HSES Knowledge Portal: Invention of Counting System

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Abstract— The HSES Knowledge portal (www.hseshiksha.in) is designed and developed for the student, teacher and others who are teaching, learning and guiding in the higher secondary education sector of the India. In this portal, syllabus, eBooks, question papers and video lectures are ported for proving the study materials. Data is collected during the registration of new members and filling of feedback forms which is done online. A user can register anytime and anywhere all over India. Registered users can be filling the feedback form. Counting of users by locale, stream, board, gender, medium and state is difficult manually. It is possible with Microsoft Excel but time taking. Locale, stream, board, gender, and medium wise counting are possible through the counters which remove counting mistakes and saves time. In this portal, Counting of users have performed in this portal automatically which is the very challenging task. Invention of counting system for registered members of the HSES Knowledge Portal is beneficial for counting of users at locale, stream, board, gender and medium wise. It may aware green computing because persons take a lot of time to do it.

Keywords— Counting by Locale, Counting by Stream, Counting by Board, Counting by Gender, Counting by Medium

I. Introduction

The HSES Knowledge portal (www.hseshiksha.in) is designed and developed for the student, teacher and others who are teaching, learning and guiding in the higher secondary education sector. In this portal, syllabus, eBooks, question papers and video lectures are ported. It is available on the internet a free of cost. Open source software's are used for the development of this portal which is license free software. In this paper, we will discuss an implementation of portal and data analysis of collected data in this portal. Data is collected during the registration of new members and filling of feedback forms. Locale, stream, board, gender and member are taken as comparative parameters.

Counting of users by locale, stream, board, gender and medium are performed automatically. The counter for locale counts the number of local, semi-urban and urban users individually. The counter for stream counts the number of arts, commerce, science and other stream users separately. The counter for board counts the number of CBSE, CGBSE, ICSE, and other users individually. Individually, male and female users are counted by the counter for gender stream. Separately, English and Hindi medium users are counted by the counter for the medium stream. Finally, we study state wise and district wise data analysis.

The Invention of counting system for registered members of HSES Knowledge Portal is beneficial for counting of users at the locale, stream, board, gender and medium wise. In this portal, Counting of users have performed in this portal automatically which is a very challenging task. It may aware of green computing because persons take a lot of time to do it.

II. Research Methodology

The HSES databases of the HSES Knowledge Portal are managed inside phpMyAdmin in which Student, teacher, and others tables are created in the MySQL database management system under the XAMPP Control Panel. The student registration is a part of student table. The teacher registration is a part of teacher table. The other registration is a part of others table. The teacher registration requires Tid, Tname, Locale, Tsubject, Stream, Board, Gender, Medium, State, District, Email, Userid, Pwd and DOR where Tid is a primary key. The Student registration requires Stuid, Stuname, Locale, Class, Stream, Board, Gender, Medium, State, District, Email, Userid, Pwd and DOR where the Stuid is a primary key. The Others registration requires Oid, Name, Locale, Gender, State, District, Qualification, Occupation, Email, Userid, Pwd and DOR where Oid is a primary key. The Locale, Stream, Board, Gender and Medium are selected fields for the purpose of comparative data analysis. The Locale and Gender fields are common in student, teacher and others tables whereas a Board, Stream and Medium are the common teacher and student tables. The

data of the locale field are grouped into rural, semi-urban and an urban. The data of the stream field are grouped into the arts, commerce, science, and other streams. The data of the board field are grouped into CBSE, CGBSE, ICSE, and other boards. The data of the gender field are grouped into female and male. The data of the medium field are grouped into English and Hindi. An algorithm for users, counting by locale is given below:

1. Start
2. Input Locale
3. For I=1 to N

           If Locale='Rural' then
           R=R+1
           End If
           If Locale='Semi-urban' then
           SU=SU+1
           End If
           If Locale='Urban' then
           U=U+1
           End If
       End of Loop
4. Stop

An algorithm for users counting by stream is given below:

1. Start
2. Input Stream
3. For I=1 to N

           If Stream='Arts' then
           A=A+1
           End If
           If Stream='Commerce' then
           C=C+1
           End If
           If Stream='Science' then
           S=S+1
           End If
           If Stream='Others' then
           OS=OS+1
           End If
       End of Loop
4. Stop

