American International University-Bangladesh (AIUB)

Department of Computer Science

Faculty of Science &Technology (FST)

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Section: C

Software Quality Assurance and Testing

Online Telemedicine System

A Report submitted
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Software Test Plan

for

<Online Telemedicine System>

Version 1.0 approved

Prepared by <Hoque, Fardin & Patwary, Tanjib & Bari, SK Tasnim & Rizvee, Mayin Uddin Ahmed>

<American International University-Bangladesh>

<7 AUG, 2021>

Table of Contents

Revision History 3
1. TEST PLAN IDENTIFIER: OTS_1.1 4
2. REFERENCES 4
3. INTRODUCTION 4
Background to the Problem 4
Solution to the Problem 4
4. REQUEIREMNT SPECIFICATION 5
4.1 System Features 5
4.2 System Quality Attributes 6
4.3 System Interface 7
4.4 Project Requirements 9
5. FEATURES NOT TO BE TESTED 9
6. TESTING APPROACH 9
6.1 Testing Levels 9
6.2 Test Tools 10
6.3 Meetings 10
7. TEST CASES/TEST ITEMS 10
8. ITEM PASS/FAIL CRITERIA 13
9. TEST DELIVERABLES 14
10. STAFFING AND TRAINING NEEDS 14
11. RESPONSIBILITIES 14
12. TESTING SCHEDULE 15
13. PLANNING RISKS AND CONTINGENCIES 15
14. APROVALS 16

Revision History

Revision	Date	Updated by	Update Comments
0.1	2021.08.07	Hoque, Fardin	First Draft
0.2	2021.08.09	Patwary, Tanjib	Second Draft
0.3	2021.08.10	Bari, SK Tasnim	Third Draft
0.4	2021.08.09	Rizvee, Mayin Uddin Ahmed	Fourth Draft

1. TEST PLAN IDENTIFIER: Online Telemedicine System_1.1

2. REFERENCES

- Requirement Specification
- Software Requirement Specification (SRS) of the system
- https://www.icliniq.com/en/
- https://evisit.com/

3. INTRODUCTION

Background to the Problem

- In the recent pandemic time, online telemedicine system services make everyone's life very easy and comfortable. People from all over the world is taking benefits from it. But here is a problem. At a time, many people have to use this system for taking appointments, virtual conference with the doctors etc. For that, sometimes the server can't handle all the tasks and system faces many problems.
- There are many services available in this system but sometimes when many patients try to visit this site for taking any appointments or need any advice from the doctors, they are unable to do it. Sometime for this, they have to face critical issues. So, this problem is very much considerable for us.

Solution to the Problem

- The goal of this project is to ensure all the functionalities and check all the functions properly working or not of this system. We will measure this by using the integration testing, unit testing, system testing etc.
- This Online Telemedicine System is very much helpful for both the patients and the doctors. Also, many stuffs who are connected with this system. There are many services available in this system. Patients can easily connect with the doctors, working stuffs can easily connected with the admin panels etc. Every doctor has some fixed schedule and if any patients want to connect with the specific doctor, then he/she have to follow that specific time schedule. All services are mentioned in the system portal so that if any patient visit this side, they can easily find their needed solution. All categories doctor is available in this system and all doctors are certified. All doctor details, Medicine details are available in this system. Old client data and new client data are mainly managed by the admin of this system.

- Recently, many online telemedicine services are available in the internet. There are many websites like- Teladoc, MeMD, Amwell, LiveHealth Online, PlushCare are providing good medical services through online.

The benefits of the software-

- 24/7 Online service
- Available doctors who are in online
- Physician directory
- Video Consultation
- Chat with a doctor
- Phone a doctor

4. REQUEIREMNT SPECIFICATION

4.1 System Features

1. **System Login**

Functional Requirements

1.1 The software shall allow users to login with their valid username and password

1.2 If the username and/or password has been inserted wrong for more than three times, the random verification code will be generated by the system to retry login.

1.3 If the number of login attempt exceed its limit (4 times), the system shall block the user account login for one hour.

