American International University-Bangladesh (AIUB)

Department of Computer Science

Faculty of Science & Technology (FST)

PROJECT TITLE

AgriConnect: Connecting Micro Entrepreneurs with Farmers
By

Semester: Spring_24_25		Section: H	Group Number: 01	
SN	Student Name	Student ID	Contribution (CO3+CO4)	Individual Marks
1.	Ishan, Ibnul Ishtiak	22-49545-3		
2.	Siddique, Md Abu Bakar	22-48322-3		
3.	Md. Ibtihazzaman	22-49153-3		
4.	Md. Anisur Rahman	22-49553-3		

The project will be evaluated for the following Course Outcomes

	Total Marks
CO3: *Select* appropriate software engineering models, project management roles, and their associated skills for the complex software engineering project and evaluate the sustainability of developed software, taking into consideration the societal and environmental aspects	
Appropriate Process Model Selection and Argumentation with Evidence	[5 Marks]
Evidence of Argumentation Regarding Process Model Selection	[5Marks]
Analysis of the impact of societal, health, safety, legal, and cultural issues	[5Marks]
Submission, Defense, Completeness, Spelling, grammar, and Organization of the Project report	[5Marks]
CO4: *Develop* a project management plan to manage software engineering projects following the principles of engineering management and economic decision process	Total Marks
Develop the project plan, its components of the proposed software products	[5Marks]
	[5Marks]
	[5Marks]
	[5Marks]

Project Description:

'AgriConnect' is a web-based platform that helps farmers and small business owners connect and work together. It gives the platform to the farmers to sell their products directly to the customers, buy farming supplies, and get advice from agricultural experts. People can sign up as farmers, customers, or admins and use features like order tracking, product listings, and reports. The system is built to be flexible, so new updates can be made quickly based on user feedback. The main goal is to cut out the middlemen, make farming more profitable, and create a better system for everyone involved.

Test Plan:

A test case is a set of specific steps, inputs, and expected results used to check whether a part of a software system works correctly or not. It helps ensure that each feature behaves as it should and meets the project's requirements. Test cases are essential for finding and fixing bugs before releasing the software.

In real software companies, the people who do this work are called software testers or QA (Quality Assurance) team members. Their job is to test every feature and find problems before the software is given to users. In our project, team members tested their own parts and also helped check each other's work to make sure everything worked properly.

For this project, "Black Box" Testing is suitable method. "Black Box" means testing the software without looking at how it was coded. Since our system has different users like farmers, admins, and customers using features like login, placing orders, and checking dashboards, Black Box Testing helps us see if the system gives the right results based on what users do. It's simple, user-focused, and works well for this kind of platform.

Authentication:

Project Name: 'AgriConnect' Connecting Micro Entrepreneurs with Farmers			Test Designed by:	
TestCase ID: ABS_01			Test Designed date:	
Test Priority (Low, Medium, High): High			Test Executed by:	
Module Name: Login Session			Test Execution date:	
Test Title: verify login with valid username and password				
Description: Test Application 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 login	Username: A-001 Password: 1234	Users should login into the application		
Post Condition: User is validated with database and successfully login to account. The account session details are logged in the database.				

TestCase ID: ABS_02	Test Designed date:
Test Priority (Low, Medium, High): Low	Test Executed by:
Module Name: Login Session	Test Execution date:
Test Title: Verify "Remember Me" functionality	
Description: Test login with "Remember Me" option enabled	
Precondition (If any): User must have valid username and password	

Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Go to login page 2. Enter valid email and password 3. Check "Remember Me" 4. Click login	Username: C-001 Password: 1234	User should stay logged in even after closing and reopening browser		

Post Condition: Session persists until user logs out manually.

TestCase ID: ABS_03	Test Designed date:
Test Priority (Low, Medium, High): High	Test Executed by:
Module Name: Forgot Password	Test Execution date:

Test Title: Verify password reset with registered email
Description: Test functionality of password reset process
Precondition (If any): User must have valid username and password

Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Go to Forgot Password page 2. Enter registered email 3. Enter OTP 4. Set new password	Username: C-001 Password: 1234	User should receive confirmation of password reset and be able to login with new password		

Post Condition: Password updated successfully in the system.

