Turnitin Originality Report

Processed on: 02-Feb-2021 17:09 +06
ID: 1499828992
Word Count: 5950
Submitted: 1

171-35-1979 By Md Sabbir Ahammed

Similarity Index	Similarity by Source		
20%	Internet Sources:	17%	
	Publications:	0%	
	Student Papers:	12%	

4% match (student papers from 11-Apr-2018)
Class: April 2018 Project Report
Assignment: Student Project
Paper ID: 944874623

2% match (Internet from 10-Jan-2020)
http://dspace.daffodilvarsity.edu.bd:8080/bitstream/handle/123456789/3551/P13655%2823%25%29.pdf?
isAllowed=y&sequence=1

2% match (Internet from 01-Apr-2020)
https://www.slideshare.net/RaihanMahmud5/remote-doctor-project-report

2% match (student papers from 15-Jan-2014)
Submitted to Informatics Academy Pte Ltd on 2014-01-15

2% match (Internet from 20-Feb-2020)
http://dspace.daffodilvarsity.edu.bd:8080/bitstream/handle/123456789/3548/P13650%20%2828%25%29.pdf?
isAllowed=y&sequence=1

1% match (Internet from 08-Jun-2020)
http://dspace.daffodilvarsity.edu.bd:8080/bitstream/handle/123456789/3677/P13397%20%2824%25%29.pdf?
isAllowed=y&sequence=1

1% match (Internet from 12-Nov-2020)
https://text-id.123dok.com/document/wq21kdey-ta-rancang-bangun-sistem-pemesanan-makanan-berbasis-j2me-pujasera-
online.html

1% match (Internet from 20-Dec-2019)
http://dspace.daffodilvarsity.edu.bd:8080/bitstream/handle/123456789/3545/P13643%20%2816%25%29.pdf?
isAllowed=y&sequence=1

1% match (student papers from 10-Nov-2020)
Submitted to Institute of Research & Postgraduate Studies, Universiti Kuala Lumpur on 2020-11-10

1% match (Internet from 18-Jul-2020)
https://docbox.etsi.org/STF/Archive/STF285_HF_MobileEservices/STF285%20Work%20area/Setup/DraftEGs/Setup%20DEG202416_Version2_99_I

1% match (Internet from 06-Jan-2020)
http://dspace.daffodilvarsity.edu.bd:8080/bitstream/handle/123456789/3547/P13646%20%2824%25%29.pdf?
isAllowed=y&sequence=1

< 1% match (Internet from 22-Dec-2019)
http://dspace.library.daffodilvarsity.edu.bd:8080/handle/20.500.11948/3056?show=full

< 1% match (Internet from 13-Nov-2020)
https://widuri.raharja.info/index.php?title=SI1322476493

< 1% match (Internet from 29-Aug-2016)
https://www.safaribooksonline.com/library/view/official-isc2-guide/9781439826058/cover.xhtml

< 1% match (Internet from 02-Jun-2017)
http://zetcode.com/lang/csharp/csharp/

< 1% match (student papers from 19-Nov-2015)
Submitted to University of Ulster on 2015-11-19

< 1% match (student papers from 31-Aug-2016)
Submitted to Macquarie University on 2016-08-31

< 1% match (student papers from 29-Oct-2008)
Submitted to University of Greenwich on 2008-10-29

< 1% match (student papers from 04-Jan-2013)
Submitted to University of Sunderland on 2013-01-04

< 1% match (Internet from 04-Nov-2019)
https://navigatorsystem.com/author/nspl2017/

< 1% match (student papers from 11-Mar-2011)
Submitted to University of Bradford on 2011-03-11

