

# Accountill: Invoicing Application

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## **Software Testing Final Report**

EEC 623/CIS 636 Software Quality Assurance

### **Proposed by**

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# Software Testing Final Report

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## Introduction

As a part of this project we are planning to test accounting software "Accountill", it is an open-source web application. This is designed to help users manage their personal and business finances.

This software is written by Panshak Solomon<sup>1</sup>, He is a Conservation Biologist & Software Developer from Nigeria.

This software can be used to email to send different types of financial documents create and send PDF versions via email. You can also download these documents for your own records.

This software also has payment history section, the admin dashboard, supports multiple user registrations and authentication using JSON Web Tokens (JWT) and Google authentication.

In nutshell we can summarize, software provides features such as expense tracking, invoicing, and reporting, to help users monitor their cash flow. We have tested the software/application as a part of our project.

## Software under Test

This is a web-based application, and the source code can be found here: <https://github.com/panshak/accountill>

### Key Features of the Software

- This software can be used to send various types of documents, such as invoices, receipts, estimates, quotations, and bills, via email.
- The platform enables you to generate and send/download these documents in PDF format via email and set a due date for payment.
- The platform automatically updates the status of the document when a payment is recorded, and it provides a payment history section for each document, which includes the payment date, payment method, and any additional notes.
- You can also record partial payments of a document.
- The platform features a clean admin dashboard that displays invoice statistics, including the total amount received, total pending, recent

payments, total invoices paid, and the number of unpaid and partially paid invoices.

- The platform supports multiple user registration and uses jsonwebtoken (jwt) and Google authentication for authentication purposes.

The major inputs of Accountill include user data such as total payment received, pending amount, and total amount, paid invoices, partially paid and unpaid invoices, and financial transactions. The software processes this data using algorithms and formulas to generate reports, graphs, and charts that provide insights into the user's financial status.

The software also provides tools for creating invoices, and managing accounts, which help users to manage their finances more efficiently.

## **Technologies used**

The following is a list of the technologies and libraries used in the application<sup>2</sup>:

### **Client<sup>2</sup>**

- React JS is used as the primary framework for building the user interface.
- Redux is used for managing and centralizing the application state.
- React-router-dom is used to handle routing within the application.
- Axios is used to make API calls from the application.
- Material UI and CSS Module are used for creating the user interface.
- React simple Snackbar is used to display success/error notifications to the user.
- Cloudinary is used to allow users to upload their business logo.
- Apex Charts is used to display payment history in the application.
- React-google-login is used to enable authentication using Google.

### **Server<sup>2</sup>**

- Express is used as the backend framework for building the REST API.
- Mongoose is used as the object modeling tool for MongoDB database.
- JWT is used for authentication and authorization purposes.
- bcryptjs is used for data encryption to secure user passwords.
- Nodemailer is used to send invoices via email to the customers.
- html-pdf is used to generate invoice PDFs from the HTML templates.

## Database<sup>2</sup>

The application uses MongoDB as its database management system, specifically MongoDB Atlas, which is a cloud-based platform for MongoDB.

