

# Intelligent Class Scheduler in Kathmandu University

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Received: April 26, 2018

Accepted: Sep 10, 2018

Published: October 1, 2018

doi:10.5296/jmr.v10i4.13060

URL: <https://doi.org/10.5296/jmr.v10i4.13060>

## Abstract

Imagine the University where everything runs smoothly, there is no need to worry about information that needs to be known where the University shares all information in your ear. Imagine that you know every location of your University and the schedules are relevant. This research focuses on the problem faced by Kathmandu University (KU) students while searching for their lecture room and managing their class schedule. This research is carried out for proposing knowledge portal for an intelligent class scheduling and location directing on the central campus of KU. The quest of the information world to make everyday easier has driven us to come up with the concept of such an app and this research consists of role of knowledge management for the development of an application by sharing and exchange of information between individuals and the administration. The university will be benefited in at least a small way through the paper.

**Keywords:** Knowledge Portal, Schedule, Location Director, Survey

## Introduction

The rapid development of technology has introduced the new way of gaining information and staying alert, which has allow us to walk on precise manner saving time. KU is one of the biggest Universities of the Nepal. It has many schools and departments. KU has been publishing our schedule and post it on the notice boards. Due to lack of communication between administrative and students, the university student face many problems. This research focuses on one of the problem of KU student i.e. the problem of scheduling and location of the KU premises. It is obvious that knowledge is slowly becoming the most important factor for the improvement of an organization and its member (Sher& Lee, 2004). Knowledge management can play an important role to solve this problem. KM is all about the improvement of the acquisition, enhancement and usage of knowledge (Kovačić, Vukšić & Lončar, 2006). Kathmandu University students and staff members do not know each and every location of Kathmandu University central campus. It is difficult to find the targeted block/department. Especially to those students who are new to the university find it difficult to search for their classes. This can cause the students to miss the lectures. Even during exam, students really face hard time to find their examination hall. In case of scheduling, both students and teacher gets in trouble to tackle the overlapping class-room and time schedule. Sometime it happens that two classes are fixed for a same room on same time. So, one class had to be postponed.

This research paper shows the problem faced by KU students and staff member and also tries to give a tentative solution by using knowledge management. Knowledge management is new organizational activities that are improving helps in improving knowledge, knowledge related practices, organizational behavior, decision and organizational performance (Jonsson, 2008). The motivation for this research paper was these were the problems that we faced in Kathmandu University as a student. When we were new to the KU we missed many lectures while searching for our subjected class. The university lacks proper knowledge sharing and transferring which cause bad impact in student life. Knowledge sharing is the exchange of knowledge between individuals of organizational units and organization (King, 2008). With this research we are going to propose a knowledge portal application for the KU if made then it will benefit both KU and student. This app can locate each and every block and department of KU with updated schedule of each class. In this portal people can ask question to administration about location and schedule.

## Methods

The context of this research paper is to implementation of knowledge portal for Kathmandu University based on Knowledge Management in the scheduler and location direction system to enable communication between administration and students of Kathmandu University.

For the study of this research paper participants were the students of Kathmandu University (central campus). Data were collected form questionnaires completed by the student's participation in the study. There were total 25 students that participated in the questionnaire out of which 13 were the bachelor students (2 from 2<sup>nd</sup> year, 3 form 3<sup>rd</sup> year and 6 from 4<sup>th</sup>

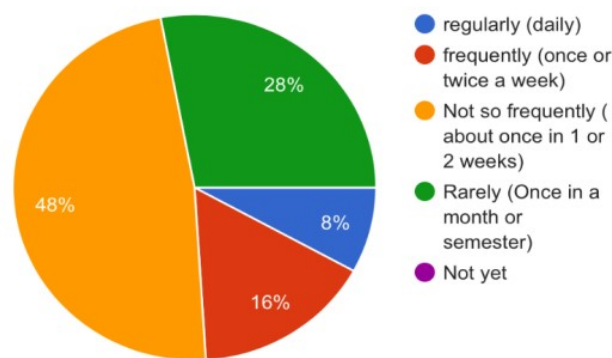
year) and 12 was master students. All the students voluntarily participated for the study. All participants were asked to answer various questions regarding the schedule and KU location. All participants were enthusiastic to answer the question and share their problem they faced while determining their schedule and class routine. For gathering the information and data, Google forms were created to ask various questions to participant. These Google forms were posted on different student group in Facebook. The survey contained questions about class schedule and time consumed while searching for the classes. All the participants were asked to answer the question logically and were told to give the any suggestion if they had any. Feedback and the answer obtained from the participant will be the major factor while implementing the system. These feedbacks gave us knowledge about problem that majority number people are facing.

