PREDICTING USER PERSONALITY ON SOCIAL NETWORKS

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Abstract :Social network analysis is the process of investigating social structure through the use of networks and graph theory. Facebook is the widespread social networking site used which is made easy to connect with friends. Such usage led to compulsive use of Facebook resulting in addictive behavior. This research work is an effort to explain a model using which features can be extracted and investigate the effect of personality variables on Facebook profiles and categorizes them into extraversion, neuroticism and consciousness based on their activities in Facebook. From this analysis of personality traits in Facebook results that extraversion and neuroticism positively predicted Facebook usage. Students who were high in extraversion were more likely to update their profiles, share photo and images with others and give feedback on other's posts. Similarly, those who were high in neuroticism were more likely to share photos and images with others and update their profiles. These findings support previous research. Furthermore, in terms of the effect of personality on Facebook addiction, this study found that consciousness was negatively associated with Facebook addiction, while extraversion and neuroticism were positively associated with Facebook addiction.

IndexTerms - personality, extraversion, neuroticism, openness.

I. INTRODUCTION

Social network analysis is the process of investigating social structure through the use of networks and graph theory. Facebook is the widespread social networking site used which is made easy to connect with friends. Such usage led to compulsive use of Facebook resulting in addictive behavior. This research work is an effort to explain a model using which features can be extracted and investigate the effect of personality variables on Facebook profiles and categorizes them into extraversion, neuroticism and consciousness based on their activities in Facebook. From this analysis of personality traits in Facebook results that extraversion and neuroticism positively predicted Facebook usage. Students who were high in extraversion were more likely to update their profiles, share photo and images with others and give feedback on other's posts. Similarly, those who were high in neuroticism were more likely to share photos and images with others and update their profiles. These findings support previous research. Furthermore, in terms of the effect of personality on Facebook addiction, this study found that consciousness was negatively associated with Facebook addiction, while extraversion and neuroticism were positively associated with Facebook addiction.

II. BACKGROUND STUDY

a. *Using Mining Predict relationships on the social media network :Facebook*

The objective of this paper is to study on the most famous social networking site Facebook and other online social media networks (OSMNs) based on the notion of relationship or friendship. This paper discussed the methodology which can used to conduct the analysis of the social network Facebook (FB) and also define the framework of the Web Mining platform. Lastly, various technological challenges were explored which were lying under the task of extracting information from FB and discuss in detail the about crawling agent functionality.The web mining architecture called as crawler agent, that allow us to pull out the various different specimens of the popularly known, SNS (social networking site) Facebook and to study the network topology anatomy of the above social network graph. To be more concise, the two main techniques of OSMN (online social media network) are, the first one based on the idea of visual extraction (called as uniform sampling based on rejection policy without bias) and the second one based on sampling procedure (called as Breadth-first Search or Traversal having bias).

b. *Facebook Addiction: A Study of Big five factors and academic performance amongst students of IUB.*

Social networking sites have gained fame over the past few years. People have started to use them regularly. One Such site is Facebook which has become the center of attention and has created an urge to explore certain issue among the researchers. This study investigates the affect of personality variables on face book addiction and if it has any negative effect on the student academic performance. Survey research method was employed. Questionnaires were distributed among students using in the department of Management Sciences. Valid questionnaires (n=150) were filled and returned. Findings and results: Regression analysis was used to analyze the data. Extroversion, neuroticism and Openness to experiences are all positively correlated to FBA. Also, there is negative relationship between FBA and Academic performance. Originality of the study: Overall, this research explains that extroversion play a major role in determining Facebook Addiction and that there is no significant relationship between academic performance and Facebook Addiction.A person's characteristics can be seen as their inclinations or preferences producing a specific mindset when faced with different scenarios. Ajzen, J. (1988) The generally acknowledged model of personality is the Five-Factor Model (FFM), coming out as the most agreed upon postulation on this matter. John, O. P., Naumann, L. P. and Soto, C.J. (2008).The FFM proposes that an individual's personality traits are weighed up by five determinants: neuroticism, extraversion, openness to experience, agreeableness and conscientiousness. John, O. P., Naumann, L. P. and Soto, C.J. (2008). Every single one of these factors blend various features that in the past were employed across multiple domains with restricted rewards. These fundamental trends are intrinsic and progress throughout life, shaping up thoughts, feelings and actions. McCrae, R.R., and Costa, P.T. (1987). Ross et al. (2009) and Amichai-Hamburger and Vinitzky (2010) examined particularly the interrelation of the Big Five factors and

Facebook usage. Their outcome suggested that multiple factors are related to the distinct patterns of Facebook usage. For example, extraverts normally have bigger friend lists (Amichai- Hamburger and Vinitzky, 2010), and join more Groups1 (Ross et al., 2009), compared to introverts. Additionally, people having greater neuroticism are likely to use the Wall2 (Ross et al., 2009) more than those who are emotionally stable. According to Ross et al. (2009) a possible explanation for this is that posting on the Wall gives them a chance to take their time for devising messages and responses. Therefore, minimizing the risk of accidental revelations about personal information. Regardless of the forecast that extraverts would spend more time on Facebook in contrast to conscientious individuals, Ross et al. (2009) or Amichai- Hamburger and Vinitzky (2010) were not able to find a considerable link between Facebook usage and the Big Five factors. In reaction to this, Ross et al. (2009) claimed that perhaps the Big Five were not specific enough to exhibit the subtleties concerning Facebook usage.