An algorithm for users counting by board is given below:

1. Start
2. Input Board
3. For I=1 to N

           If Board='CBSE' then
           CB=CB+1
           End If
           If Board='CGBSE' then
           CG=CG+1
           End If
           If Board='ICSE' then
           IC=IC+1
           End If
           If Board='Others' then
           OB=OB+1
           End If
       End of Loop
4. Stop

An algorithm for users counting by Gender is given below:

1. Start
2. Input Gender
3. For I=1 to N

           If Gender='Male' then
           M=M+1
           End If
           If Gender='Female' then
           F=F+1

           End If
       End of Loop
4. Stop

An algorithm for users counting by Medium is given below:

1. Start
2. Input Medium
3. For I=1 to N

           If Medium='English' then
           E=E+1
           End If
           If Medium='Hindi' then
           H=H+1
           End If
       End of Loop
4. Stop

An algorithm for users counting by State is given below:

1. Start
2. Input State
3. For I=1 to N

           If State='CG' then
           SCG=SCG+1
           End If
           If State='Others' then
           SO=SO+1
           End If
       End of Loop
4. Stop

III. OBSERVATION & INTERPRETATION

In the portal www.hseshiksha.in, users are classified into Admin, Teachers, Students, and Others. According to the user category, Table 1 is showing the number of users who have accessed the portal. Between September 2018 and January 2019, 505 users register in this portal. During this period, the number of registered teachers, students, and others are 93,301 and 101 respectively. Only one user is the administrator of the portal.

Table 1: Counting of Portal Users

Counting of Registered Members	
Types of Users	No of Users
Admin	1
Teacher	93
Student	301
Others	110

The percentage of registered teachers, students, and others are 22, 60 and 18 respectively which is shown in Fig. 1. The increasing order of participation of users is students, others and teachers.
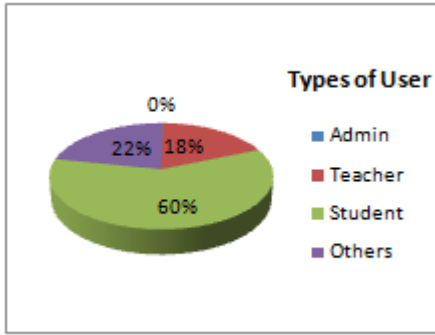
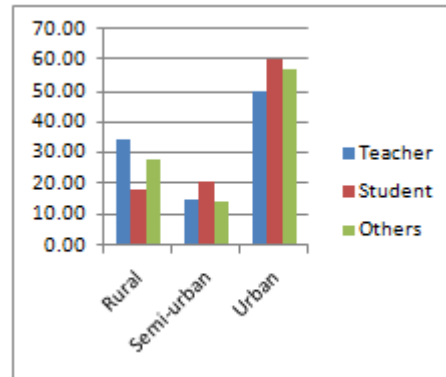Fig. 1: Pie Chart for Users of the Portal (www.hseshiksha.in)

Counting of Users by Locale: The Locale is a field of student, teacher and others tables which is classified into rural, semi-urban, and urban in this portal. Area wise registration of the user's type is shown in Fig. 2. The teachers of urban area have more registered which is 50.54 percentages, whereas teachers of the semi-urban area have less registered which is 15.05 percentages.

Table 2: Counting of Users according to Locale

| User Type | Counting by Locale | | | | | |
| | No of Users | | | Percentage of Users | | |
	Rural	Semi-urban	Urban	Rural	Semi-urban	Urban
Teacher	32	14	47	34.41	15.05	50.54
Student	56	63	182	18.60	20.93	60.47
Others	31	16	63	28.18	14.55	57.27

The students of urban area have more registered which is 60.47 percentages where as students of rural area have less registered which is 18.60 percentages. The others of urban area have more registered which is 57.27 percentages where as students of semi-urban area have less registered which is 14.55 percentages. It is observed that portal is more access in the urban compared to rural and semi-urban. It is also observed that portal is less access in semi-urban compared to others except the student. This is shown in Fig. 3.
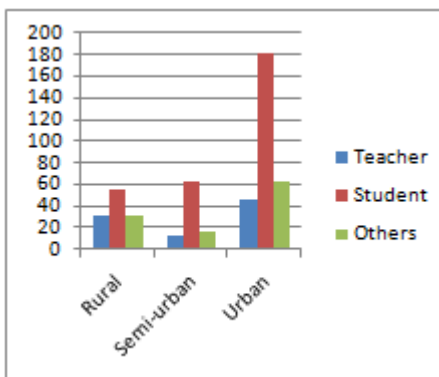