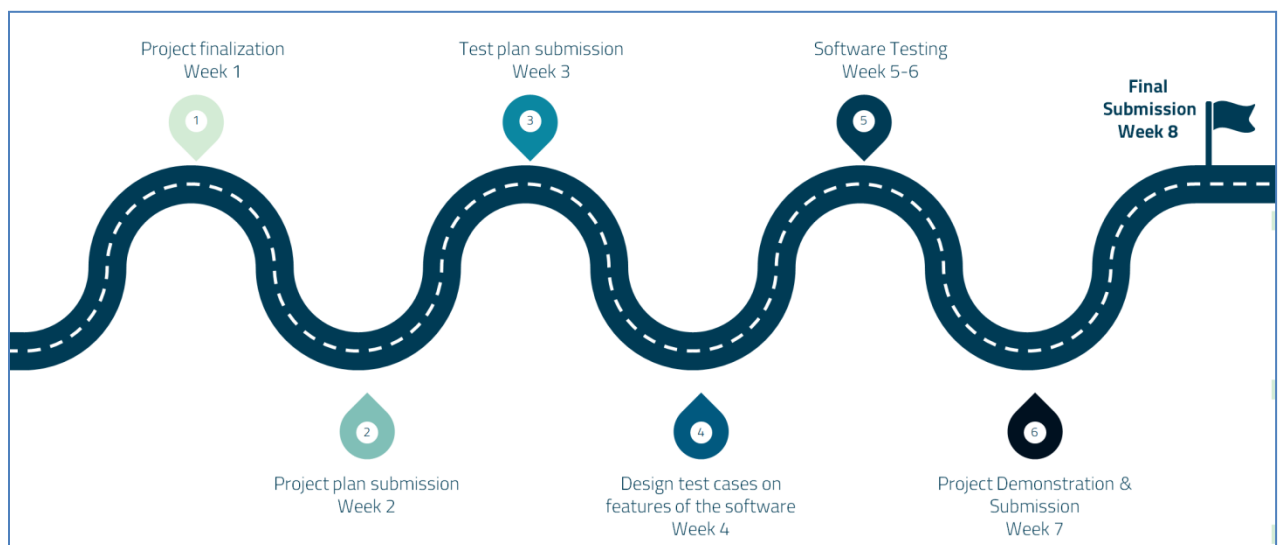
### A list of features that are tested

Sr. No.	Features
1.	<b>• User Management:</b>
2.	1. Registering new users.
3.	2. Authenticating users using JWT token and Google OAuth.
4.	3. Managing user accounts and profiles.
5.	4. Resetting user passwords.
6.	<b>• Customers Management:</b>
7.	1. Adding new customers once logged in.
8.	2. Performing CRUD over customer data.
9.	<b>• Invoice Management:</b>
10.	1. Creating new invoices.
11.	2. Editing existing invoices.
12.	3. Adding items to invoices.
13.	4. Deleting items from invoices.
14.	5. Displaying invoice details.
15.	6. Adding and displaying notes to invoices.
16.	<b>• Email and PDF Invoice Generation:</b>

17.	1. Generating PDF invoices, receipts, estimates, quotations, and bills.
18.	2. Sending invoices, receipts, estimates, quotations, and bills via email.
19.	3. Downloading invoices, receipts, estimates, quotations, and bills in PDF.
20.	• <b>Setting due dates for invoices:</b>
21.	1. Automatically changing invoice status when payment is recorded.
22.	2. Recording payment history for each invoice.
23.	3. Allowing partial payment of invoices.
24.	4. Displaying payment history and invoice status
25.	• <b>Reporting and Analytics:</b>
26.	1. Generating financial reports by generating charts.
27.	2. Providing insights into financial data in the admin dashboard like displaying all invoice statistics including total amount received, total pending, recent payments, total invoice paid, total unpaid and partially paid invoices.