Project Documentation Research Coordinating System Supervised by Nusrat Jahan Senior Lecturer Submitted by Md Sabbir Ahammed 171-35-1979 Department of Software Engineering Daffodil International University Fall-2020 Acknowledgement At first, I express my heartiest thanks and gratefulness to almighty Allah for divine blessing made it possible to complete this project successfully. I feel grateful to Nusrat Jahan, senior Lecturer, Department of Software Engineering, Daffodil International University. Deep knowledge keen interest of my supervisor in the field of technology influenced me to carry out this project. His endless patience, scholarly guidance, continual encouragement, constant and energetic supervision, constructive criticism, valuable advice, reading many inferior drafts and correcting them at all stage have made it possible to complete this report. I would like to express my heartiest gratitude to Dr. Imran Mahmud, Head of the department, Department of SWE, Daffodil International University, for his kind help to finish my project and to other faculty member and all other staffs. Finally, I must acknowledge with due respect the constant support and patience of my family. ii Table of Content Acknowledgement 1. Introduction 1.1 Project Overview 1. 2 Project Purpose 1. 2.1 Background 1. 2 .2 Benefits & Beneficiaries 1. 3 Stakeholders 1.4 Proposed System Model 1.5 Project Schedule 1.5.1 Gantt Chart 1.5.2 Release Plane /Milestone 2. Software Requirement Specification 2 .1 Functional Requirements 2 .1. 1 Log In 2.1.2 Update Profile 2.1.3 Register New User 2.1.4 Assign Coordinator 2.1.5 Assign Task 2.1.6 Submit Paper Details 2.1.7 Report Writing 2.1.8 Log Out 2.2 Performance Requirements 2.2 .1 Speed and Latency Requirements 2 .2. 2 Precision or Accuracy Requirements 2 .2.3 Capacity Requirements 2.3 Dependability Requirements 2.3.1 Reliability Requirements 2.3.2 Availability Requirements 2.3.3 Robustness or Fault-Tolerance Requirements 2.3 .4 Safety-Critical Requirements 2.4 Security Requirements 2.4.1 Access Requirements 2.4.2 Integrity Requirements 2.4.3 Privacy Requirements 2. 5 Usability and Human-Interaction Requirements 2.5.1 Personalization and Internationalization Requirements 2. 5.2 Understandability and Politeness Requirements 2.5.3 Accessibility Requirements ii 1 1 1 1 2 2 3 4 4 4 5 5 5 5 6 6 6 7 7 7 7 7 8 8 8 9 9 9 9 9 9 iii 2.5.4 User Documentation Requirements 2.5.5 Training Requirements 2. 6 Look and Feel Requirements 2. 6.1 Appearance Requirements 2.6. 2 Style Requirements 2.7 Operational and Environmental Requirements 2.8 Legal Requirements 3. System Analysis 3.1 Use Case Diagram 3.2 Use Case Description 3.3 Activity Diagram 3.4 System Sequence Diagram 4. System Design Specification 4.1 Class Responsibilities Collaboration 4.2 Class Diagram 4.3 Database Design Diagram 4 .4 Development Tools & Technology 5. System Testing 5.1 Testing Features 5.1 .1 Features to be Tested 5.2 Testing Strategies 5.2.1 Unit Testing 6. User Manual 6.1 User Manual (Admin) 6.2 User Manual (Coordinator) 6.3 User Manual (Faculty) 7. Project Summary 7.1 GitHub Link 7.2 Limitations 7.3 Future Scope 8. References 8.1 Documentation Idea 8.2 System Requirement Specification 8.3 Structure and Architecture 8.4 Unified Modeling Language 8.5 Testing 8.6 Tools and technologies 9 10 10 10 10 10 10 11 12 23 34 41 42 43 43 45 45 45 45 47 49 51 53 53 53 54 54 54 54 54 54 54 iv List of Figures 1.1 Block Diagram 1.2 Release Plan/Milestone 3.2 Use Case Diagram 3.2 Activity Diagram (Log In) 3.3 Activity Diagram (Manage Profile) 3.4 Activity Diagram (Assign Coordinator) 3.5 Activity Diagram (Register New Faculty) 3.6 Activity Diagram (Assign Task) 3.7 Activity Diagram (View Task) 3.8 Activity Diagram (Submit Task) 3.9 Activity Diagram (Notification) 3.10 Activity Diagram (Report Writing) 3.11 Activity Diagram (Paper Details) 3.12 Activity Diagram (Log Out) 3.13 Sequence Diagram (Log In) 3.14 Sequence Diagram (Manage Profile) 3.15 Sequence Diagram (Assign Coordinator) 3.16 Sequence Diagram (Register New User) 3.17 Sequence Diagram (Assign Task) 3.18 Sequence Diagram (View Task) 3.19 Sequence Diagram (Submit Task) 3.20 Sequence Diagram (View Notification) 3.21 Sequence Diagram (Report