Priority Level: High

Precondition: user must have valid user id and password

2. **Sign Up**

Functional Requirements

2.1 The software shall allow users to Sign Up to this system

2.2 Users have to give their personal information like Name, E-mail, Password and Phone number for register to this system

Priority Level: Medium

Precondition: users need email address, valid phone number

3. **Add Doctors**

Functional Requirements

3.1 The software shall allow users to add and verify doctor's profile

3.2 Admin needs doctor details, phone number, location of a doctor for add doctor of this system

Priority Level: High
Precondition: valid details of a doctor

4. **Update new and old patient details**
Functional Requirements
4.1 The software shall allow users to update old and new patient details
4.2 Users need patients phone number, patient health details, name, location for update patient's profile

Priority Level: Medium
Precondition: users need email, phone number, location

5. **Make Doctor's Appointment**
Functional Requirements
5.1 The software shall allow users to manage appointment
5.2 Users need id to make an appointment if they need

Priority Level: Medium
Precondition: valid id, valid doctor's profile

4.2 System Quality Attributes

There are some quality attributes that are very important to ensure the quality of a software.

Usability: Any skilled user should be able to register and login to the system.

Efficiency: Each and every functional need must be fulfilled.

Portability: This will be capable of running properly on all the devices.

Maintainability: If any issue locates or detect in the system then it will be possible to fix it.

Correctness: Mentioned all features will be completed according to the preferences of the patients.

Functionality: Will display doctors list, their details and it will also show if they are online.

Accessibility: It's a web-based software so it will be accessible from anywhere on the Internet.

Readability: It's critical to rely on appointment software to properly and containing accurate scheduling demands. It is so important to check to see if the system is durable enough to sustain any situation. So, regular counting on appointments, check to see whether the doctors have a strong reputation among other medical experts are so important tasks.

Reliability: All features will perform in various working environments or devices.

Flexibility: Will flexible enough to modify in terms of any needs.

Integrity/Security: System integrity or security should be sufficient to prevent unauthorized access to system functions, information loss, and virus infection of software, as well as to protect the privacy of data entered into the system. Actually, Integrity comes with security. So, medical personnel and staff are in charge of handling sensitive data and information. As a result, it's critical that the system used ensures that both internal and external processes are secure.

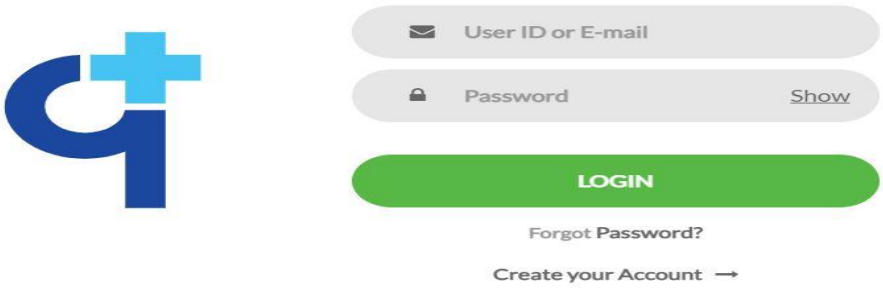
Installation: There will definitely be no lengthy downloads or installations. So easy to download and install for any user.

Customer Support: This is a critical requirement, given the importance of proper patient appointment scheduling to a medical business. The service provider should provide live email and phone assistance.