## Schedule

High Level road map of the project



## Detailed schedule

Sr. No.	Activity	Start Date	End Date	Assigned to	Status
1	Project finalization	6-Mar-23	13-Mar-23	All	Done
2	Project plan preparation	13-Mar-23	20-Mar-23	All	Done
3	Project plan consolidation	20-Mar-23	20-Mar-23	All	Done
4	Project plan submission	20-Mar-23	20-Mar-23	All	Done
5	Test plan preparation	21-Mar-23	26-Mar-23	All	Done
6	Test plan consolidation	27-Mar-23	27-Mar-23	All	Done
7	Test plan submission	27-Mar-23	27-Mar-23	All	Done
8	Installation of the software	27-Mar-23	28-Mar-23	All	Done
9	Set up a testing environment	28-Mar-23	25-Apr-23	All	Done
10	Write test driver/stubs	1-Apr-23	4-Apr-23	All	Done
11	Design test cases on features of the software	1-Apr-23	5-Apr-23	All	Done
	• <b>User Management:</b>	1-Apr-23	5-Apr-23	Anubhuti	Done
	1. Registering new users.	1-Apr-23	5-Apr-23	Anubhuti	Done
	2. Authenticating users using JWT token and Google OAuth.	1-Apr-23	5-Apr-23	Anubhuti	Done
	3. Managing user accounts and profiles.	1-Apr-23	5-Apr-23	Anubhuti	Done
	4. Resetting user passwords.	1-Apr-23	5-Apr-23	Anubhuti	Done
12	• <b>Customers Management:</b>	1-Apr-23	5-Apr-23	Anubhuti	Done
	1. Adding new customers once logged in.	1-Apr-23	5-Apr-23	Anubhuti	Done
	2. Performing CRUD over customer data.	1-Apr-23	5-Apr-23	Anubhuti	Done
13	• <b>Invoice Management:</b>	1-Apr-23	5-Apr-23	Shruti	Done
	1. Creating new invoices.	1-Apr-23	5-Apr-23	Shruti	Done
	2. Editing existing invoices.	1-Apr-23	5-Apr-23	Shruti	Done
	3. Adding items to invoices.	1-Apr-23	5-Apr-23	Shruti	Done
	4. Deleting items from invoices.	1-Apr-23	5-Apr-23	Shruti	Done
	5. Displaying invoice details.	1-Apr-23	5-Apr-23	Shruti	Done
	6. Adding and displaying notes to invoices.	1-Apr-23	5-Apr-23	Shruti	Done
14	• <b>Email and PDF Invoice Generation:</b>	1-Apr-23	5-Apr-23	Shruti	Done
	1. Generating PDF invoices, receipts, estimates, quotations, and bills.	1-Apr-23	5-Apr-23	Shruti	Done
	2. Sending invoices, receipts, estimates, quotations, and bills via email.	1-Apr-23	5-Apr-23	Shruti	Done
	3. Downloading invoices, receipts, estimates, quotations, and bills in PDF.	1-Apr-23	5-Apr-23	Shruti	Done
15	• <b>Setting due dates for invoices:</b>	1-Apr-23	5-Apr-23	Suman	Done
	1. Automatically changing invoice status when payment is recorded.	1-Apr-23	5-Apr-23	Suman	Done
	2. Recording payment history for each invoice.	1-Apr-23	5-Apr-23	Suman	Done
	3. Allowing partial payment of invoices.	1-Apr-23	5-Apr-23	Suman	Done
	4. Displaying payment history and invoice status	1-Apr-23	5-Apr-23	Suman	Done
16	• <b>Reporting and Analytics:</b>	1-Apr-23	5-Apr-23	Suman	Done
	1. Generating financial reports by generating charts.	1-Apr-23	5-Apr-23	Suman	Done
	2. Providing insights into financial data in the admin dashboard like displaying all invoice statistics including total amount received, total pending, recent payments, total invoice paid, total unpaid and partially paid invoices.	1-Apr-23	5-Apr-23	Suman	Done
17	Perform tests				Done
	• <b>User Management:</b>	6-Apr-23	25-Apr-23	Shruti	Done
	1. Registering new users.	6-Apr-23	25-Apr-23	Shruti	Done
	2. Authenticating users using JWT token and Google OAuth.	6-Apr-23	25-Apr-23	Shruti	Done
	3. Managing user accounts and profiles.	6-Apr-23	25-Apr-23	Shruti	Done
	4. Resetting user passwords.	6-Apr-23	25-Apr-23	Shruti	Done
	• <b>Customers Management:</b>	6-Apr-23	25-Apr-23	Shruti	Done
	1. Adding new customers once logged in.	6-Apr-23	25-Apr-23	Shruti	Done
	2. Performing CRUD over customer data.	6-Apr-23	25-Apr-23	Shruti	Done
	• <b>Invoice Management:</b>	6-Apr-23	25-Apr-23	Suman	Done
	1. Creating new invoices.	6-Apr-23	25-Apr-23	Suman	Done
	2. Editing existing invoices.	6-Apr-23	25-Apr-23	Suman	Done
	3. Adding items to invoices.	6-Apr-23	25-Apr-23	Suman	Done
	4. Deleting items from invoices.	6-Apr-23	25-Apr-23	Suman	Done