Writing) 3.22 Sequence Diagram (Paper Details) 3.23 Sequence Diagram (Log Out) 4.1 CRC Cards 4.2 Class Diagram 4.3 Database Design Diagram 6.1 Admin Dashboard 6.2 Register New User 6.3 Assign Coordinator 6.4 Coordinator Dashboard 6.5 Register Mew Faculty 6.6 Report Writing 6.7 Faculty Dashboard 6.8 Paper Details 6.9 Tasks 3 4 11 23 24 25 26 27 28 29 30 31 32 33 34 35 36 36 37 37 38 38 39 40 40 41 42 43 47 48 48 49 50 51 51 52 52 v List of Tables 1.1 Gantt Chart 2.1 Log In 2.2 Update Profile 2.3 Register New User 2.4 Assign Coordinator 2.5 Assign Task 2.6 Submit Paper Details 2.7 Report Writing 2.8 Log Out 2.9 Capacity Requirements 2.10 Reliability Requirements 2.11 Availability Requirements 2.12 Access Requirements 2.13 Style Requirement 3.1 Log In Description 3.2 Manage Profile Description 3.3 Assign Coordinator Description 3.4 Register New Faculty Description 3.5 Assign Task Description 3.6 View Task Description 3.7 Submit Task Description 3.8 View Notification Description 3.9 Submit Report Description 3.10 Input Paper Details Description 3.11 Log Out Description 5.1 Unit Test (Log In) 5.2 Unit Test (Register New User) 5.3 Unit Test (Assign Coordinator) 5.4 Unit Test (Adding Paper Details) 5.5 Unit Test (Assign Task) 4 5 5 5 5 6 6 6 7 8 9 10 12 13 14 15 16 17 18 19 20 21 22 45 45 46 46 46 vi Chapter 1: Introduction 1.1 Project Overview Research Coordinating System is a web-based application, which will help the faculty members to manage the working schedule for publishing process. Only the faculty members are allowed to use the system. For this, they need to be registered by an admin or a coordinator type user of this system. After successfully registered, a faculty member can submit their research paper details. System will check if the paper title is already submitted or not. If not, the system will accept the submission. The coordinator can check the paper details submitted by the faculty members and can make an overall report. Then he/she can send the report to the system admin. The admin can check the report, can assign tasks regarding the report to the coordinator. The coordinator will receive the tasks assign by the admin with due dates. Then he/she will pass those tasks to the faculty members according to their research papers. The admin can also promote a user as a coordinator and demote a coordinator to a faculty member. 1.2 Project Purpose This "Research Coordinating System" will help the faculty members of a department to easily manage their research paper publishing process and keep track of their work schedule. So, the main purposes of this system could be: • Managing research paper publishing process • Keeping track of work schedule • Working remotely • Distributing tasks easily 1.2.1 Background Many new things are discovered or being improved day to day. Universities are playing a vital role in this race. As a result, it's getting harder for the faculty members to cope with their research and publishing processes at a time. A lot of students want to complete their research and publish their paper during their graduation. So, every faculty member needs to go through more than one or two research papers of their students. Besides they have to keep track of publishing processes of their department. Keeping all those difficulties in mind, the "Research Coordinating System" web-based application have been developed. It will automate many processes and will help the faculty members to keep track of their work. They will also have the benefit of working remotely. 1.2.2 Benefits & Beneficiaries The project is all about to create a hub and repository of academic research papers and publications. There had the system before where all these tasks which are described below had to be maintained manually and therefore the reason it was very difficult to keep the track up to date and stockholder had to suffer very much. Admin and coordinator as well as all the stockholders will be the beneficiaries by using the system actually. Faculties don't need to submit papers through email or post and it's redundant to wait for the confirmation from the coordinators and these things were nothing but incertitude. Admin and coordinator will not have to wait and overcome the