TestCase ID: ABS_04	Test Designed date:
Test Priority (Low, Medium, High): High	Test Executed by:
Module Name: Signup Session	Test Execution date:
Test Title: Verify successful account registration as Farmer	
Description: Test Farmer registration process	
Precondition: User must have valid information and select Farmer role	

Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Go to Signup page 2. Enter required details 3. Select Farmer role 4. Enter OTP 5. Click register	Name: Ibnul Mia Email:farmer@gmail.com Phone:017xxxxxxxx Address: Dhaka Crops: Rice Quantity: 2 acres NID:123456789 Password:Farmer@1234 OTP: 123456	Farmer accounts should be created and redirected to Farmer dashboard		

Post Condition: Farmer details stored securely, and user redirected.

TestCase ID: ABS_05	Test Designed date:
Test Priority (Low, Medium, High): High	Test Executed by:
Module Name: Signup Session	Test Execution date:
Test Title: Verify successful account registration as Consumer	
Description: Test Consumer registration process	
Precondition: User must have valid information and select Consumer role	

Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Go to Signup page 2. Enter required details 3. Select Consumer role 4. Enter OTP 5. Click register	Name: Ibnul Chowdhury Email:farmer@gmail.com Phone:017xxxxxxxx Address: Dhaka Password:Consumer@1234 OTP: 123456	Consumer accounts should be created and redirected to Consumer dashboard		

Post Condition: Consumer details stored securely, and user redirected.

Admin:

TestCase ID: ADMIIN_1	Test Design Date:
Test Priority (Low, Medium, High): High	Test Executed by:
Module Name: Admin Dashboard	Test Execution Date:
Test Title: Verify Admin Dashboard Statistic Display	
Description: Test if the admin dashboard correctly displays key statistics and metrics	
Precondition(If any): Admin user is logged in with valid credentials	

Test Steps	Test Data	Expected Results	Actual Results	Status(Pass/Fail)
- Navigate to admin dashboard - Check farmer statistics - Check consumer statistics - Check transaction history - Check top products section - Check user acquisition metrics	N/A	- Total number of active farmers - Total number of active consumers - Transaction history with trend graphs - Top products by transaction volume - User acquisition metrics with conversion rates - Critical issue alerts if any exist.		
Post Condition: Admin can view all relevant statistics and metrics on the dashboard.				

Project Name: AgriConnect	Test Design by:
TestCase ID: ADMIIN_2	Test Design Date:
Test Priority (Low, Medium, High): High	Test Executed by:
Module Name: User Management	Test Execution Date:

Test Title: Verify User Search and Filtering

Description: Test if admin can search and filter users with different criteria

Precondition(If any): Admin user is logged in and multiple users exist in the system

Test Steps	Test Data	Expected Results	Actual Results	Status(Pass/Fail)
1. Navigate to user management 2. Enter search term in search box 3. Apply user type filter 4. Apply location filter 5. Click search 6. View search results	Search term: "John" User Type: "Farmer" Location: "West Region"	1. System displays list of farmers Results with name containing "John" in the West Region 2. Results show user ID, name, email, phone, Location: "West Region" location, and verification status 3. Results are properly paginated if more than one page		

Post Condition: Search results are displayed according to search criteria and admin can view filtered user list.

TestCase ID: ADMIIN_3	Test Design Date:
Test Priority (Low, Medium, High): High	Test Executed by:
Module Name: User Management	Test Execution Date:

Test Title: Verify User Account Verification

Description: Test if admin can verify a user's identity and documents

Precondition(If any): Admin user is logged in and there is at least one unverified farmer account

Test Steps	Test Data	Expected Results	Actual Results	Status(Pass/Fail)
1.Navigate to user management 2. Filter users by "Unverified" status 3. Select a farmer account 4. View user profile and submitted documents 5. Check NID information 6. Click the "Verify User" button 7. Confirm verification	User: farmer1@example.com NID: 9876543210	1. User documents are displayed for review 2. Upon verification, user status changes to "Verified" 3. Success message is displayed 4. User receives notification about verification		

Post Condition: Farmer account status is updated to "Verified" in the database and farmer receives notification.

Project Name: AgriConnect	Test Design by:
TestCase ID: ADMIIN_4	Test Design Date:
Test Priority (Low, Medium, High): Medium	Test Executed by:
Module Name: Product Management	Test Execution Date:

Test Title: Verify Product Price Fixing

Description: Test if admin can set minimum prices for products

Precondition(If any): Admin user is logged in

Test Steps	Test Data	Expected Results	Actual Results	Status(Pass/Fail)
1.Navigate to product management 2. Select a product category 3. Click on "Set Price Limits" 4. Enter minimum price for the product 5.Enter minimum quantity for the product 6. Click "Save"	Product: "Rice" Minimum Price: $1.50/kg Minimum Quantity: 5kg	1. Success message appears 2. Price and quantity limits are saved 3. Farmers cannot list rice below the minimum price 4. Farmers cannot sell less than minimum quantity		