	5. Displaying invoice details.	6-Apr-23	25-Apr-23	Suman	Done
	6. Adding and displaying notes to invoices.	6-Apr-23	25-Apr-23	Suman	Done
	• <b>Email and PDF Invoice Generation:</b>	6-Apr-23	25-Apr-23	Anubhuti	Done
	1. Generating PDF invoices, receipts, estimates, quotations, and bills.	6-Apr-23	25-Apr-23	Anubhuti	Done
	2. Sending invoices, receipts, estimates, quotations, and bills via email.	6-Apr-23	25-Apr-23	Anubhuti	Done
	3. Downloading invoices, receipts, estimates, quotations, and bills in PDF.	6-Apr-23	25-Apr-23	Anubhuti	Done
	• <b>Setting due dates for invoices:</b>	6-Apr-23	25-Apr-23	Anubhuti	Done
	1. Automatically changing invoice status when payment is recorded.	6-Apr-23	25-Apr-23	Anubhuti	Done
	2. Recording payment history for each invoice.	6-Apr-23	25-Apr-23	Anubhuti	Done
	3. Allowing partial payment of invoices.	6-Apr-23	25-Apr-23	Anubhuti	Done
	4. Displaying payment history and invoice status	6-Apr-23	25-Apr-23	Anubhuti	Done
	• <b>Reporting and Analytics:</b>	6-Apr-23	25-Apr-23	Suman	Done
	1. Generating financial reports by generating charts.	1-Apr-23	5-Apr-23	Suman	Done
	2. Providing insights into financial data in the admin dashboard like displaying all invoice statistics including total amount received, total pending, recent payments, total invoice paid, total unpaid and partially paid invoices.	1-Apr-23	5-Apr-23	Suman	Done
18	Summarizing results	25-Apr-23	12-May-23	All	Done
19	Final report preparation	29-Apr-23	29-Apr-23	All	Done
20	Final presentation preparation	2-May-23	2-May-23	All	Done
21	Final submission	6-May-23	6-May-23	All	yet to start

## Test Design

We discussed and finalized our testing strategy along with that designed functional & non-functional requirements test cases based on features of the software. Our group divided the tasks so that we don't miss any features to test. We reviewed each other works to ensure we cover all key portions of the software.

## Test Case Specifications

This document will list all test cases. Each test case will be a table as below.

Test Case Identifier	TC 001
Test Items/feature	User Management : Registering new users
Preconditions	User account/email doesn't exist
Test Steps	<p>the exact steps to carry out the test case, e.g.,</p> <ol style="list-style-type: none"> <li>1. Navigate to URL <a href="#">Accountill- Free Invoicing App for Freelancers and Small Businesses</a></li> <li>2. Select and click "DON'T HAVE AN ACCOUNT? SIGN UP" in the main screen</li> <li>3. input "Anubhuti" in "First Name" field</li> <li>4. input "Dayal" in "Last Name" field</li> <li>5. input "Anubhuti.day@gmail.com" in "Email Address" field</li> </ol>

	6. input a password in "Password@123" field 7. Repeat the same password in Repeat Password filed 8. click Sign up
Output Specifications	a screen will load with an image showing a man carrying empty blue box and message "Nothing to display. Click the plus icon to start creating".
Inter-case Dependencies	
<b>Test Result</b>	<b>Pass</b>

Test Case Identifier	TC 002
Test Items/feature	User Management : Registering new users
Preconditions	User has gmail account/email
Test Steps	1. Navigate to URL <a href="#">Accountill- Free Invoicing App for Freelancers and Small Businesses</a> 2. click "Continue with Google " in the main screen 3. Another pop up will load with message "Choose an Account to continue with accountill.com" 4. Select an existing gmail account 5. Click "confirm"
Output Specifications	a screen will load with an image showing a man carrying empty blue box and message "Nothing to display. Click the plus icon to start creating".
Inter-case Dependencies	
<b>Test Result</b>	<b>Pass</b>