unnecessary delay to maintain the typical procedure. Every stockholder has their role and activity well defined and easy to use and I hope all these above circumstances help to make you understand the benefits. 1.3 Stakeholders There are three stakeholders in the "Research Coordinating System". They are- • Admin: Admin is assigned automatically when the project start. Admin can assign user types and tasks to other users. • Coordinator: Coordinator can register new users as faculty members and can assign tasks for them. • Faculty: When an admin or coordinator register a new user to the system, he/she is considered as faculty member. A faculty member can submit paper details and tasks assigned by the coordinator. Tasks for him\her appear in his\her task menu. 1.4 Proposed System Model Figure 1.1: Block Diagram 1.5 Project Schedule 1.5 .1 Gantt Chart Table 1. 1: Gantt Chart 1. 5 .2 Release Plane/Milestone Figure 1.2: Milestone Chapter 2: Software Requirement Specification 2.1 Functional Requirements Functionality requirements refers to the functions included in the system to understand the functionality requirements application. If an application is created, then of course functional requirements are required. Here I am going to discuss the functional requirements of the "Research Coordinating System". 2.1.1 Log In Table 2.1: Log In FR-1 Log In Description Admin can log in to this system with his/her login credentials. After registered and promoted by the admin coordinator and faculty can also log in to this system with credentials. Stakeholders Admin, Coordinator, Faculty Priority High 2.1.2 Update Profile Table 2.2: Update Profile FR-2 Update Profile Description Users of this system can update his/her profile after he/she is logged in. Stakeholders Admin, Coordinator, Faculty Priority Low 2.1.3 Register New User Table 2.3: Register New User FR-3 Register New User Description Admin and Coordinator can register a new user for this system with necessary information. Stakeholders Admin, Coordinator Priority High 2.1.4 Assign Coordinator Table 2.4: Assign Coordinator FR-4 Assign Coordinator Description Admin can promote a faculty member as a coordinator. He/she can also demote a coordinator to faculty member. Stakeholders Admin Priority High 2.1.5 Assign Task Table 2.5: Assign Task FR-5 Assign Task Description Admin can assign tasks for coordinator and coordinator can assign task for faculty members. Stakeholders Admin, Coordinator Priority Medium 2.1.6 Submit Paper Details Table 2.6: Submit Paper Details FR-6 Submit Paper Details Description Faculty members can submit paper details about their research in the system they want to publish. Stakeholders Faculty Priority Medium 2.1.7 Report writing Table 2.7: Report Writing FR-7 Report Writing Description Coordinator can make a report of overall paper details based on category after all the faculty members submitted their paper details. Stakeholders Coordinator Priority Medium 2.1.8 Log Out Table 2.8: Log Out FR-8 Log out Description Users of this system can log out from the system. All the session records will be destroyed from the browser immediately. Users need to log in again in order to do something in the system. Stakeholders Admin, Coordinator, Faculty Priority High 2.2 Performance Requirements Performance requirements determine how effective the system is in a given situation. Examples include software response speed, throughput, execution time and storage capacity. Service levels with performance requirements often support end-user tasks. 2.2.1 Speed and Latency Requirements System's response time during working schedule is a major fact that specify an application's quality. Overall response time of this system is good. Speed of a web application also depends on its host. It can be said that, with a good hosting facility the "Research Coordinating System" will work perfectly smooth and quick. 2.2.2 Precision or Accuracy Requirements Accuracy of data provide by a system is mandatory for a good quality of system. This system provides 100% accurate data with the right authorization. In this system, I used unit of work for the surety of providing 100% accurate data. In this case if something goes wrong during collecting data from a user, the system will role back the whole process and the collecting process will start again for accuracy. 2.2.3 Capacity Requirements Advanced systems must be able to manage user data, provide accurate information, manage databases, manage http requests. Table 2.9: Capacity Requirements CR-1 The system will handle more than thousands of data Description The system needs to handle thousands of data every moment Stakeholders Admin, Coordinator, Faculty Priority High 2.3 Dependability Requirements Dependability is measured on the basis of four dimensions. Like: 2.3.1 Reliability Requirements Table 2.10: Reliability Requirement RR-1 The system will available 24*7 Description This system will give service to its user all day long, will be malware free and will be updated when needed. Stakeholders Admin, Coordinator, Faculty Priority Medium 2.3.2 Availability Requirements It is important to ensure a Zero percent crash to ensure error tolerance benefits for end users. It's also mandatory to shows accurate results. Table 2.11: Availability Requirement AR-1 The system handles every user access without errors Description It's possible that all the user tries to log in or doing something in the system at a time. In this situation system must handle their request without system errors. Stakeholders N/A Priority Medium 2.3.3 Robustness or Fault-Tolerance Requirements Providing after service and support to the end user is very important. 