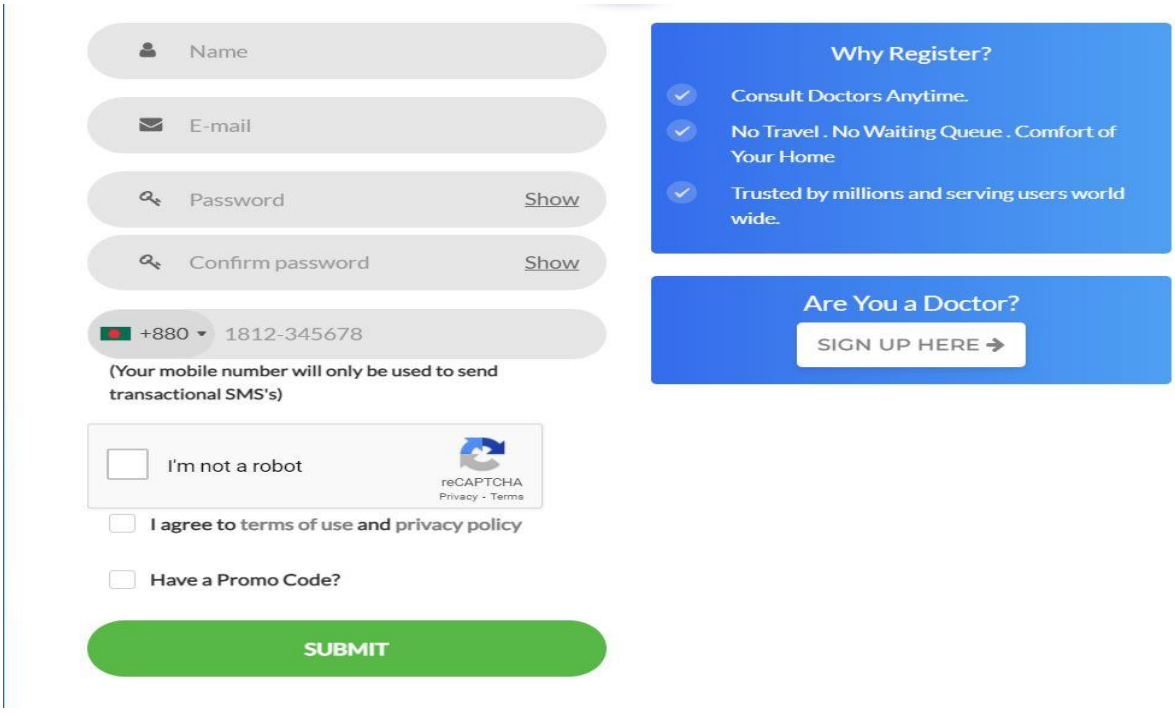
Staff-friendliness: It's critical that the medical professional and his or her employees feel comfortable with it and this is very important.