Fig. 2: Showing of Users by Locale in figure

Fig. 3: Showing of Users by Locale in percentage

Counting of Users by Stream: In this portal, the stream is classified into Arts, Commerce, Others and Science. Table 3 shows counting of registered users by the stream. 35 teachers of arts stream, 11 teachers of commerce stream, 42 teachers of science stream and 5 teachers of others stream are enrolled. 36 students of arts stream, 65 students of commerce stream, 195 students of science stream and 5 students of others stream are registered. It is shown in Fig. 4. 37.63% of teachers of arts stream, 11.83% of teachers of commerce stream, 45.16% of teachers of science stream and 5.38% of teachers of others stream are enrolled. 11.96% of students of arts stream, 21.59% of students of commerce stream, 64.78% of students of science stream and 1.66% of students of others stream are registered. It is shown in Fig. 5.

Table 3: Counting of Users by Stream

| User Type | Counting by Stream | | | | | | | |
| | In Figure | | | | In Percentage | | | |
	Arts	Commerce	Others	Science	Arts	Commerce	Others	Science
Teachers	35	11	5	42	37.63	11.83	5.38	45.16
Students	36	65	5	195	11.96	21.59	1.66	64.78

Stream wise increasing order of registered teachers are other streams, commerce, arts, and science. Similarly, stream wise increasing order of registered students are other streams, arts, commerce and science. The registration of teachers and students of science stream is high. The minimum registration is observed for the other streams.
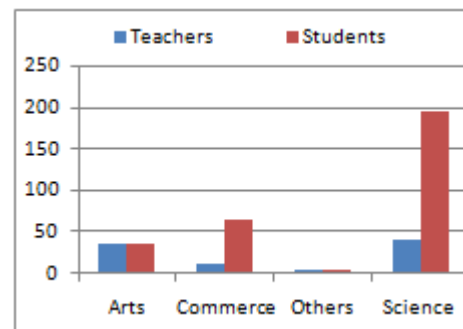

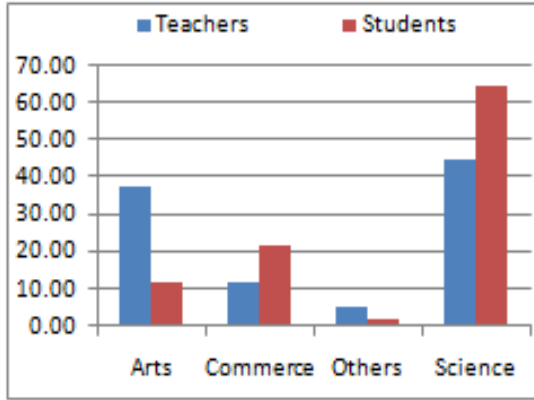Fig. 4: User Counting by Stream with figures
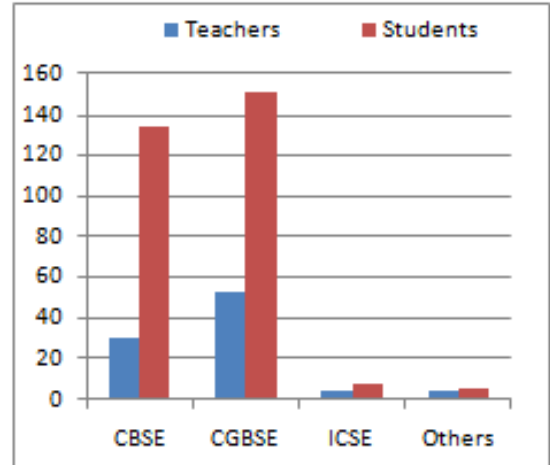
Fig. 5: User Counting by Stream with percentage