Post Condition: Product price and quantity limits are saved in the database and enforced for new listings

TestCase ID: ADMIIN_5	Test Design Date:
Test Priority (Low, Medium, High): Medium	Test Executed by:
Module Name: Report Generation	Test Execution Date:
Test Title: Verify Financial Report Generation	
Description: Test if admin can generate and export financial reports	
Precondition(If any): Admin user is logged in and transactions exist in the system	

Test Steps	Test Data	Expected Results	Actual Results	Status(Pass/Fail)
1.Navigate to reports section 2. Select "Financial Reports" 3.Set date range 4.Select report metrics (revenue, payment processing) 5. Click "Generate Report" 6. Export report as Excel	Start Date: [1 month ago] End Date: [Current date] Format: Excel	1.Report loads with financial data 2. Report includes revenue, transaction fees, payment processing data 3. Excel export works correctly with proper formatting 4. Report contains timestamp and data source information		

Post Condition: Financial report is generated and exported in Excel format.

TestCase ID: ADMIIN_6	Test Design Date:
Test Priority (Low, Medium, High): High	Test Executed by:
Module Name: Admin Account Creation	Test Execution Date:
Test Title: Verify New Admin Account Creation	
Description: Test if primary admin can create new admin accounts with appropriate roles	
Precondition(If any): Director-level admin is logged in	

Test Steps	Test Data	Expected Results	Actual Results	Status(Pass/Fail)
1. Navigate to admin management 2. Click "Create New Admin 3. Enter admin details 4. Select admin role (Director, GM, Collector) 5. Assign permissions 6. Click "Create Account" 7. Set initial password	Name: Jane Smith Email:janesmith@agriconnect.com Role: GM Permissions: User Management, Product Management	1.Success message appears 2. New admin account is created 3. Activation email is sent to new admin 4. New admin appears in the admin list with assigned role and permissions		

Post Condition: New admin account is created in the database with appropriate role and permissions.

Farmer:

Project Name: AgriConnect	Test Designed by:
TestCase ID: FS_001	Test Designed date
Test Priority (Low, Medium, High): High	Test Executed by:
Module Name: Login Session	Test Execution date:

Test Title: verify login with valid username and password

Description: Test Application login page

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

Test Steps	Test Data	Expected Results	Actually Results	Status (Pass/Fail)
1. Go to the website 2. Enter username 3. Enter password 4. Click submit	Username: 99999999999 Password: 321	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: AgriConnect	Test Designed by:
TestCase ID: FS_002	Test Designed date
Test Priority (Low, Medium, High): High	Test Executed by:
Module Name: Login Session	Test Execution date:

Test Title: verify login with valid username and password

Description: Test Dashboard Features

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

Test Steps	Test Data	Expected Results	Actually Results	Status (Pass/Fail)
1. Go to the to dashboard 2. Input ID,Password 3. Click Feature buttons	Username: 321 Password: 321121212	User should login to personal dashboard and able to access all the feature		

Post Condition: User is validated with database and successfully login to account. The session details are successful interactions in dashboard features

Project Name: AgriConnect	Test Designed by:
TestCase ID: FS_003	Test Designed date
Test Priority (Low, Medium, High): High	Test Executed by:
Module Name: Ordering supporting items in platform	Test Execution date:

Test Title: verify

Description: Test Order system in platform

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

Test Steps	Test Data	Expected Results	Actually Results	Status (Pass/Fail)
1. Go to dashboard 2. Go to order portal 3. Go to buying option 4. Select product Category 5. Select Items 6. Add to cart 7. Order Confirmation	1. Username: 321 Password: 321121212	User should login to personal dashboard and able to buy necessary seeds, fertilizers for farming		

Post Condition: User is validated with database and successfully login to account.

The session details are successful interactions in order portal for buying agicultural supporting items for farmers

Project Name: AgriConnect	Test Designed by:
TestCase ID: FS_004	Test Designed date
Test Priority (Low, Medium, High): High	Test Executed by:
Module Name: Selling Items to customers in AgriConnect platform	Test Execution date:

Test Title: Selling Agricultural products in platform

Description: Test Product Selling system in platform

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

Test Steps	Test Data	Expected Results	Actually Results	Status (Pass/Fail)
1. Go to Dashboard 2. Go to Selling Portal 3. Select product category 4. Select Items 5. Select product quantity 6. Select product grade 7. List items 8. Accept orders	1. Username: 321 2. Password: 1213434	User should login to personal dashboard and able to sell Agricultural items in platform		

Post Condition: User is validated with database and successfully login to account.