4.3 System Interface

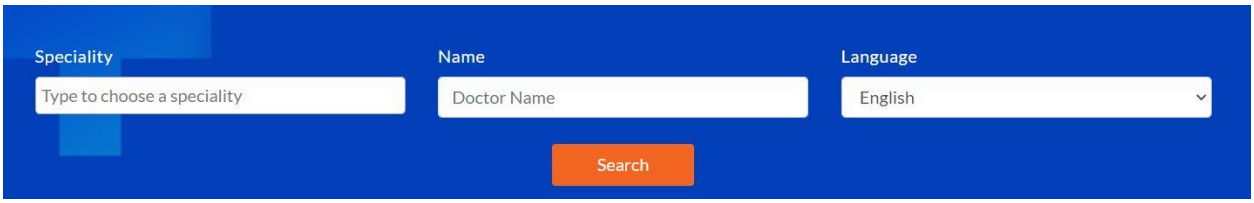
- Login



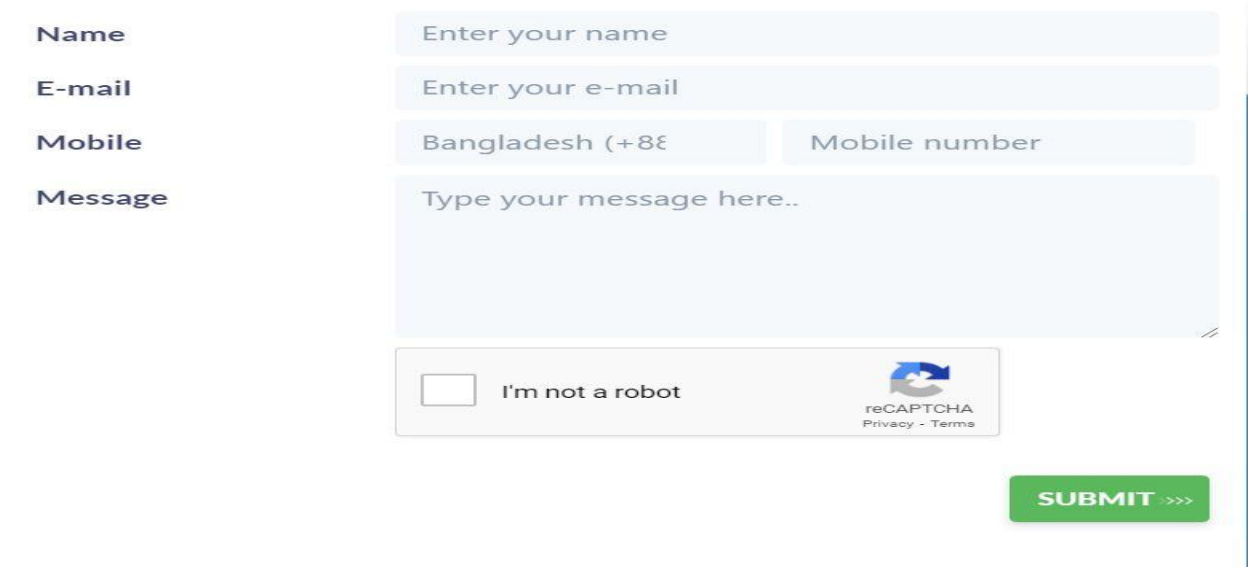
- Sign Up



- Physician Directory



- Contact Us



- Ask a doctor online

4.4 Project Requirements

- Time: Needs 5 months to complete
- Budget: 300000 BDT
- Environment: Should be properly run in all types of devices
- Total Development time 20 months

5. FEATURES NOT TO BE TESTED

- Hardware related issues
- Any personal information
- Database servers
- Software will support a fixed number of patients who can consult with the doctors. This control will be done by the administrator access only.
- Clients review functionalities

6. TESTING APPROACH

6.1 Testing Levels

The purpose of including a variety of testing approaches into our development process is to ensure that our website can run in a variety of situations and on a variety of platforms. These are usually divided into functional and non-functional testing. Functional testing entails comparing the application to the requirements. It encompasses all test methods aimed at ensuring that each component of website operates as intended, based on use cases created by one of our project's members. These testing methods are going to include:

- **Unit Testing**: As unit testing is the very first level of testing, it will be done by two of our developers and going to be approved by our team leader. Our unit testing will be automated as much as possible to speed up the delivery. We hope that unit testing will make our debugging easier as it is the first step of testing our system.
- **Integration Testing:** After each unit gets extensively tested, it will be combined with other units to form modules or components that execute certain jobs or activities. These will then be put through integration testing as a group to ensure that the entire application website behaves as expected. User scenarios, such as logging into the portal or opening any chatting option with the consultants, are frequently used to structure these tests. If we get enough time, then this test will be done by our both developers, otherwise will just hire some independent testers to do the job.
- **System Testing:** System Testing will include testing the full completed website from end to end. It will be basically a black box testing which will be performed by our project manager and also by the hired testers. (If possible)
- **Acceptance Testing:** It will be the last phase of our functional testing that will ensure whether our system is ready to deliver or not. It will entail ensuring that the product fits all of the original business criteria as well as the needs of the end user. This will necessitate internal and external testing, which means we'll need to get it into the hands of some end users as well as a QA team for beta testing and the roles will be played by the hired testers. If the report comes out well than the website will go for production else it will go to the developers.

6.2 Test Tools

We will be using selenium as Selenium is a web application testing framework that works with a variety of browsers and systems, including Windows, Mac, and Linux along with helping our testers to write tests in various programming languages like PHP, Python, Perl, JAVA, Ruby etc.

6.3 Meetings

To achieve our objectives, we can make goal-setting easier by meeting once a week. Thus, we can debate new goals and improved strategies to attain current targets at each review. Also, can keep on track while working toward our project's goals by our weekly meetings. But there will always be an open door for emergencies like the system is crashing before delivery time or there are unsolved bugs or the requirements are far away from fulfillment and so on.

7. TEST CASES/TEST ITEMS

Project Name: Online Telemedicine System	Test Designed by: SK TASNIM BARI
Test Case ID: FR_1	Test Designed date: 7 Aug, 2021
Test Priority (Low, Medium, High): High	Test Executed by: SK TASNIM BARI
Module Name: Login Session	Test Execution date: 10 Aug, 2021
Test Title: verify login with valid username and password	
Description: Test website login page	

Precondition (If any): User must have valid username and password

Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Go to the website 2. Enter username 3. Enter password 4. Click submit	Ahmed123 Password: 3201	User should login into the application	As expected,	Pass

Post Condition: User is validated with database and successfully login to account. The account session details are logged in the database.

