

Anamobilitics- Analysis of Mobile Data to Understand User Sentiments

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Abstract: In this paper, we describe the importance and method of analysing mobile data from enterprise point of view. We use the term ‘Anamobilitics’ for our research, which means Analysis of mobile data. Today, most businesses are moving towards using mobile platforms for various tasks. The success of a mobile application relies largely on getting the user feedback and taking corrective steps to improve an application in accordance with this feedback. It is found that users usually do not provide any manual feedback even if they don’t like something about the application, rather they move on and use other applications available in the market. By analyzing the usage pattern, the developer of the application can capture the sentiments of the user and improve his application. In this paper we will explain the procedure to capture user feedback and the parameters that can be analyzed to get the user sentiments successfully.

Keywords: Anamobilitics, mobile data analysis, user sentiment analysis, mobile usage.

I. INTRODUCTION

In this paper we propose to build an android library project coded in Java programming language. This library can be integrated into any existing android application and can help improve applications by tracing usage of the application and understanding user’s usage area and their sentiments. Presently, the sentiment analysis is done through user feedback that is written or is in terms of numeric ratings [1, 2]. The usage information collected is stored in the database using REST Services. This data is analyzed and given to the developer in the form of bar graphs, pie charts, etc., so that necessary changes in the application can be made to enhance user experience.

II. ANAMOBILITICS API

First, we design APIs to fetch application usage information. The API can be included in any application whose usage pattern has to be tracked.

The functionality of the API is to record details like location of user, user ID, device information[3] on which the application is running, application crash report, the features of an application the user uses, etc.

This information can be tracked using simple functions and features that android provides.

III. WEB SERVICES

The tracked information from the API is sent to a database using REST Services. A connection with the database is made and all the information is stored in it. For trial purpose MySQL was used to track this information. REST Services is again used to fetch the data from the database.

IV. ANALYSIS TOOL

The data from the data base is fetched one by one and using the chart APIs in android, charts are generated and given as output to the app developer. The project helps to gather four mobile metrics no company that has mobile application should be without [4]. They are Acquisition, engagement, retention and quality. These metrics help in answering the following questions.

A. Acquisition

- ❖ How many new users did the application acquire? This tells the developer how popular his application is.
- ❖ What is the specification of the mobile device on which the application is running? The developer can test his application on the mobile device with the same specification as that used by maximum users.

B. Engagement

- ❖ Who is using the application? Feedback can be collected from the person using the application maximum number of times as he will know the application the best.
- ❖ Where are they using the application from (location of user)?
- ❖ How many times did the user open the application?
- ❖ How long do users spend in the application?
- ❖ What is the most used feature in the application? The most used feature can be put in the home screen so that the clicks to get information from that feature reduces.
- ❖ What is the least used feature in the application? This feature can be given least importance in the coming application updates.
- ❖ Which feature is used by an individual user the most in the application?

C. Retention

- ❖ How many unique users per day or per week are using the application?
- ❖ How many of last week’s user were we able to keep this week?
- ❖ How many people uninstall the application?
- ❖ How many inactive users in the past three month?

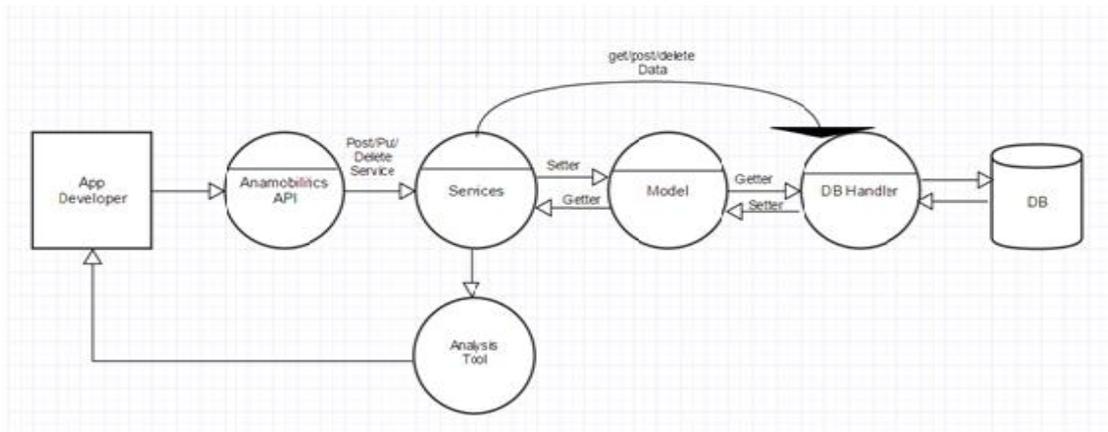


Fig 1: DFD of Anamobilities presenting subsystem module

D. Quality

- ❖ How common are application crashes?
- ❖ Where do users encounter crashes?
- ❖ How to find out the series of actions done by the user to find out the reason of application crashes?

V. RISK OF NOT COLLECTING APP USAGE DATA

- ❖ Losing Probable App Users
- ❖ Less control over the app usage
- ❖ Difficult to trace bugs, app crashes, etc.
- ❖ Risk of unauthorized access to apps with critical data.
- ❖ Clueless business investment with heavy impact
- ❖ Compromise of the quality measure

VI. CONCLUSION

Most companies use mobile applications. Therefore, tracking usage data of a customers can be very useful. It not only provides a base for better app development and tracking suspicious or valid usage but also better decision making at the management level regarding the judgement of investing in an application or not.

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