III. PROPOSED SYSTEM

Judging others' personalities is an essential skill in successful social living, as personality is a key driver behind people's interactions, behaviors, and emotions. Although accurate personality judgments stem from social-cognitive skills, developments in machine learning show that computer models can also make valid judgments.Studies in the field of psychology showed that there is a correlation between personality and the linguistic behavior of a person . This correlation can be effectively analyzed and illustrated using natural language processing approach. Therefore, the goal of this research is to build a prediction system that can automatically predict user personality based on their activities in Facebook. Prediction system is built using Facebook developer API. We generate the access token and login into Facebook and access the user details and categorize them into extraversion, neuroticism, openness.

Action taken		Protocol/ Method	URI
1.	Access the FB page	HTTP/GET	www.facebook.com/
2.	Authentication/Login	HTTPS/POST	Login.facebook.com/login.php
		HTTP/GET	/home.php
3.	Visit Friend-List	HTTP/GET	/friend-list/ajax/friends.php?id =#&filter=afp

Table.1. Login methods

i. Objective

This research work is an effort to explain a model using which features can be extracted and investigate the effect of personality variables on Facebook profiles and categorizes them into extraversion, neuroticism and consciousness based on their activities in Facebook.To categorize the user personality traits in Facebook based on their user activity data. Facebook developer graph API is used to get the token key and login to the Facebook and access the user data for categorization

ii. Advantage in Proposed System

a. Exact prediction is done by the methods.
b. User data and their activities are recent collected so, it's provide guaranteed prediction
c. It's use to identify the personality maximum positive result.

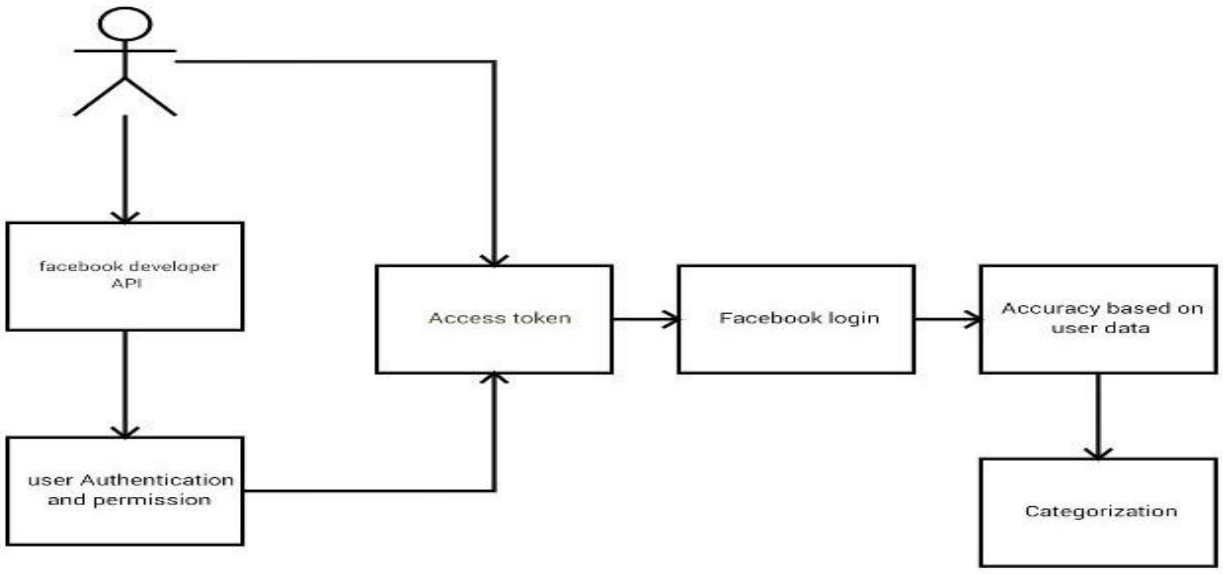

Fig.1. Architecture for identifying personality traits

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	1.609	1.327		1.213	.230	-1.039	4.257		
	Neuroticism	.539	.174	.356	3.089	.003	.191	.887	.966	1.035
	Extraversion	.058	.156	.043	.370	.713	-.254	.369	.947	1.056
	Openness	-.129	.231	-.064	-.559	.578	-.591	.332	.972	1.029

Table.2.Categorization

IV. RESULTS AND DISCUSSION

From this analysis of personality traits in Facebook we conclude that extraversion and neuroticism positively predicted Facebook usage. Students who were high in extraversion were more likely to update their profiles, share photo and images with others and give feedback on other's posts. Similarly, those who were high in neuroticism were more likely to share photos and images with others and update their profiles. consciousness was negatively associated with Facebook addiction, while extraversion and neuroticism were positively associated with Facebook addiction.

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