The session details are successful interactions in order portal for buying agicultural supporting items for farmers

Project Name: AgriConnect	Test Designed by:
TestCase ID: FS_005	Test Designed date
Test Priority (Low, Medium, High): High	Test Executed by:
Module Name: Expert Support Request	Test Execution date:

Test Title: Requesting Agricultural expert support in platform

Description: Test Agricultural Expert support request system in platform

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

Test Steps	Test Data	Expected Results	Actually Results	Status (Pass/Fail)
1.Go to dashboard 2. Go to support option 3. Select the Agricultural Expert option 4. Select problem 5. Select time of visit/ consulting 6. Confirm experts session/ slot booking	3. Username: 321 4. Password: 1213434	User should login to personal dashboard and able to support request		

Post Condition: User is validated with database and successfully login to account.

The session details are successful Expert request support

Consumer:

Project Name: 'AgriConnect' Connecting Micro Entrepreneurs with Farmers	Test Designed by:
TestCase ID: CR_01	Test Designed date:
Test Priority (Low, Medium, High): High	Test Executed by:
Module Name: Login Session	Test Execution date:
Test Title: verify login with valid username and password	
Description: Test Application 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 login	Username: C-001 Password: 1234	Users should login into the application		

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

TestCase ID: CR_02	Test Designed date:
Test Priority (Low, Medium, High): High	Test Executed by:
Module Name: Consumer Dashboard	Test Execution date:

Test Title: Verify the user personal dashboard

Description: Consumers will have access to their personal dashboard

Precondition (If any): User must have login into the system with a valid username and password

Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Login with user information 2. Enter the user personal dashboard interface 3. Check all the feature/button in the dashboard and update his personal details	Username: C-001 Password: 1234	*User should enter his personal dashboard *Users can see his details and also update it.		

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

TestCase ID: CR_03	Test Designed date:
Test Priority (Low, Medium, High): High	Test Executed by:
Module Name: Product List	Test Execution date:
Test Title: Verify the product list	
Description: Consumers can browse a categorized selection of agricultural products	
Precondition (If any): User must have entered his dashboard	

Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Login with user information 2. Enter the user personal dashboard interface 3. Go to product list 4. Purchase or add to cart a product	Username: C-001 Password: 1234	*Product list clear images, descriptions, prices, and availability status *Users can search products using keyword-based search and apply filters to refine results * Clicking on a product will open a detailed page with product specifications and seller information		

Post Condition: User will purchase product and add the product in to cart.

TestCase ID: CR_04	Test Designed date:
Test Priority (Low, Medium, High): High	Test Executed by:
Module Name: Cart	Test Execution date:

Test Title: Verify the cart feature

Description: Consumers can add products to their shopping cart and modify quantities

Precondition (If any): User must have entered his dashboard and select a product from the product list to add it in the cart

Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Login with user information 2. Enter the user personal dashboard interface 3. Purchase any item 4. Go to the cart option	Username: C-001 Password: 1234	*Users should update the selected product quantities *User can confirm the order or remove the order.		

Post Condition: User will order the selected product.

TestCase ID: CR_05	Test Designed date:
Test Priority (Low, Medium, High): High	Test Executed by:
Module Name: Order	Test Execution date:

Test Title: Verify the order feature

Description: Consumers can place orders directly from their cart

Precondition (If any): User must have selected a product from the product list to add it in to the cart and select the payment option

Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Login with user information 2. Enter the user personal dashboard interface 3. Purchase any item 4. Go to the cart option 5. Select the payment option 6. Confirm the order	Username: C-001 Password: 1234	*User should confirm order * Users can track order * A detailed invoice will be generated automatically for each completed order * Customers can cancel or modify orders before they are shipped		

Post Condition: Users can track orders and rate products based on their experience.

TestCase ID: CR_06	Test Designed date:
Test Priority (Low, Medium, High): Low	Test Executed by:
Module Name: Rating	Test Execution date:

Test Title: Verify the rating feature

Description: Consumers can rate products based on their experience

Precondition (If any): User must have purchased a product from the system.

Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Login with user information 2. Enter the user personal dashboard interface 3. Purchase any item 4. Go to the cart option 5. Select the payment option 6. Confirm the order 7. Give a rate on product	Username: C-001 Password: 1234	* Consumers can rate products based on their experience. (Ex: star-based rating system) * Users will have the option to write detailed reviews about the products they will purchase * Users can edit or delete their reviews if they change their opinions.		

Post Condition: Admin will update the system performance and if any problem admin will fix the system.