SIX ELEMENTS ANALYSIS

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| **Process** | **System Roles** | | | | | |
| **Human** | **Non-Comp**  **Hardware** | **Computing**  **Hardware** | **Software** | **Database** | **Network &**  **Commination** |
| Student registers for courses | **Department Head**  1.Updates offered courses list in IRAS.  **Students**  1.Logs into their IRAS account and registers for their required courses from the offered course list. | **Pen & Paper**  1.To note down course section, timing etc. If needed | **Computer/**  **Phone**  1.To log into IRAS for updating course information by the department  2. To log into IRAS for course registration by the students | **IRAS**  1.Provides user interface for registering for courses, updating course information  **Browser**  1.Any browser can be used to access IRAS e.g:  Chrome, Firefox etc. | **IRAS database server**  1.IRAS database server is used for storing course information, registered student information | **Internet**  1.Internet is required for accessing IRAS |

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| Students pay for registered courses | **Student**  1. Students have to login to IRAS by entering the student id and password  2.Go to Bills tab and select Pay Online option if they want to pay the fees online  and pay it through the payment gateway  **Or**  1.After login they can download the bills from the Bills tab and print it.  2. Go to any branch of Dhaka b  Bank or Mutual Trust Bank and pay it.  **Or**  1.Make a BEFTN transfer from their SCB account | **Paper/Debit card**  1.Printed bills to pay in bank  2.Debit or credit card for paying online | **Computer/**  **Smart Phone**  1) Used for accessing IRAS and payment gateway  **Printer**  1) For printing the bill. | **IRAS**  1) Provides user interface for viewing and downloading bills.  **Payment gateway**  1.Provides user interface for making payments  **Browser**  1. Any browser can be used to access IRAS  e.g. Chrome, Firefox  **Adobe Acrobat Reader**  1) For viewing the bill which is in pdf format. | **IRAS database server**  1.IRAS database server is used for storing and receiving payment information of students  **Bank database server**  1.Used to store transaction information of students against IUB account | **et**  1. Internet is required for accessing IRAS and payment gateway |

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| Bank receives payment and sends payment updates to IUB DBMS | **Bank Employee**  1.Employee receives the payment and enters the payment information on the Bank's system. | **Pen/Paper**  **1**.Printed bill, pen & stamp to mark reception of payment. | **Computer**  1.Used for accessing the Bank's system and entering the payment data. | **Payment Gateway**  1.Receives the payment and sends the information to IRAS and bank.  **Bank System**  1.Bank's system to enter payment data  **Browser**  1.Any browser an be used to access IRAS. e.g. chrome, | **Bank database server**  1.It stores all the transaction details against IUB account.  **IRAS database server**  1.It stores all the transaction details of students.  **Payment gateway server**  1.It stores all the transaction details of online payment | **Internet**  1. Internet is required for accessing Bank's system and sending payment information to IRAS server |

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|  | Instructor takes student attendance | | **Instructors**  1.Instructor logs into IRAS using ID and password.  2.Selects the respective class and takes attendance.  3.Submits the attendance in IRAS | |  | | **Computer**  1.Computer is used for taking attendance | **IRAS**  **1**.Provides user interface for taking attendance.  **Browser**  1. Any browser can be used to access IRAS  e.g. Chrome, Firefox | | **IRAS database server**  1.IRAS database server stores the attendance information.  **Department Database server**  **1.**The attendance report is sent to department server from IRAS server. | | **Internet**  1.Internet is needed to access IRAS | |
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| Department Updates student report and grade | | **Instructor**  1.Instructor submits the grades to the department. | |  | | **Computer/Smart devices**  1.Instructors can mail the grade report to the department or update in IRAS | | | **Microsoft Excel**  1.Grade report can be made using Excel sheet.  **Browser**  1.Any browser can be used to submit the grade through mail or update in IRAS | | **IRAS database server**  **1.**IRAS database server stores student grade information. | | **Internet**  1.Internet is needed to access IRAS. | |

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| IRAS sends report to Board members and Trustees | **Board Members/Trustees**  1.They can log in to IRAS and view reports of all department e.g. school of engineering, accounts department etc. |  | **Computer/Phone**  **1.**A computer device is need to access IRAS. | **IRAS**  1.Provides user interface for viewing reports.  **Browser**  1. Any browser can be used to access IRAS  e.g. Chrome, Firefox | **IRAS database server**  1.IRAS database server stores all reports. | **Internet**  1) Internet is required for accessing IRAS |