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By Analyzing the App Reviews Profile Based Mobile App Recommendation Using Contextual Information of App

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ABSTRACT

Now a days, there is huge growth in the use of mobile devices. As apps are comes from various vendors may have similar functionality. Hence, user may confused that which app is better to use for time efficiently manner. Hence, App classification works better for classification app according to their functionality. Mobile devices have limited contextual information such as, app name and its label which is not sufficient for identifying proper functionality of particular app. Different methods are used to classify app that uses sparse and short information. Here an app classification system, to make easy to understand user's preferences. This system may works on three levels known as, dealing with related collection of an app, second is to manage this collected information, and third are form categories of this information for making decision of whether to use particular app or not. As a part of our contribution we recommend app list to user end based on his profile. Therefore, in this paper mainly carried out app classification as well as app recommendation.

Keywords : Mobile App Classification,Web Knowledge, Information Contexts, Smart Phone Apps.

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I. INTRODUCTION

In the current scenario classification of the apps present is not that effective. The reason behind this, information available from the app directly is very limited and also ambiguous. Though in the app store the apps are associated with the preferred fined tags or Meta information about them and this information are used for recognizing their latent semantic meanings. However this data is difficult to obtain from the third party services as here are multiple app delivering channels and it is not able in identifying the source. Also the tags do many times provide the actual latent semantic meaning of the app, like in the app store of Nokia the app called safe 360 is placed in the category of business which too general. Then again the security of the devices becomes an important issue as it is possible that the apps coming from the third party vendors are malicious. A. Z. Broder et al. proposed Query classification for app information retrieval.The proposed methodology uses search results as a source of external knowledge to locate the issues in short queries. It has insufficient information with them [13].Therefore, propose to break the relevant real-world contexts of mobile Apps for improving the performance of classification of app. As a part of contribution all of the above techniques also consider the app recommendation as part system which suggest app names to the end user as per their profiles present in the system which are created by them through the web based part of the system. i.e. after the name of the app is provided the system will extract the web based features (both explicit and implicit) of the app (phase 1), its contextual features (both explicit and implicit) (phase 2), the other details / comments are requested by the app (phase 3), and finally classification of the apps will be done and they will be recommended to end user as per their profiles.

II. METHODS AND MATERIAL

System Architecture

Above figure shows the system architecture diagram of our proposed system. This system consist of three applications interacting with each other to get proper App suggestion. First application is running on server that responds to the user queries and analyzes the Apps web based features. Second application calculates the contextual features of App stored at volunteers. Third application is for end user using which he can deliver his preference and requirement and view the recommended app or app list.

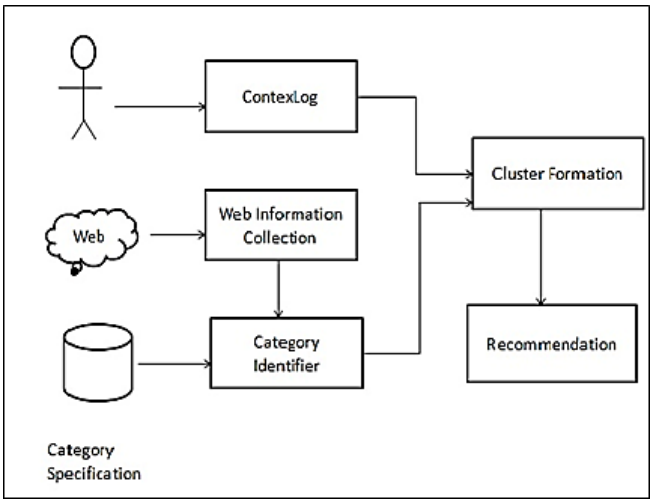

Figure 1: System Architecture

In general there are five phases:

Phase 1. In this phase administrator enrich the database from app details point of view and he get explicit information of particular app.

Phase 2. In this phase administrator collects the logs generated by the user belongs to the sample population. It is used to generate logs regarding particular App and send it to the server for analysis purpose.

Phase 3. In this phase classifier is trained by providing implicit and explicit information about particular application.

Phase 4. In this phase user preferences and profile details are collected by the system.

Phase 5. In this phase analyzed information of particular app along with its user details, category details and classification details and user preference, profile information is merged and final recommendation of app is generated.

III. RESULTS AND DISCUSSION

1. Experimental Results

This system is divided in to 2 subsystems first one I the admin section and another one is user application. Admin section is designed using java. This web based system. Admin will update the app information to the database using this application. User application is designed using Android. Using this application user will get recommendation. Here used app usage tracker software this software is used to collect user app usage log. Web services are written at the server end. Android application is online application that communicates with server and notify user with his/her with recommended applications.