Counting of Users by Board: In this portal, the board is classified into CBSE, CGBSE, ICSE, and Others. Table-4 is shown counting of registered users by the board. 31 teachers on CBSE board, 53 teachers on CGBSE board, 4 teachers on ICSE board and 5 teachers on other boards are enrolled. 135 students of CBSE board, 152 students of CGBSE board, 8 students of ICSE board and 6 students of others board are registered. It is shown in Fig. 6. 33.33% of teachers of CBSE board, 56.99% of teachers of CGBSE board, 4.30% of teachers of ICSE board and 5.38% of teachers of others board are enrolled. 44.85% of students of CBSE, 50.50% of students of CGBSE, 2.66% of students of ICSE and 1.99% of students of others board are registered. It is shown in Fig. 7.
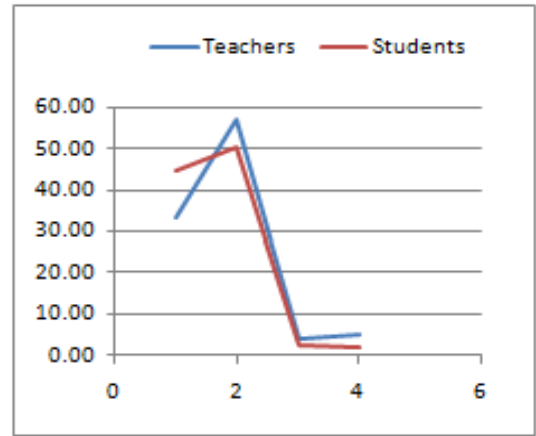
Table 4: Counting of Users by Board

User Type	Counting by Board							
	In Figure				In Percentage			
	CBSE	CGBSE	ICSE	Others	CBSE	CGBSE	ICSE	Others
Teachers	31	53	4	5	33.33	56.99	4.30	5.38
Students	135	152	8	6	44.85	50.50	2.66	1.99

Board wise increasing order of registered teachers is ICSE, others, CBSE and CGBSE. Similarly, the board wise increasing order of registered students is others, ICSE, CBSE, and CGBSE. The registration of teachers and students of CGBSE board is high. Minimum registration is observed for the ICSE board and others board. The graphical way of teachers and students for the board is almost the same.

Fig. 6: User Counting by Board with figure

Fig. 7: User Counting by Board with percentage

Counting of Users by Gender: In this portal, gender is classified in female and male. Table-5 is shown counting of registered users by gender. 48 female teachers, 45 male teachers, 160 female students, 141 male students, 37 female others and 73 male others are registered in the www.hseshiksha.in. It is shown in Fig. 8. 51.61% female teachers, 48.39% male teachers, 53.16% female students, 46.84% male students, 33.64% female others and 66.36% male others are registered. It is shown in Fig. 9.

Table 5: Counting of Users by Gender

User Type	Counting by Gender			
	In Figure		In Percentage	
	Female	Male	Female	Male
Teachers	48	45	51.61	48.39
Students	160	141	53.16	46.84
Others	37	73	33.64	66.36

Gender wise increasing order of registered teachers and students is male and female. Similarly, Gender wise increasing order of registered others users are female and

male. The registration of female teachers and female students are higher than male teachers and male students. It is observed that registered male others are more than female others. The graphical way of teachers and students of gender is almost the same.
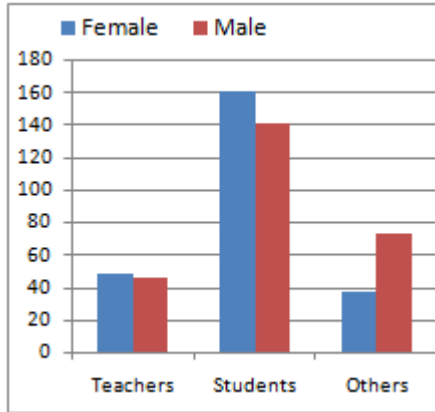

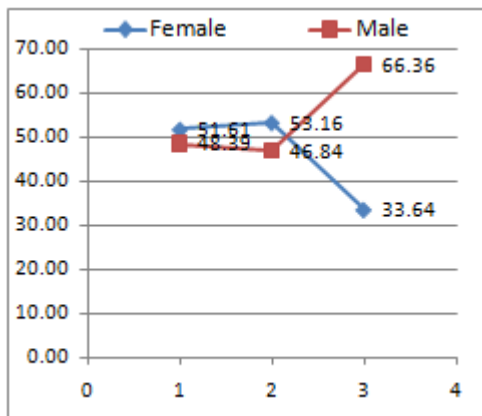Fig. 8: User Counting by Gender with figures

