

Combining Affective Computing and Facebook API Social Computing to Establish a Mobile Platform with Automatic Emotion Status Updating Functions

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Abstract: Do you know anything about Facebook? Maybe you had seen a movie which is called Social Network. It's talking about people get community on website. Facebook has more and more user since 2006, and it had already become the most popular network community in past few years. How can this small platform become so popular? It has a graffiti wall allow users to say something about their recent life. Between users, if somebody like what you post on graffiti wall, this somebody may probably give you a "like".

However, these "Humanity" function are unable to find out what users' emotion. So, if we can build an affective computing platform on Facebook, analyzing users' input information (such as :what user type or what user say), it may help you understand what is your emotion easily, and this may help your friends know what is your situation recently that they can have some corresponding to you, and this behavior is what we want to see; We hope to use this platform to help improving you and your friends' friendship. This study is focus on three major as following: (1) Using Internet to have Community and interaction. (2) How to build a platform combining affective computing on Facebook (identify symbols including text and voice), then let users decide whether update their emotion status on Facebook's graffiti wall or not. (3) Setting up our platform on mobile device. Such as: Android、iPhone...etc. We used Android smart phone in this project.

Keywords: Mobile Device, Social Network, Affective Computing, Facebook, Android

Introduction

Due to the Internet boom, The users of computers are growing to a great number . Many people will use computer no matter how old you are; And using time is also being longer and longer. For those results, many different communities had been built on Internet. Those communities which were built on Internet have a new name .Here comes there new name, "Social Network".

Facebook, which is the leader of social networks in recent years. According to checkFacebook.com (Facebook's official website) shows that, Facebook had already have 624,682,160 users, and is continuously growing. The data said that: Taiwan's Facebook users have more than ten million people. What a enormous number!

You might have a question for Facebook, how did Facebook get so much users? Here is the reason .Facebook has a function called "user's emotional state", this one is really attract teenagers; You can make friends on Facebook or comment a post by "like". If your friends change their emotional state from "In a relationship" into "single", there must have a lot of curious friends to ask "What's going on" or something else. But sometimes ,they are already heart-break, and don't want to be bothered cause they are in a blue. So, we think Facebook might need an affective computing platform which can let users talk about themselves then make analysis. When user's emotion state come out, sharing on the graffiti wall .This may help people understand each others more and more.

1. Research Methods

This research used affective computing algorithm, PHP, MySQL, Android mobile device and Flash AS3 , to build a platform that can recognize emotion with user's text or vocal level. We built a platform by Flash AS3,turning it into an Android App to catch information from user's inputs. After our database get user's information, it'll return the recognize results for users. The database used Facebook API to communicate with Facebook.

Word recognition, using the method as follows: (1) Ontology and natural language processing technology base on the Symbolic AI mode.(2) Computational Intelligence model which is Combined with SVM, KNN and other classifiers, emotional dictionary, language structure. Vocal level recognition part are: (1) Using sensors to capture emotional speech signal, then use the endpoint detection method to cut out the useful passages to exclude unnecessary data.(2) Calculating sound pitch and energy from the data to define different emotional features. Finally, to determine the emotion state with hybrid model of decision-making through voting algorithm to send the recognition results.

2. Experimental Results

Users can use our platform on Facebook or their Android phone. When users is using their Facebook on the PC, they can use microphone to input the vocal level, then upload to emotional recognize database or type text with their keyboard; Or, using Android smart phone to give the information which our system need to our database. After system recognized, the database will transfer user's emotional state to their platform and the platform will automatically upload the result to Facebook's graffiti wall.

3. Conclusion and Future Work

In this research, we met a numerous problem ;Some user don't have a smart phone and it's not easy for everyone to accept what affective computing is (Some of the tester said that it's dangerous to give emotion to computer). This research did a great job to help people understand what is the new trend of 22 century technology, Smart phone ,Android, and affecting computing. We proof that computer have emotion it's really humanity and it's only dangerous in movies.

There are more and more people start using smart phone. Android, Apple and windows, they are getting better and cheaper. This is a chance to have a revolution on technology, letting everybody have a smart phone it's not just a dream; It have happened , and it's still happening. People will get closer due to our platform. It's really easy to share your feeling, after recognized you can upload your emotion to the Facebook. It is so easy to let people know each others.

We hope to add facial detection in our platform. Besides, we want to put our platform not just on Facebook or Android but even iPhone or Windows phone. This might help our system to get more recognition and more accuracy.

Hoping user who use our platform will:(1)Getting more and more people to use Facebook, and let the social network getting better and better.(2) Let user know what is their feeling and help them to recovery or share with user's happiness (3) Let people know each other not just what they looked outside but their heart inside.