## ***BACKGROUND OF THE ORGANIZATION***

Independent University, Bangladesh, founded in 1993, is one of Bangladesh's oldest private universities with strong commitment towards Research & Global Partnerships. IUB students have a vibrant academic life with many possibilities to discover and enhance their natural abilities. IUB is dedicated to producing graduates who will be able to create new leadership through skilled employment by employing clever and modern educational methodologies.The campus is laid out on three acres and is well-equipped with state-of-the-art laboratories and classrooms in hundreds. The student population is expected to increase by 10% per year. IUB has three academic terms: Spring, Summer and Autumn. A projection shows that the student population will grow well over 10% annually.

There are 5 different Academic Schools in IUB:

School of Business and Entrepreneurship (SBE)

School of Engineering, Technology and Science (SETS)

School of Environment and Life Sciences (SELS)

School of Liberal Arts and Social Sciences (SLASS)

School of Pharmacy and Public Health (SPPH).

Each school offers numerous undergraduate & graduate programmes to students & students have the ability to choose their preferred course at their preferred time slots. Students can use IUB’s web application called IRAS to perform course registration and it provides some more additional functionalities to both students & faculties alike. Departments can use the previous enrollment data from IRAS for predicting growth trends and section arrangement for their courses. They do this by compiling previous enrollment data into a Tally sheet.

## ***BACKGROUND OF THE PROJECT***

The goal of this project is to develop a software based on web-based system that will assist IUB in obtaining a comprehensive analysis of the revenue generated by the schools, achieve a comparative analysis of classroom requirement & classroom allocation for different schools and give a comparative analysis of unused resources for each school in IUB. All the comparative analysis will be provided in graphs & charts to help in understanding the differences. It will provide a set of tools to help universities and other stakeholders assess their resources and revenue while also formulating improvement strategies. With an ever-increasing number of students comes the necessity to effectively manage campus resources.

## ***OBJECTIVE OF THE PROJECT***

The major goal of developing this system is to build a user-friendly system that will allow IUB to calculate the revenue income of the schools for any given semester and will also help in providing a visual representation of the classroom requirements & allocation of each schools for any given semester, number of sections in each school that has a certain no. of students enrolled, no. of sections offered across certain departments for a selection of class sizes and resource utilization. The university has a lot of work to perform, such as determining how many classrooms the university has, how many students have enrolled in different departments, and how much revenue is generated by the different schools in IUB. This type of work requires a lot of time and calculations, but with the help of our system, all this data will be displayed in the form of tables and charts in a matter of seconds, saving time and making it easier.

***SCOPE OF THE PROJECT***

All data required for generating meaningful analysis of concerns such as Resource Generated or Classroom Requirements and other topics are entered into the existing system for each semester by hand and all the employees have to contact multiple offices to extract the necessary information required and also have to do all the necessary computation by hand. But all of this inconvenience can be solved by setting up a centralized database from which all the necessary data can be retrieved in the form of tally sheets all at once. The tally sheets can then be uploaded into a system that extracts all the data and performs the necessary computations to generate useful tables and graphs based on the user's requirements.

# **LOGICAL SYSTEM DESIGN**

## **BUSINESS RULE**

Our system is under development with the goal of helping IUB to allocate it’s finite resources and track revenue data more efficiently as no. of students increases with each passing semester. Here we’ve described some of the business rules of our system.

1. A Department can be under one School but one School may have one or more than one Departments.

2. One Department offers multiple academic programmes but one programme belongs to exactly one department.

3. A student may take one academic programme but one programme is done by multiple students

4. One Programme may offer multiple Courses. However, One Course belongs to exactly one programme.

5. A Course may have at least one and or more Sections. However each Section must be under one course. Section instance cannot exist without being assigned to a Course.

6. A Faculty works under exactly one Department but A Department may have multiple faculties working under it.

7. A Faculty may manage one Department. Similarly one Department is managed by exactly one Faculty.

8. A Course can be assigned to only one faculty. However One Faculty may take multiple courses.

9. A Section is assigned to one Classroom. However, one Classroom maybe assigned to many sections at different allotted times.

10. A Student may enroll for one or multiple Courses in a semester. However one course is assigned to multiple students.

11. A Student may enroll in one section of one course in a semester. However, one section of one course may have multiple students.

12. One adviser can advise many students but One Student has exactly one adviser.

13. A department have many students but one student belongs to one department.