Fig. 9: User Counting by Gender with percentage

Counting of Users by Medium: The www.hseshiksha.in portal is designed and developed for both Hindi and English medium users. Table 6 is shown medium wise counting of registered users. 31 English medium teachers, 62 Hindi medium teachers, 173 English medium students, and 128 Hindi medium students are registered in the www.hseshiksha.in. It is graphically shown in Fig. 10. 33.33% English medium teachers, 66.67% Hindi medium teachers, 57.48% English medium students and 42.52% Hindi medium students are registered. It is graphically shown in Fig. 11.

Table 6: Counting of Users by Medium

User Type	Counting by Medium			
	In Figure		In Percentage	
	English	**Hindi**	**English**	**Hindi**
Teachers	31	62	33.33	66.67
Students	173	128	57.48	42.52

Participation of teachers of Hindi medium is more compared to the teachers of English medium, whereas participation of students of English medium is more than Hindi medium students.
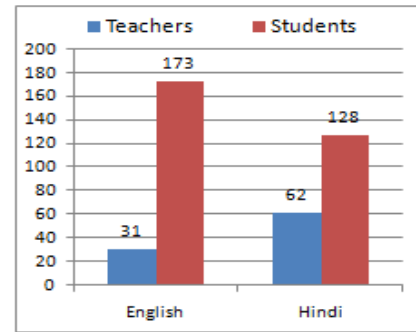

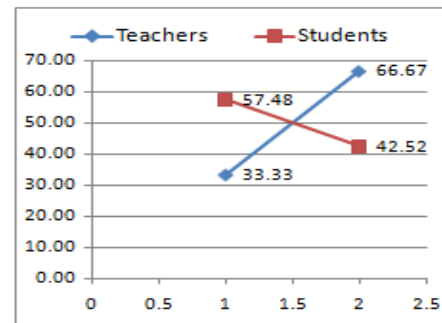Fig. 10: User Counting by Medium with figures

Fig. 11: User Counting by Medium with percentage

Counting of Users by State: The www.hseshiksha.in portal is designed and developed for the users of both Chhattisgarh and other states. Table 7 is shown state wise counting of registered users. 92 teachers, 287 students and 100 others of Chhattisgarh state are registered in the www.hseshiksha.in. Similarly 1 teacher, 14 students and 10 others of other states are registered in the www.hseshiksha.in. It is graphically shown in Fig. 12. 99.92% teachers, 95.35% students and 90.91% others of Chhattisgarh state are registered. So, the portal is a fairly good response in the Chhattisgarh. 1.08% of teachers, 4.65% of students and 9.09% of others of other states are registered. It is graphically shown in Fig. 13.

In the Chhattisgarh, It is observed that portal accessibility is almost the same for all categories of users. It is also found that the portal is accessed out of Chhattisgarh up to 10% users. For Chhattisgarh, District wise counting of teachers, students, and others are given in Table 8. The maximum participation of teachers, students, and others are 68,196 and 50 respectively, which are living in the Durg District of the Chhattisgarh.

According to Fig. 14, district wise registrations of users are almost same except Durg district. It is found that the portal is more accessing here.

Table 7: Counting of Users by State

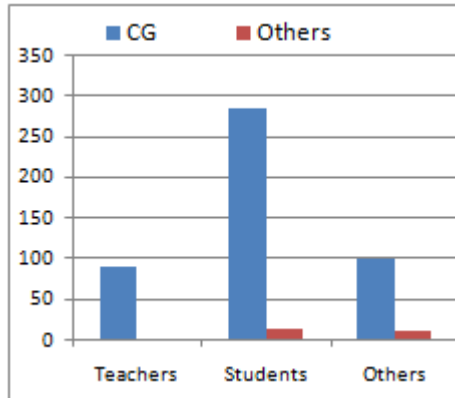| User Type | Counting by State | | | |
| | In Figure | | In Percentage | |
	CG	Others	CG	Others
Teachers	92	1	98.92	1.08
Students	287	14	95.35	4.65
Others	100	10	90.91	9.09

