

PREDICT THE USAGE OF LAPTOPS AMONG STUDENTS IN RURAL AREAS USING WEKA TOOL

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ABSTRACT

In modern days, the usage of laptops is increased in the rural areas due to the government has issued the free laptops to the school and college students. The government's intention on distribution of free laptops is to empower students, particularly from rural areas, to enhance their skills and ability in consumer usage. Around in 5 to 6 years computer literacy rate has been increased in village areas. The survey has been taken to the college students by questionnaire format. The laptops used by the students for educate, teaching, internet for gaining knowledge, chatting, and also they used to spend the lot of times for playing games and watching movies. And to check the computer literacy knowledge by some questions raised to the students. To ensure that how they utilize the modern technology nowadays. The primary data which is collected from the students has been analyzed by the statistical tool to determine the result by Weka tool.

Keywords: *Computer Literacy, Educate, Entertainment, Job Sector, Laptops, Weka, And So On.*

I. INTRODUCTION

The main objective of the research is to find how the technical resource is utilized by the students. The information is collected from many students who are using laptops. From this data we can able to identify the usage of laptops among students. This process is done by using the classification algorithm in data mining with the Weka tool. The research is used to analyze for what purpose the students using laptops more whether for entertainment or education or internet usage. Nearly three classes has been divided to separate the students variety how they spend the precious time in laptops.

II. PROBLEM DEFINITION AND DESCRIPTION

After the 2011, the government issued the free laptops to the government schools and government aided colleges laptop usage is increased in the village areas. The message the State wanted to convey was that there would be no shortage of skilled manpower. Every possible facility is to be reached to them as tools to help them realize their full potential; the government's intention on distribution of free laptops is to empower students, particularly from rural areas, to enhance their skills and ability in consumer usage. From 2011 onwards usage of laptops increased by the students and the literacy rate has been also almost increased in the village areas. The problem is to analyze for what purpose the students are using laptops more. The data are collected from the different category of students. From this data the problem can be analyzed in better way to optimize the result of

usage. The prediction based on various classes such as daily education, entertainment, job sector, and internet, chatting, sending email from their different categories of students. Using the weka tool, it is very easy to predict and classify the usage of laptops.

Many of the students used their laptops daily to educate them through the internet facility, and also pros and cons in laptop usage that their usage mostly depends on the computer literacy knowledge. The students in the rural areas mostly use their laptops for watching movies, and listening to songs, playing games. But somehow very least number of student use the laptops for adapt the knowledge in modern days, by the skype, whatsapp, video conferencing, job sector, social network, teaching aids. Some attributes such as entertainment, knowledge, education, job sector, daily usage, internet connection to classify the reasons how students are utilizing their laptops. The classification algorithm is used to classify the reason in tree structure.

