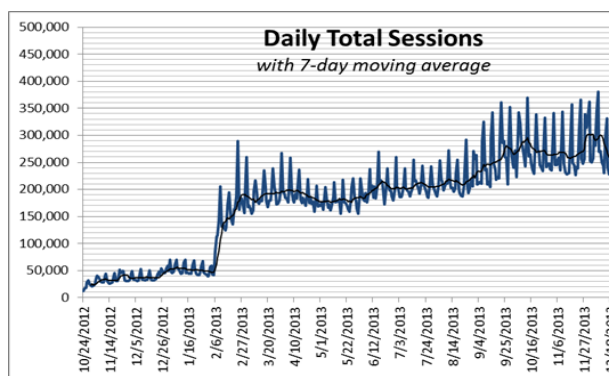


Fig 3: Daily Total Session with 7-day moving average

The above graph describes the daily total sessions for Android tablet showing the number of app sessions.

V.CONCLUSION

An understanding of this project is that described documentation is required for Testing Maturity Model Integration – Level II. Learnt & applied some new programming languages and databases. Automating some parts of testing has been a challenge and also paved way to understand the details and niches of the U-Verse App. A real time project experience, with project activities contributed towards a corporate product which has been successful in market.

REFERENCES:

- [1] A. I. Wang, C.-F. Sorensen, and T. Fossum. *Mobile Peer-to-Peer Technology used to Promote Spontaneous Collaboration*. In *The 2005 International Symposium on Collaborative Technologies and Systems (CTS 2005)*, page 8, Saint Louis, Missouri, USA, May 15-19 2005.
- [2] T. Horozov, A. Grama, V. Vasudevan, and S. Landis. *MOBY - A Mobile Peer-to-Peer Service and Data Network*. In *2002 International Conference on Parallel Processing (ICPP'02)*, pages 437–444, 2002. Recommendation ITU-T Y.1910 (09/2008), "IPTV functional architecture," ITU-T, 2008.
- [3] ETSI, "TISPAN; service layer requirements to integrate NGN services and IPTV," TS 181 016 V2.0.0 (2007-11), ETSI, Sophia Antipolis Cedex, France, 2007.

- [4] Enck, W.; Ongtang, M.; McDaniel, P., "Understanding Android Security", *IEEE Security & Privacy*, 7(1), pp.50-57, 2009.
- [5] Tao Wu, Sadhna Ahuja, Sudhir Dixit: "Efficient Mobile Content Delivery by Exploiting User Interest Correlation"; *IEEE International Conference on Multimedia and Expo, Taipei, 2004*.
- [6] S. Long, R. Kooper, G. D. Abowd, and C. G. Atkeson. *Rapid prototyping of mobile context aware applications: Cyber guide case study*. In *Mobile Computing and Networking*, pages 97–107, 1996.