Dataset:

a. Context Log: This dataset contains user specific app access information in the form <uid, app name, access details>
b. App Category: We have created 2 level category set. The level-1 contains category lists. Each category is the subdivided in to level-2 categories. i.e. Sub-categories
c. List of Category keyword : this list contains categorylevel-2 specific keyword list < catid, keyword list>

In experimental result evaluation are evaluate:

1: Communities of user with respect to application.
2: Precision and recall of classification
3: Precision and recall for recommendations.
4.Recommendation of App as per profile

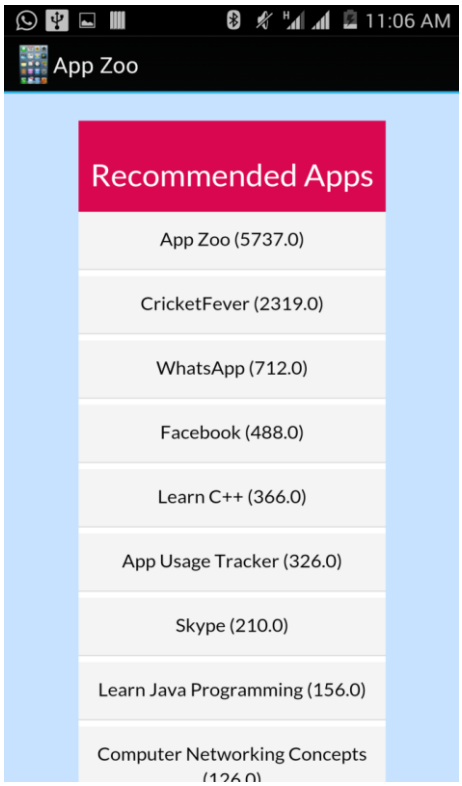

Figure 2. Recommendation of App as per profile

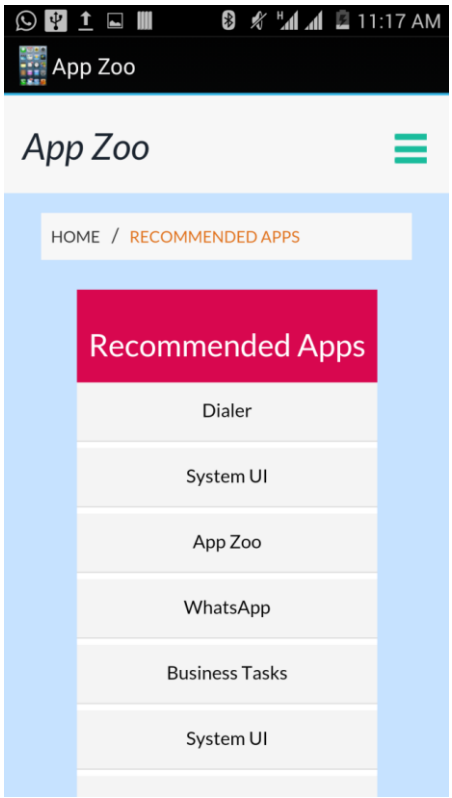

Figure 3. App Recommendation as per location

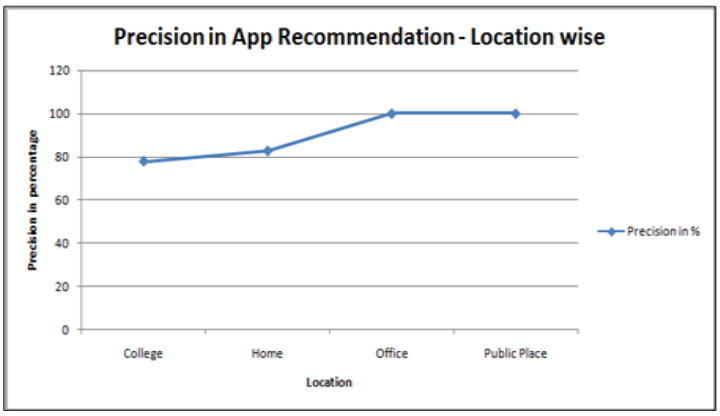

Figure 4. Precision in Location wise App-Recommendation

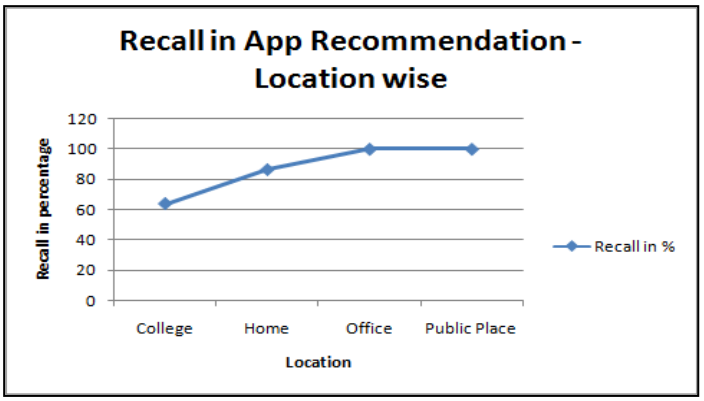

Figure 5. Graph Recall in Location wise App-Recommendation

IV. CONCLUSION

Effective classification of the mobile apps is important as everyday there are number of similar kind of apps coming in the market. Several classification techniques are available for classifying the short and sparse data, which can be adapted for classifying the mobile apps. But the result obtained from these techniques does not give us the effective classification of the apps, as they take into consideration only single factor for classification i.e. web knowledge or contextual information. So an approach to effectively classify the mobile apps in which we will extract the information from multiple sources in order to improve classification so as to provide more effective result.

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