Project Name: Online Telemedicine System	Test Designed by: Fardin Hoque
Test Case ID: FR_2	Test Designed date: 8 Aug, 2021
Test Priority (Low, Medium, High): High	Test Executed by: Fardin Hoque
Module Name: Sign Up	Test Execution date: 10 Aug, 2021
Test Title: Create account with valid information	
Description: Test website Sign Up page	

Precondition (If any): User must have valid name, email, phone number

Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Go to the website 2. Enter name 3. Enter email 4. Enter password 5. Enter Confirm password 6. Enter phone	Name: Fardin Hoque Email: fardinhoque9@gmail.com Password: 56789 Confirm Password: 56789	User should Sign Up after giving the information	As expected,	Pass

7. Click submit	Phone: 01726314807			
Post Condition: Validation email will sent to user email address and after verification, user can login to this system.				

Project Name: Online Telemedicine System	Test designed by: Tanjib Patwary
Test Case ID: FR_3	Test designed date: 9 Aug, 2021
Test Priority (Low, Medium, High): Medium	Test executed by: Tanjib Patwary
Module Name: Adding doctors	Test execution date: 9 AUG, 2021
Test Title: add doctor with valid information	
Description: Test website add doctor page	
Precondition (If any);	

Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1.Login as Admin 2.Go to add doctor page 3.Enter doctor name 4.Enter doctor email 5.Enter doctor phone 6.Degree 7.Click add button	Name: Dr. Poran Mondol Email: poran2@gmail.com Phone: 01736352833 Degree: MBBS	Doctor information added successfully	As expected,	Pass
Post Condition: Doctor is validated with database and can login to his account successfully.				

Project Name: Online Telemedicine System			Test designed by: Mayin Uddin Ahmed Rizvee	
Test Case ID: FR_4			Test Designed date: 10 Aug, 2021	
Test Priority (Low, Medium, High): High			Test Executed by: Mayin Uddin Ahmed Rizvee	
Module Name: Delete profile of doctor			Test execution date: 10 AUG, 2021	
Test Title: delete doctor information by their email				
Description: Test website for delete a doctor's information				
Precondition (If any);				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1.Login as Admin 2.Go to profile delete page 3.Enter a doctor's email address 4. Press the delete button	Email: drejaj2@gmail.com	Doctor profile deleted successfully	As expected,	Pass
Post Condition; Doctor's profile doesn't exist.				

8. ITEM PASS/FAIL CRITERIA

The main objective of this section is to specifies the PASS/FAIL criteria for the tests covered in this project. If a component or unit, a system or any integrated test item has 80% to 95% then it will be considered as pass criteria and if any system of any unit has below 80% then it will be considered as fail criteria. In our project we have follow this measurement for identify that our project is how much reliable and how much it satisfies the customer.

9. TEST DELIVERABLES

- System/Integration test plan
- Test Plan Document
- Test Summary Report
- Test Evaluation Report
- Test Defect Reports
- Test Scripts
- Test Suit
- Test logs and turnover reports

10. STAFFING AND TRAINING NEEDS

Staff Needs: When the project was in the early phase, the project manager can play a roll as a Test Engineer. A junior test engineer can help him for the testing approaches. After the initial build has been done, the verification and validation testing need full time testers. One of the full-time testers need to be person connected with the project from the inception as assisting tester.