III. METHODOLOGY

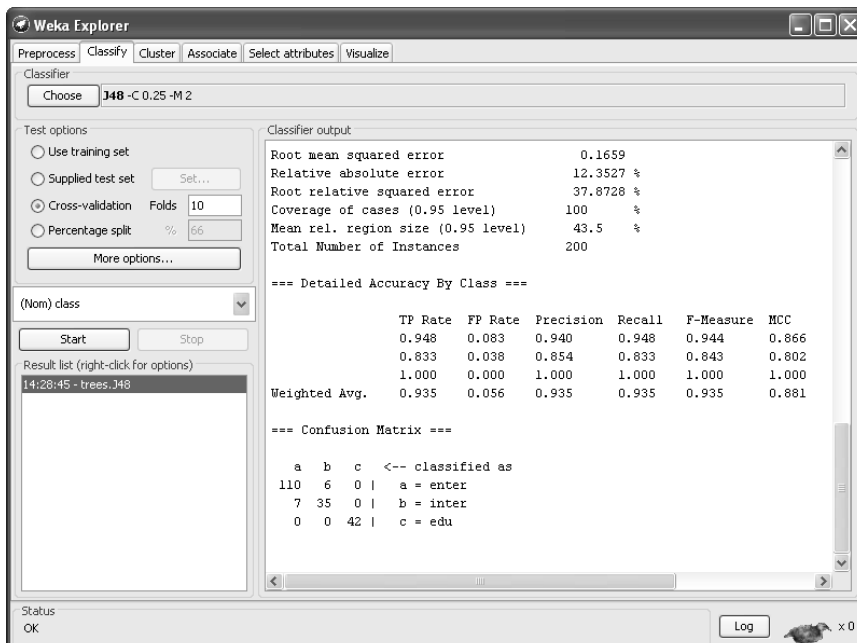
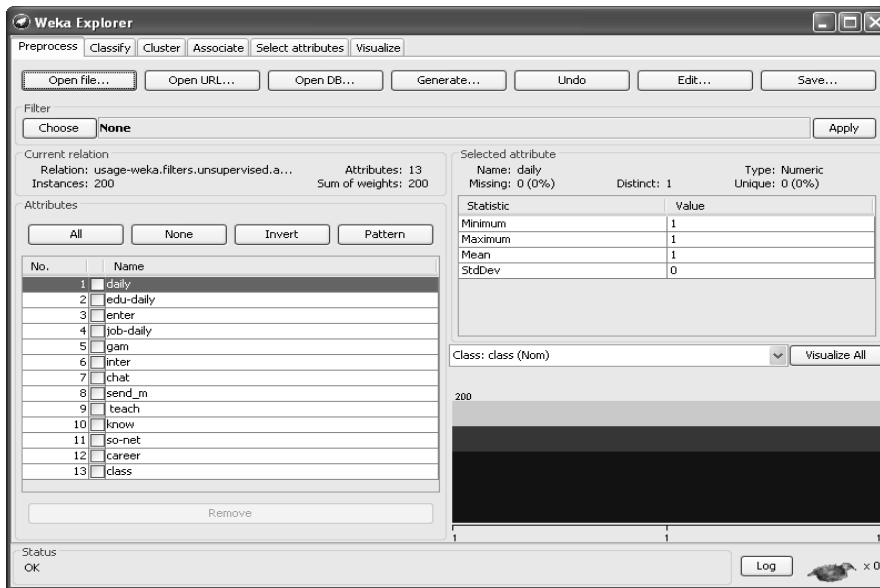
Detailed transaction information in the OLTP and legacy system is usually not suitable for data mining. For data mining to be effective, much careful work is needed in defining the aims of network of data mining in the selection, cleaning, transformation and separate storage of data that is suitable for data mining. A typical data mining process is likely to include the following steps:

- Requirement analysis
- Data selection and collection
- Cleaning, mining exploration and validation.
- Implementing, evaluating and validation
- Monitoring
- Result visualization

The classification based on the purpose of usage of laptops using data mining techniques by implementing the algorithm. Classification in data mining technique used to predict group of categories for data instances. For example, you may wish to use classification predict whether the weather on a particular day will be “Rainy” or “cloudy”, Sunny, popular classification techniques include decision trees and neural networks. Algorithm which is used in classification called as decision tree. Decision tree methods build a collection of rules for use as a predictive model. The advantage of this approach is that are easy to understand, they are frequently useful for discovering underlying business processes.

IV. RESULT AND DISCUSSION

The input data are fed into the Excel by the nominal values only. The classification algorithm is used to predict their usage by some predefined classes like educate, internet, entertain etc. Mainly consider the values of the input variable given by the classification.



Classifier output:

Scheme: weka.classifiers.trees.J48 -C 0.25 -M 2

Relation: usage-weka.filters.unsupervised.attribute.Remove-R1

Instances: 200

Attributes: 13

daily

edu-daily

enter

job-daily

gam

inter

chat

send_m

teach

know

so-net

career

class

Test mode: 10-fold cross-validation

=== Classifier model (full training set) ===

J48 pruned tree

edu-daily <= 0

| inter <= 0: enter (87.0/8.0)

| inter > 0

| | job-daily <= 0: inter (34.0)

| | job-daily > 0: enter (37.0)

edu-daily > 0: edu (42.0)

Number of Leaves : 4

Size of the tree : 7

Time taken to build model: 0.02 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 187 93.5 %

Incorrectly Classified Instances 13 6.5 %

Kappa statistic 0.8867

Mean absolute error 0.0475

Root mean squared error 0.1659

Relative absolute error 12.3527 %

Root relative squared error 37.8728 %
 Coverage of cases (0.95 level) 100 %
 Mean rel. region size (0.95 level) 43.5 %
 Total Number of Instances 200