2.3.4 Safety-Critical Requirements Scalability requirements define specific scalability requirements for stakeholders. This system is designed for maintenance, avoiding single points of failure and supplying as much as necessary data. 2.4 Security Requirements Software security requirements should be its functional requirement. Software protection implements the protection of an application. Software security related functionality can be either directly tested or monitored. Below are some safety requirements: • A proper way of sign in. • Sign in credentials shouldn't be disclosed to anyone in any situation. • Gaining access according to the user type. • Proper control swapping in the time of promote and demote • Denying unauthorized registration • Clearing session properly as a user log out When users access the system, each and every module must be supplied from the central authentication process. 2.4.1 Access Requirements Table 2.12: Access Requirement ACR-1 Application Provides Secure Log In System Description Each and every step of the system designed in such a way that it only allows the authorized users. Stakeholders N/A Priority High 2.4.2 Integrity Requirements Integrity requirements refer to a security system that ensures data quality expectations. It also ensures that all data on the system is never exposed to malicious changes or unexpected destruction. 2.4.3 Privacy Requirements Ensuring the privacy of system users is very important. To ensure privacy, the central database is protected by anonymity. Users are allowed access to the data they are authorized to use. 2.5 Usability and Human-Interaction Requirements Systems may fail for usability. That's shy I build this application very user friendly, easy to understand and easy to manage. 2. 5 .1 Personalization and Internationalization Requirements There is no personalization and internationalization requirements. 2. 5.2 Understandability and Politeness Requirements This system is built for organizational use. The interface is designed in a way that is very easy to understand. There are diagrams to fully understand the systems main working mechanism. 2.5.3 Accessibility Requirements This system is built for organizational use only. So, I prefer that only the registered users have the accessibility for the system. And no one can register himself. Only the admin and coordinator can register a user. Then the user will be a valid user for the system. 2.5.4 User Documentation Requirements There is no user documentation required in the system. 2.5.5 Training Requirements No training requirements needed for this system. 2.6 Look and Feel Requirements If a system does not look structured, users feel annoyed and does not want to go further. There are requirements to see and feel what the system will look like and how the system's user interface or graphical user interface will be displayed to users. 2.6.1 Appearance Requirements The system is built in an understandable way that the users can easily use. For an example if admin added a task for coordinator, then the coordinator will be notified about his/her task. Accordingly, faculty members will be notified if coordinator add any task for them. Also, they can check if the task is completed by the users they appointed for. Users will understand the system very easily after they started working in it. 2.6.2 Style Requirements Table 2.13: Style Requirement SR-1 All content must be appearing within a format Description Input field and other view result show a specific format Stakeholders Admin, Coordinator, Faculty Priority Medium 2.7 Operational and Environmental Requirements There are no operational and environmental requirements in this system. 2.8 Legal Requirements There are no legal requirements in this system. Chapter 3: System Analysis 3.1 Use Case Diagram Figure 3.1: Use Case Diagram for "Research Coordinating System" 3.2 Use Case Description 3.2.1 Log In Table 3. 1: Log In Use Case Title Log In Goal Entering the dashboard according to user type Preconditions Must be a registered user Success End Condition Successfully logged in to dashboard Failure End Condition Incorrect Email or Password Primary Actor: User Secondary Actor: System Trigger Log in button Description Main Success Scenario Step Action 1 User Input log in credentials 2 Log in successful to dashboard 3 User can use his/her dedicated work flows Alternative Step Branching Action 1 Input incorrect or unregistered data 2 Log in failed due to incorrect credentials Quality Requirements Step Requirements N/A 3. 2 .2 Manage Profile Table 3.2: Manage Profile Use Case Title Manage Profile Goal Updating Name or adding phone number Preconditions Must be a logged in Success