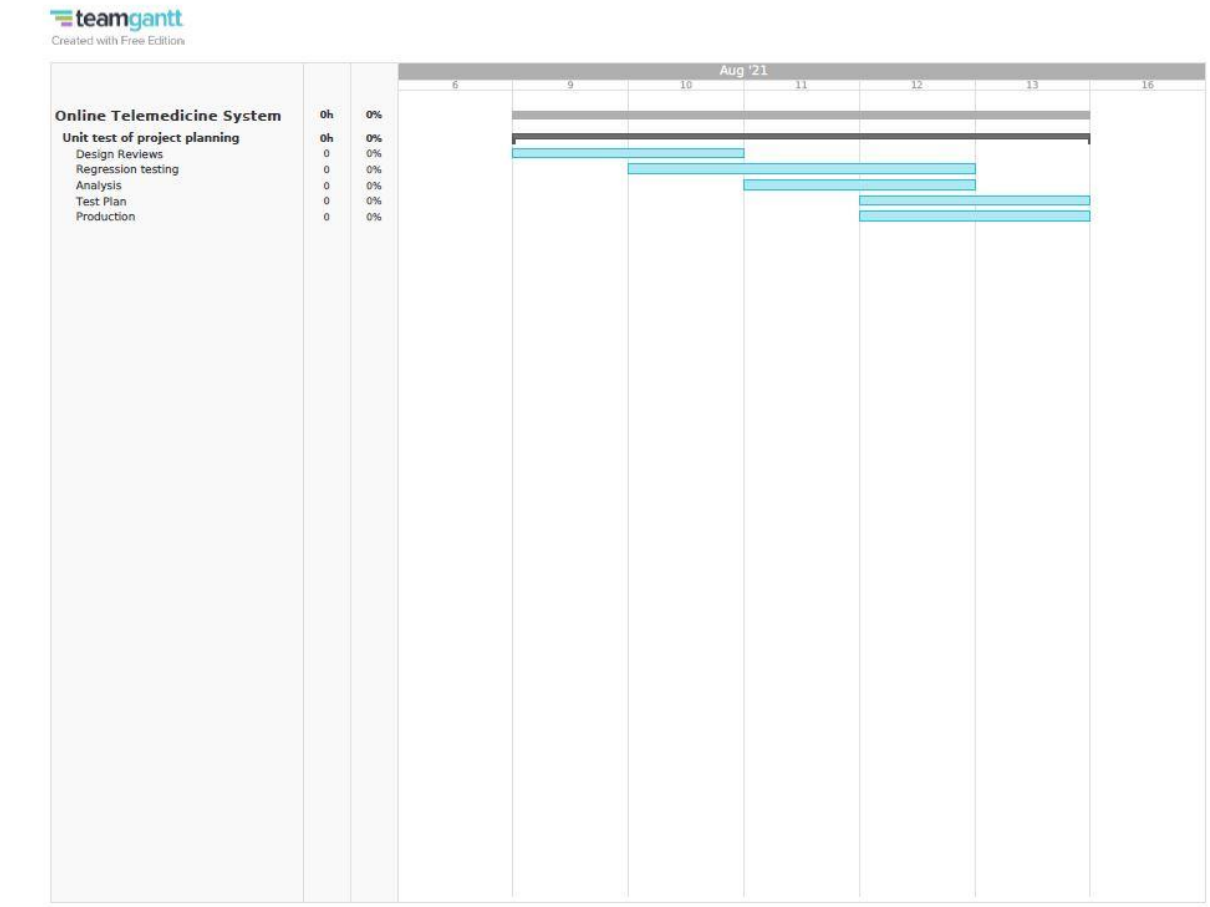
Training Needs: Training is another important term. Test manager needs to contact with administration panel and train inner working of a course allocation flow and learn about available courses. In future, may be more staffs and training facilities will be added based on the earlier portion of this test plan.

11. RESPONSIBILITIES

	TM	PM	Dev Team	Test Team
Acceptance test Documentation & Execution	X	X		X
System/Integration test Documentation & Exec.	X		X	X
Unit test documentation & execution	X		X	X
System Design Reviews	X	X	X	X
Detail Design Reviews	X	X	X	X
Test procedures and rules	X	X	X	X

12. TESTING SCHEDULE

Time has been allocated within the project plan for the following testing activities.



13. PLANNING RISKS AND CONTINGENCIES

Planning risk and contingencies are a very important for getting a good outcome from a project. Main in a project, it is used for risk management for exceptional cases. On the other hand, Contingency plans are made by governments other business organizations. Every company has some rules and regulations and they have to follow in the event of disaster. The plan may also include policies to mitigate a disaster. So, it is very important to follow those rules and make everything for organization's benefit.

14. APROVALS

Project Sponsor	Ahmed Sharif
Development Manager	Murad Hasan
EDI Project Manager	Dip Shankar
RS Test Manager	Manik Hossain
RS Development Team Manager	Bhadurai Basak
Reassigned Sales	MD. Rasel Mamun
Order Entry EDI Team Manager	Kollol Basak