### Result and Analysis

Data and information of students is collected from survey through Google forms. There were 25 participants, out of whom 13 are undergraduate students and 12 are graduate student. The results obtained from the survey of participants are given below:

#### How regularly do you see the department notice board and schedules?

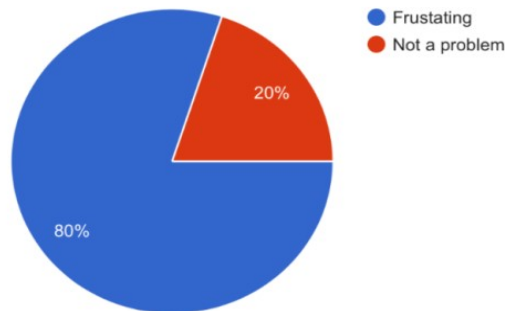
(25 responses)



Here, only 8% of the participants see the notice board and schedule regularly which and 48% of participants see the notice board once in 2 weeks which focuses on our problem.

How hard do you find to search for class during the beginning of the semester?

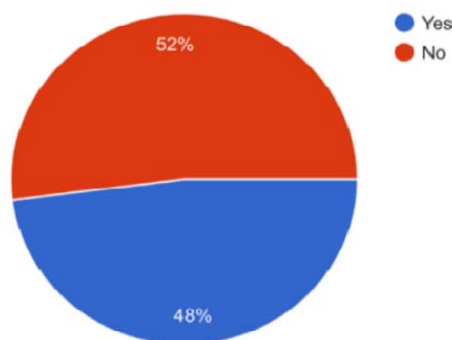
(25 responses)



Here, about 80% of the participants find it frustrating to search for the class during the beginning of the semester. Since searching for the lecture room is time consuming and tedious, majority of participants find it frustrating.

Do you know every location of departments and their block number?

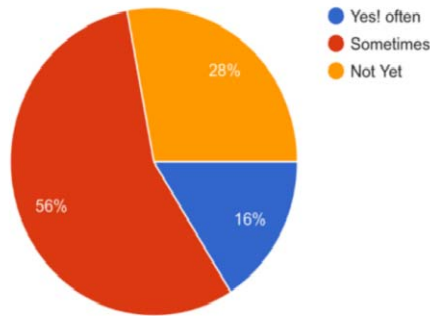
(25 responses)



Majority of our participants were 4<sup>th</sup> year undergraduate and masters students and only 48% of the participants have knowledge about the location and their block number so we can see a major problem here.

**Did you miss any lectures or got late while searching for the class location?**

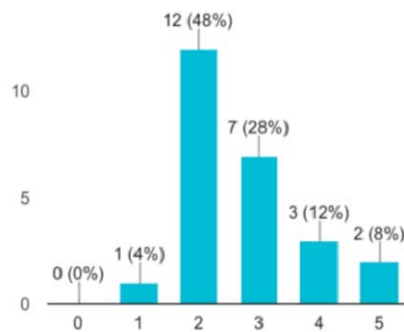
(25 responses)



Here, about 72% of the participants have missed their classes while searching for lecture room which our major concern about this research.