End Condition Well formatted data for required field Failure End Condition Using bad formatted data for required field Primary Actor: User Secondary Actor: System Trigger Edit Profile Menu Description Main Success Scenario Step Action 1 User click edit profile 2 User serve needed information 3 Profile updated Alternative flows Step Branching Action 1 Input incorrect information 2 Update failed Quality Requirements Step Requirements N/A 3.2.3 Assign Coordinator Table 3.3: Coordinator Assign Use Case Title Assign Coordinator Goal Promoting a Faculty member as a Coordinator Preconditions Must be logged in as an admin Success End Condition The targeted user must be a registered faculty member Failure End Condition The targeted user is already a Coordinator or an Admin or is not registered yet Primary Actor: Admin Secondary Actor: Faculty Trigger Assign Coordinator Menu Description Step Action Main Success Scenario 1 User must be an Admin 2 Target the user needed to assign as Coordinator 3 Click on Edit role and select Coordinator Alternative flows Step Branching Action 1 Selecting Faculty again instead of Coordinator 2 Targeting a Coordinator for assigning as coordinator Quality Requirements Step Requirements N/A 3. 2 .4 Register New Faculty Table 3.4: Register New Faculty Use Case Title Register New Faculty Goal Adding a user as faculty member in the system Preconditions Must be logged in as Coordinator or Admin Success End Condition Serving valid information to the system Failure End Condition Serving invalid information to the system Primary Actor: Admin, Coordinator Secondary Actor: Faculty Trigger Register New Faculty from Menu Description Step Action Main Success Scenario 1 Logged in as Coordinator or Admin 2 Supplying valid information 3 Registered user successfully Alternative flows Step Branching Action 1 Supplying invalid information 2 Incorrect information causes registration failure Quality Requirements Step Requirements N/A 3.2.5 Assign Task Table 3.5: Assig Task Use Case Title Assign Task Goal Assigning task for the coordinator and faculty to progressing the publishing process Preconditions Logged in as Admin or Coordinator Success End Condition Providing valid information about task Failure End Condition Providing invalid information about task Primary Actor: Admin, Coordinator Secondary Actor: Faculty Trigger Task from the side menu Description Step Action Main Success Scenario 1 Providing task including needed information 2 Selecting candidate for this task 3 Select deadline for the task Alternative flows Step Branching Action 1 Incomplete information about task 2 Task couldn't be assigned Quality Requirements Step Requirements N/A 3. 2 .6 View Task Table 3.6: View Task Use Case Title View Task Goal View tasks that assigned by the user and for the user Preconditions Must be a registered user Success End Condition Tasks must be assigned Failure End Condition No tasks assigned Primary Actor: Coordinator, Faculty Secondary Actor: Admin, Coordinator Trigger Task from side menu Description Step Action Main Success Scenario 1 Click task menu from side menu bar 2 View tasks assigned for me and assigned by me 3 Click on the specific one to view details Alternative flows Step Branching Action 1 Request for view tasks 2 No task assigned Quality Requirements Step Requirements N/A 3. 2 .7 Submit Task Table 3.7: Submit Task Use Case Title Submit Task Goal Submit the assigned task before deadline Preconditions Logged in and tasks must be assigned Success End Condition Tasks submitted successfully Failure End Condition Tasks is not submitted Primary Actor: Coordinator, Faculty Secondary Actor: Admin, Coordinator Trigger Task from side menu bar Description Step Action Main Success Scenario 1 Select the task that need to be submitted 2 Upload the file that contains submission content 3 Assigner receive the file successfully Alternative flows Step Branching Action 1 Submitting without content file 2 Submitting file without any content Quality Requirements Step Requirements N/A 3. 2 .8 View Notification Table 3.8: View Notification Use Case Title View Notification Goal Alert about deadlines and tasks assigned Preconditions Must be logged in Success End Condition Nearby deadline or new task assigned for the user Failure End Condition No tasks available for the user Primary Actor: Users Secondary Actor: System Trigger Notification from side menu bar Description Step Action Main Success Scenario 1 User check the notification menu 2 Notification menu shows the nearby deadlines and new tasks assigned for the user 3 Select specific notification to complete it Alternative flows Step Branching Action 1 No tasks available for the user 2 Notification window contain nothing Quality Requirements Step Requirements N/A 3. 