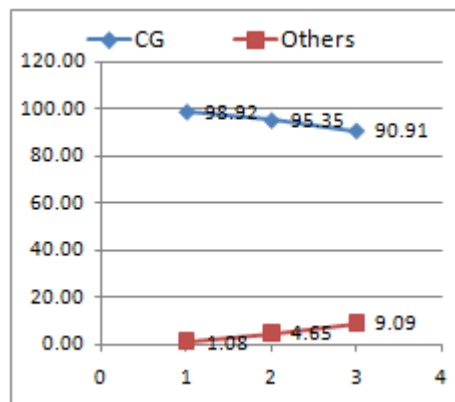Fig. 12: User Counting by State with figures
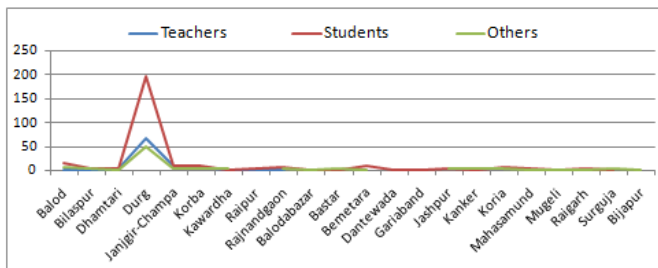

Fig. 13: User Counting by State with %

Fig. 14: District wise Counting of Users by Chhattisgarh State

IV. RESULT & DISCUSSION

As per counting by locale, it is found that portal is more accessible in the urban as compared to rural & semi-urban and less access in semi-urban as compared to others except

for the student. The stream wise increasing order of teachers participation are others, commerce, arts, and science. Similarly, stream wise increasing order of students members are others, arts, commerce, and science. The registration of teachers and students of science stream is high. Minimum registration is found for the others stream. Board wise increasing order of registered teachers are ICSE, others, CBSE and CGBSE. Similarly, the board wise increasing order of registered students is others, ICSE, CBSE, and CGBSE. The registration of teachers and students of CGBSE board is high. Minimum registration is found for the ICSE board and others board.

Table 8: District wise Counting of Users by Chhattisgarh State

| Chhattisgarh State | | | |
District	Teachers	Students	Others
Balod	1	14	8
Bilaspur	2	3	4
Dhamtari	3	5	1
Durg	68	196	50
Janjir-Champa	7	9	3
Korba	8	9	3
Kawardha	1	2	3
Raipur	1	5	0
Rajnandgaon	1	6	3
Balodabazar	0	1	1
Bastar	0	2	3
Bemetara	0	9	1
Dantewada	0	1	0
Gariaband	0	1	0
Jashpur	0	3	4
Kanker	0	2	3
Koria	0	8	3
Mahasamund	0	5	2
Mugeli	0	1	1
Raigarh	0	3	2
Surguja	0	2	4
Bijapur	0	0	1
Total	92	287	100

Gender wise increasing order of registered teachers and students is male and female. Similarly, Gender wise increasing order of registered others users are female and male. The registration of female teachers and female students is higher than male teachers and male students. It is found that registered male others are more than female others. The graphical way of teachers and students for gender is almost the same. Participation of teachers of Hindi medium is more compared to the teachers of English medium, whereas the participation of students of English medium are more than Hindi medium students. So, the portal is a fairly good response in the Chhattisgarh. It is found that portal accessibility is almost the same for all categories of users. It is also found that the portal is accessed out of Chhattisgarh up to 10% users. For Chhattisgarh, District wise counting of teachers, students, and others are given in Table 8. The maximum participation of teachers, students, and others are 68,196 and 50 respectively, which

are living in the Durg District of the Chhattisgarh. It is found that the portal is more accessing here.

V. CONCLUSIONS

The HSES Knowledge portal is benefited for teachers, students of higher secondary education and other users who are researchers, parent of students and fight the competitive exams. Different counters are developed for the counting of user's of locale, stream, board, gender, medium, and state wise. It is concluded that developed counters save time for this purpose. It is also concluded that different users of different fields are counted and changed after each and every registration of the user which was very challenging work. In the HSES Knowledge portal, the invention of counting system is opened for counting based research work in the future.

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AUTHOR PROFILE

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