**How many department blocks have you crossed to find your exam seat?**

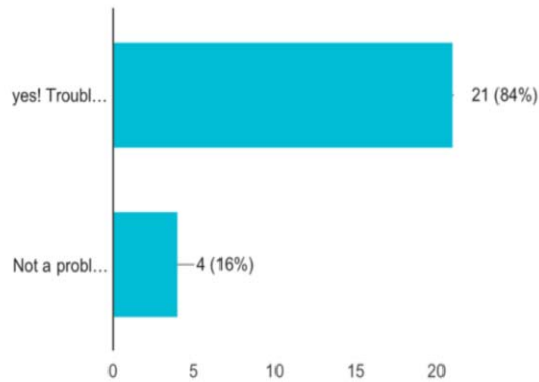
(25 responses)



About 96% of the participants have to cross at least two departments to find their examination hall. Since the time is very precious especially during the examination phase so this one major problem of the KU student.

### Do find it frustrating while searching for your exam seat hall ?

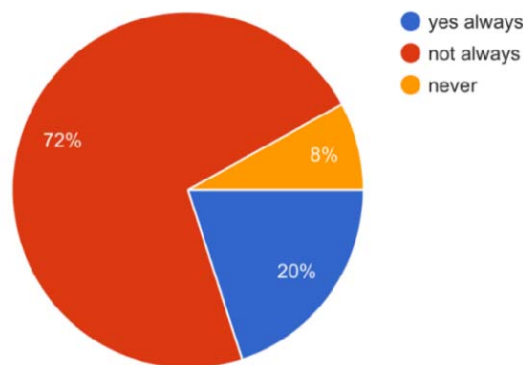
(25 responses)



About 84% of the participants find it troublesome to find their examination hall and their seats as it consumes their valuable time.

### Is your class room schedule relevant?

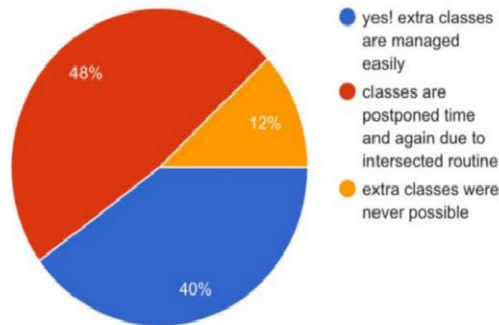
(25 responses)



About 80% of the participants on some point find the class room schedule relevant. This may be due lack of information and knowledge sharing between student and department.

### Does your class manage extra classes easily on specified time and room?

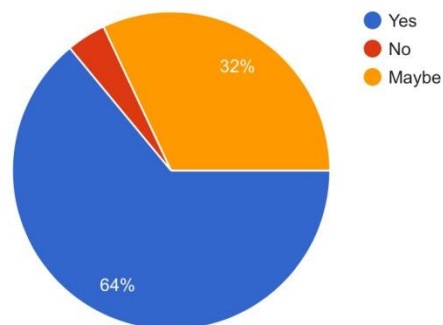
(25 responses)



About 48% of participants find that extra classes are always postponed due to intersected routine and 12% find that extra classes were never possible.

### Would you use an app that shows you the each and every locations and exam hall and that allows you to manage your class schedule?

(25 responses)



About 64% of the participants replied that they would use the application that shows each and every location and exam hall. It shows that majority of students are facing the same problem due to lack of knowledge sharing and management.

What suggestion would you like to provide to the Kathmandu University management system so that it can provide quality and timely services to the students from the university?  
(Optional)  
(9 responses)

Notify the students about exam hall in timely manner
manage class
nothing
manage everything online
Use technologies
<ol style="list-style-type: none"> <li>1. Reception where student/gaurdain can ask fot any thing.</li> <li>2. Every notice will be like digitalize</li> <li>3. Idea of making app was good but they have to manage and update the app</li> </ol>
creating an app for locating room and schedule of teacher's classes

Above figure is the feedback of the participants after survey. Here, most of the participants desired an application to notify them the about the schedule change and location of their examination hall. The development of knowledge portal as a result of this research can minimize and reduce the student’s problem and save the time of students.