2 .9 Submit Report Table 3.9: Submit Report Use Case Title Submit Report Goal Informing admin about research papers going to publish according to category Preconditions Must be logged in as Coordinator Success End Condition All the paper details must be submitted before making report Failure End Condition Making report before submitting paper details Primary Actor: Coordinator Secondary Actor: Admin Trigger Report writing from side menu bar Description Step Action Main Success Scenario 1 Coordinator request for report 2 System categorify all paper details 3 Coordinator passes the report to the admin Alternative flows Step Branching Action 1 Coordinator request for report before all paper details have been submitted 2 Invalid informational report created Quality Requirements Step Requirements N/A 3. 2 .10 Input Paper Details Table 3.10: Input Paper Details Use Case Title Input Paper Details Goal Providing information about the research papers going to publish Preconditions Logged in as faculty members Success End Condition Providing valid information in the required fields Failure End Condition Providing invalid information or Existing information Primary Actor: Faculty Secondary Actor: Coordinator Trigger Paper Details from the side menu bar Description Step Action Main Success Scenario 1 Faculty input a paper detail 2 Submit the details for review 3 Coordinator receive the details Alternative flows Step Branching Action 1 Faculty input an existing detail 2 System reject the submission Quality Requirements Step Requirements N/A 3.2.11 Log Out Table 3.11: Log Out Use Case Title Log Out Goal Exit the system Preconditions Must be logged in Success End Condition User is logged in Failure End Condition User is already logged out Primary Actor: User Secondary Actor: System Trigger Log out button Description Step Action Main Success Scenario 1 User completed his/her work on system 2 User clicked log out button 3 System logged out the user and clear his/her session records Alternative flows Step Branching Action 1 User close the browser instead of log out 2 System will catch his/her session record for a defined time for that browser. Then it will be cleaned also. Quality Requirements Step Requirements N/A 3.3 Activity Diagram 3.3.1 Activity Diagram (Log In) Figure 3. 2: Activity Diagram for Log in 3. 3.2 Activity Diagram (Manage Profile) Figure 3. 3: Activity diagram for Manage Profile 3. 3.3 Activity Diagram (Assign Coordinator) Figure 3. 4: Activity diagram for Assign Coordinator 3. 3.4 Activity Diagram (Register New Faculty) Figure 3.5: Activity diagram for Register New Faculty 3 .3.5 Activity Diagram (Assign Task) Figure 3.6: Activity diagram for Assign Task 3. 3.6 Activity Diagram (view Task) Figure 3. 7: Activity diagram for View Task 3.3. 7 Activity Diagram (Submit Task) Figure 3. 8: Activity diagram for Submit Task 3.3. 8 Activity Diagram (View Notification) Figure 3.9: Activity diagram for Notification 3.3. 9 Activity Diagram (Report Writing) Figure 3.10: Activity diagram for Report Writing 3.3.10 Activity Diagram (Input Paper Details) Figure 3.11: Activity diagram for Paper Details 3.3. 11 Activity Diagram (Log Out) Figure 3.12: Activity diagram for Log Out 3.4 System Sequence Diagram 3.4.1 Sequence Diagram (Log In) Figure 3.13: Sequence diagram for Log in 3.4.2 Sequence Diagram (Manage Profile) Figure 3.14: Sequence diagram for Manage Profile 3.4.3 Sequence Diagram (Assign Coordinator) Figure 3.15: Sequence diagram for Assign Coordinator 3.4.4 Sequence Diagram (Register New Faculty) Figure 3.16: Sequence diagram for Register New User 3.4.5 Sequence Diagram (Assign Task) Figure 3.17: Sequence diagram for Assign Task 3.4.6 Sequence Diagram (View Task) Figure 3.18: Sequence diagram for View Task 3.4.7 Sequence Diagram (Submit Task) Figure 3.19: Sequence diagram for Submit Task 3.4.8 Sequence Diagram (View Notification) Figure 3.20: Sequence diagram for View Notification 3.4.9 Sequence Diagram (Report Writing) Figure 3.21: Sequence diagram for Report Writing 3.4.10 Sequence Diagram (Input Paper Details) Figure 3.22: Sequence diagram for Input Paper Details 3.4.11 Sequence Diagram (Log Out) Figure 3.23: Sequence diagram for Log Out Chapter 4: System Design Specification 4.1 Class Responsibilities Collaboration (CRC) Cards Figure 4.1: CRC cards for "Research Coordinating System" 4.2 Class Diagram Figure 4.2: Class Diagram for "Research Coordinating System" 4.3 Database Design Diagram Figure 4.3: Database Design Diagram 4.4 Development Tools & Technology For developing a quality software, development tools are used. Various development tools like programming tools, debugging tools, testing tools and so on are used to develop different types of applications. For the "Research Coordinating System" web application I also use those types of tools and technologies. They are: 4.4.1 User Interface Technology The user interface means the visual part of a software. This interface has been created following the needs of the users so that they can easily interact with the system. The ultimate goal of the user interface is to deploy the user to the system. A good user interface makes an application effective, reliable and efficient. 4.4.1.1 ASP.NET MVC Framework For the "Research Coordinating System" web-based application, the ASP.NET MVC framework is used. Security is a valuable part of web-based applications. ASP.NET offers more secure than many other frameworks. MVC (Model View Controller) is also a good architecture for web-based systems. 4.4.1.2