=== Detailed Accuracy By Class ===

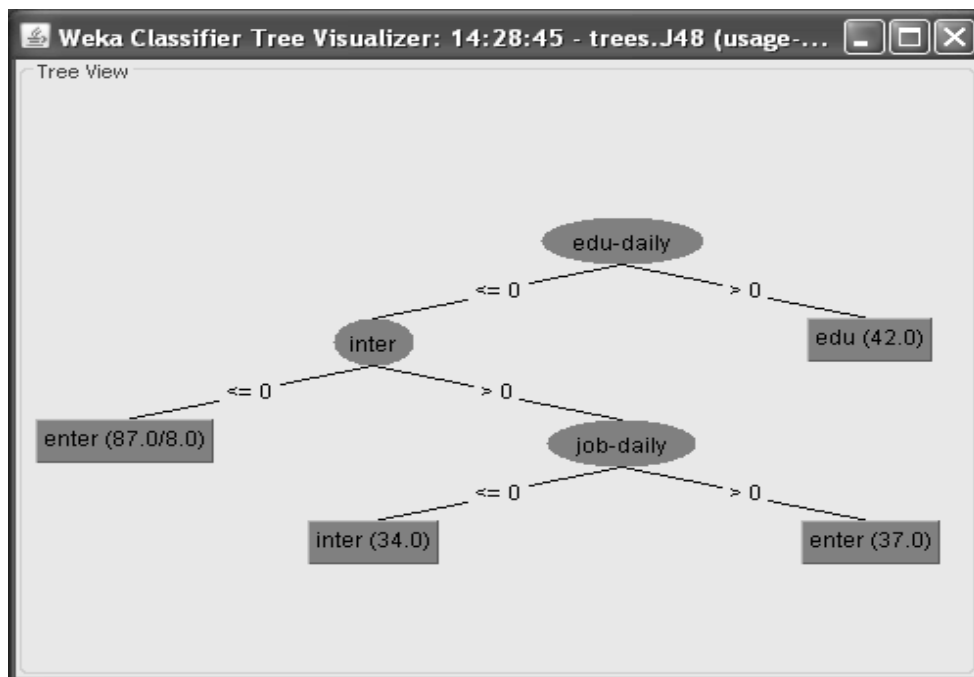
	TP Rate	FP Rate	Precision	Recall	F-Measure	MCC	ROC Area	PRC Area	Class
	0.948	0.083	0.940	0.948	0.944	0.866	0.974	0.975	enter
	0.833	0.038	0.854	0.833	0.843	0.802	0.961	0.913	inter
	1.000	0.000	1.000	1.000	1.000	1.000	1.000	1.000	edu
Weighted Avg.	0.935	0.056	0.935	0.935	0.935	0.881	0.977	0.968	

=== Confusion Matrix ===

```

a b c <-- classified as
110 6 0 | a = enter
7 35 0 | b = inter
0 0 42 | c = edu
    
```

V. FULL TREE



VI. CONCLUSION

The goal of classification is to build a set of models that can correctly predict the classes of different objects. The input to this method is set of objects (i.e., training data), the classes which these objects belong to (i.e., dependent variables), and a set of variables describing characteristics of objects (i.e., independent variables). Once

such a predictive model is built, it can be used to predict the class of the objects for which class information is not known a priori.

Hereby, collected data about how the students are using the laptops, based on the purpose of usage, purpose are categorized. From this research, we know that the purpose of laptops is education, Entertainment, internet usage. After completing, it is very useful to classify the purpose of using the laptops by students. Finally result that the “more number of students are using their laptops for entertainment, chatting, social network”, Any how the computer literacy knowledge has been increased.

REFERENCES

- [1]. Erping Zhu, Matthew Kaplan, R. Charles Dershimer, IngerBergom “USE OF LAPTOPS IN THE CLASSROOM: RESEARCH AND BEST PRACTICES”
- [2]. FariaSana , Tina Weston , Nicholas J. Cepeda“Laptop multitasking hinders classroom learning for both users and nearby peers”
- [3]. Carrie B. Fried “In-class laptop use and its effects on student learning”
- [4]. Article in The New Yorker June 6 2014”The Case for Banning Laptops in the Classroom”
- [5]. Article in Deccan chronicle,” Free laptops improve tech skills of Tamil Nadu students: Survey” September 05, 2014
- [6]. Article in EDU, “Free laptops scheme increases computer literacy in Tamil Nadu” Mar 18, 2015
- [7]. Article in Times of India,” Free laptops increases computer literacy in TN”
- [8]. Article in Deccan chronicle Aug6 2015,”Students sell free laptop in Western Tamil Nadu”