**Discussion and Conclusion**

The KM technologies have intrinsic and infallible capability of getting the right information to the right person at the right time (Keith,Tig& Kathryn ,2002). Knowledge Management (KM) is a process that deals with the development, storage, retrieval, and dissemination of information and expertise within an organization to support and improve its business performance(Gupta, Iyer&Aronson,2000). Skeptics of technology have observed that real knowledge is created and applied in the processes of socialization, externalization, combination, and internalization (Nonaka and Takeuchi, 1995) and outside the realm of KM technologies. Various KM tools and techniques such as survey, questionnaire and on-site observation have been used to capture the knowledge. KM is the management of corporate knowledge that can improve a range of organizational performance characteristics by enabling an enterprise to be more "intelligent acting" (Wiig, 1993). Knowledge is naturally transferred in every organization whether or not the process has been managed at all.

It is necessary to understand the situation and how the service sector develops knowledge management strategy. Knowledge Management System can play an important role to make organization better.



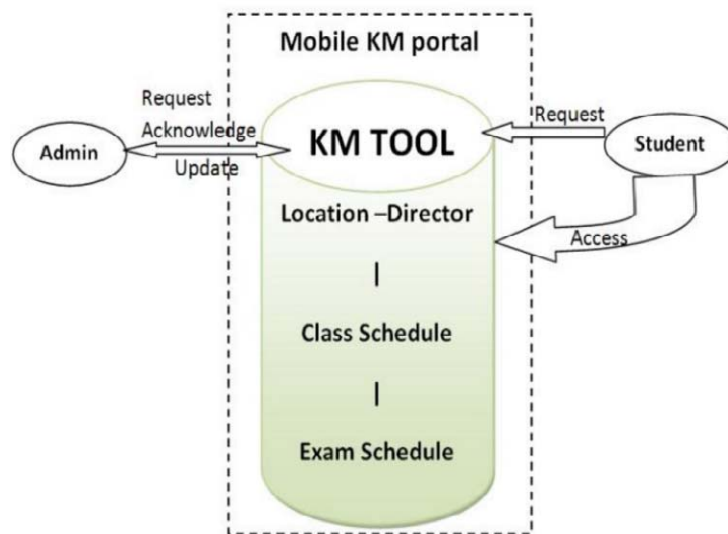


Figure 1. Knowledge Management System

This knowledge is created and implemented by part an administration management and university students and stored in the database of mobile knowledge portal. It is the repositories of various information such as student and teacher information, availability of each room and their capacity, direction for the location of specific room in specific department block, information of each student with their seat location in their exam session and the availability of scheduled information for class room management in an organized manner that is captured through various tools and techniques and shared through websites and tool-kits. It provides mass collection of accumulated knowledge in a specific area at finger tips. Through this portal they get information, transform into knowledge, and use to make a decision based on their needs and availability which then will be acknowledged and approved by an administration on their proper request command.

The evolving paradigm of technology architectures and growing popularity of the web services architecture (based upon XML, UDDI, SOAP, and WSDL) is expected to support the realization of real-time deployment of business performance driven systems based upon the proposed model (Keith, Tig & Kathryn 2002) .

A sense-and-respond KM system that can respond in real time would need to consider the holistic and collective effect of (Keith, Tig & Kathryn 2002): Real-time deployment in terms of tech and human infrastructure (inputs); Real-time utilization in terms of what is done about or with information (processing); and Real-time performance in terms of how it delivers facility performance (outcomes).

The organization should encourage knowledge sharing among its people in the university by creating places and giving opportunities for employees to interact formally that is through knowledge portal.

In conventional life, finding the desired location in the university has been the major problem for the students and other university people in their busy schedule. Students attend late on

their class lecture due to the irrelevant class schedule and location routine fixtures. In exams, students face a problem to find their seat location and hover over numbers of block which deprives them from utilizing their time to prepare and moreover they get let which may be the cause to be disqualified for the exam. In such cases, application like Location Director which helps to navigate our desired location on map would be fruitful for our précised routine and advance the knowledge sharing.

The proposed system is able to address the existing problems but still have some limitations. Most of the administrative works of the university are still unknown so the information and data in the knowledge portal is limited. The fact is- there is very thin layer of connection between students and the university administration, due to which complete information is not shared in the knowledge portal itself. So, for the betterment of the system, the scope has to be broadened and knowledge portal should contain enough of the information required for the facility of students and teachers in the university.

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