jQuery In this system, ajax jQuery is used to retrieve data from dB context to datatables in user interface. It makes the data more effective and usable. It also decreases the retrieve time. 4.4.1.3 CSS Framework and Bootstrap CSS means "Cascading Style Sheets". It helps the html elements to appear in a good- looking way. Bootstrap makes our web-application responsive. It's a free and open- source framework. Bootstrap is also used in the "Research Coordinating System" application so that the layout matches the variety screen size easily. 4.4.2 Implementation Tools & Platforms Selecting the tools and platforms applied is also an important factor in getting the application done properly. Anyone who wants to apply must analyze which equipment and platform is appropriate with the system. So, another challenge for the developer is to find the best tools to optimize his/her application. 4.4.2.1 Microsoft Visual Studio 2019 A code editor or IDE is required to develop an application system. An IDE is used to edit the source code of applications. My used IDE for this project is Microsoft Visual Studio 2019. The community version is free and it has many great features to standardized source code for any application. 4.4.2.2 MSSQL Server 2018 MSSQL server is used in this application as database server. Database server refers to the back-end system of a database application. MSSQL server is free, easy to use and it also maintain security angles. 4.4.2.3 .NET Runtime CLR (Common Language Runtime) is an application virtual machine that provides services like protection, memory management and exception handling. .NET runtime is free CLR by Microsoft. The latest version is cross platform. Chapter 5: System Testing 5.1 Testing Features 5.1.1 Features to be tested • Log in • Register new faculty • Assigning Coordinator • Adding paper details • Assigning task 5.1.2 Features not to be tested 5.2 Testing Strategies 5.2.1 Unit Testing Unit is the smallest testable part of an application like function, classes, procedures, interfaces. Unit testing is created and executed by software developer during the development process. • Log in Table 5.1: Log in Test case: TC001 Test designed by: Sabbir Test priority: High Test design date: 01-12-2020 Model name: Log in Test executed by: Sabbir Description: User can log in to the system with valid credentials. Test execute date: 01-12-2020 • Register New Faculty Table 5.2: Register New Faculty Test case: TC002 Test designed by: Sabbir Test priority: High Test design date: 01-12-2020 Model name: Register new faculty Test executed by: Sabbir Description: Registration process done by the admin or coordinator. Test execute date: 01-12-2020 • Assigning Coordinator Table 5.3: Assigning Coordinator Test case: TC003 Test designed by: Sabbir Test priority: High Test design date: 01-12-2020 Model name: Assign coordinator Test executed by: Sabbir Description: Admin assign a faculty member as coordinator. Test execute date: 01-12-2020 • Adding Paper details Table 5.4: Adding Paper Details Test case: TC004 Test designed by: Sabbir Test priority: Medium Test design date: 01-12-2020 Model name: Add paper details Test executed by: Sabbir Description: Faculty members add paper details they want to publish. Test execute date: 01-12-2020 • Assigning Task Table 5.5: Assign Task Test case: TC005 Test designed by: Sabbir Test priority: Medium Test design date: 01-12-2020 Model name: Task Test executed by: Sabbir Description: Admin and Coordinator assign task for the progress. Test execute date: 01-12-2020 Chapter 6: User Manual 6.1 User Manual (Admin) 6.1.1 Admin Dashboard Figure 6.1: Admin Dashboard 6.1.2 Register New User Figure 6.2: Register new faculty 6.1.3 Assign Coordinator 6. 2 User Manual (Coordinator) 6.2.1 Dashboard Figure 6.4: Coordinator Dashboard 6.2.2 Register New Faculty Figure 6.5: Register New Faculty 6.2.3 Report Writing Figure 6.6: Report writing 6.3 User Manual (Faculty) 6.3.1 Dashboard Figure 6.7: Faculty Dashboard 6.3.2 Paper Details Submission Figure 6.8: Paper Details Submission and submitted 6.3.3 Tasks assigned Figure 6.9: Tasks Chapter 7: Project Summary 7.1 GitHub Link https://github.com/ I-am-Sabbir/Research_Coordinating_System 7.2 Limitations Every application has some limitations as does this application. • Notification alert can't see at real time. • Editing profile is limited. • Mobile verification hasn't set yet. 7.3 Future Scope • More user-friendly frontend design. • Overcome the limitations • Connect worldwide departments with dynamic design Chapter 8: References 8.1 Documentation Idea: Thomas T. Barker, (1998). Writing Software Documentation. Retrieved from https://cutt.ly/djMAyO3 8.2 System Requirement Specification: Andreas Rüping, ISBN: 978-0-470-85617-8, (September 11, 2003). Agile Documentation: A Pattern Guide to Producing Lightweight Documents for Software Projects (1st Chapter, Topic-19, P-(26-28)). Retrieved from https://cutt.ly/ajMSGj2 8.3 Structure and Architecture: Luke Hohmann, (2003). Beyond Software Architecture. Retrieved from https://cutt.ly/2jMDe8U 8.4 Unified Modeling Language: Luke Hohmann, (2003). Beyond Software Architecture. Retrieved from https://cutt.ly/2jMDe8U 8.5 Testing: Paul C. Jorgensen, ISBN: 9781138628076, (November 28, 2013- by Auerbach Publications). Software Testing: A Craftsman's Approach, Fourth Edition 4th Edition (Part-3, Beyond Unit Testing, P-(207-219)). Retrieved from https://cutt.ly/JjMDAXS 8.6 Tools and Technologies: Diagrams and Design: https://app.diagrams.net/ Articles: https://cutt.ly/CjMD2c7 © Daffodil International University © Daffodil International University © Daffodil International University © Daffodil International University © Daffodil International University 1 © Daffodil International University 2 © Daffodil International University 3 © Daffodil International University 4 © Daffodil International University 5 © Daffodil International University 6 © Daffodil International University 7 © Daffodil International University 8 © Daffodil International University 9 © Daffodil International University 10 © Daffodil International University 11 © Daffodil International University 12 © Daffodil International University 13 © Daffodil International University 14 © Daffodil International University 15 © Daffodil International University 16 © Daffodil International University 17 © Daffodil International University 18 © Daffodil International University 19 © Daffodil International University 20 © Daffodil International University 21 © Daffodil International University 22 © Daffodil International University 23 © Daffodil International University 24 © Daffodil International University 25 © Daffodil International University 26 © Daffodil International University 27 © Daffodil International University 28 © Daffodil International University 29 © Daffodil International University 30 © Daffodil International University 31 © Daffodil International University 32 © Daffodil International University 33 © Daffodil International University 34 © Daffodil International University 35 © Daffodil International University 36 © Daffodil International University 37 © Daffodil International University 38 © Daffodil International University 39 © Daffodil International University 40 © Daffodil International University 41 © Daffodil International University 42 © Daffodil International University 43 © Daffodil International University 44 © Daffodil International University 45 © Daffodil International University 46 © Daffodil International University 47 © Daffodil International University 48 © Daffodil International University 49 © Daffodil International University 50 © Daffodil International University 51 © Daffodil International University 52 © Daffodil International University 53 © Daffodil International University 54 © Daffodil International University