Test Case Identifier	TC 003
Test Items/feature	User Management : Registering new users verify cancellation



Preconditions	User has gmail account/email
Test Steps	<ol style="list-style-type: none"> <li>1. Navigate to URL <a href="#">Accountill- Free Invoicing App for Freelancers and Small Businesses</a></li> <li>2. Select and click “Continue with Google ” in the main screen</li> <li>3. Another pop up will load with message “Choose an Account to continue with accountill.com”</li> <li>4. Select an existing gmail account</li> <li>5. Click “cancel”</li> </ol>
Output Specifications	Initial Login screen should appear
Inter-case Dependencies	
<b>Test Result</b>	<b>Pass</b>

Test Case Identifier	TC 004
Test Items/feature	Authenticating users using JWT token and Google OAuth
Preconditions	user must have an existing account
Test Steps	<ol style="list-style-type: none"> <li>1. Navigate to URL <a href="#">Accountill- Free Invoicing App for Freelancers and Small Businesses</a></li> <li>2. Enter your existing email address and password</li> <li>3. Click sign in button</li> </ol>
Output Specifications	Home page will load with your details or a screen will load with an image showing a man carrying empty blue box and message “Nothing to display. Click the plus icon to start creating”.
Inter-case Dependencies	
<b>Test Result</b>	<b>Pass</b>

Test Case Identifier	TC 005
Test Items/feature	User Management : Managing user accounts and

	profiles.
Preconditions	user logged in
Test Steps	<ol style="list-style-type: none"> <li>1. Expand left side menu bar</li> <li>2. At the bottom left click “settings” icon</li> <li>3. Profile Settings screen will load</li> <li>4. Click on “Edit Profile” button</li> <li>5. Try uploading a logo</li> <li>6. Complete all mandatory fields Phone number , Business name , Contact Address , Payment Details/notes</li> <li>7. Click update settings</li> </ol>
Output Specifications	Profile Settings screen will load with all your entered details and image in logo
Inter-case Dependencies	TC 004
<b>Test Result</b>	<b>Pass</b>

Test Case Identifier	TC 006
Test Items/feature	User Management : Resetting user passwords
Preconditions	User has and preexisting account
Test Steps	<ol style="list-style-type: none"> <li>1. Navigate to URL <a href="#">Accountill- Free Invoicing App for Freelancers and Small Businesses</a></li> <li>2. Click on “Forgotten password” link</li> <li>3. input your email address</li> <li>4. click “submit” button</li> </ol>
Output Specifications	Screen will load with message “A password reset link has been sent to your email. Please follow the link to reset your password” with two button “back to home” & “Resend Link”
Inter-case Dependencies	Other test cases that are related
<b>Test Result</b>	<b>Pass</b>

Test Case Identifier	TC 007
Test Items/feature	User Management : Resetting user passwords
Preconditions	User has requested to reset the password and clicks submit button
Test Steps	1. click "back to home"
Output Specifications	Home page loads
Inter-case Dependencies	TC 006
<b>Test Result</b>	<b>Pass</b>

Test Case Identifier	TC 008
Test Items/feature	User Management : Resetting user passwords
Preconditions	User has requested to reset the password and clicks submit button
Test Steps	1. "Resend Link"
Output Specifications	Password reset link should come on entered email account
Inter-case Dependencies	TC 006
<b>Test Result</b>	<b>Fail : Sometimes Email is not received , still user doesn't see any error.</b>

Test Case Identifier	TC 009
Test Items/feature	Customers Management: Adding new customers once logged in
Preconditions	User logged in and have no customers added
Test Steps	<ol style="list-style-type: none"> <li>1. Expand left side menu bar</li> <li>2. Choose fourth option from the menu "Customers"</li> </ol>

Output Specifications	a screen will load with message “No customers yet. Click the plus icon to add customer”.
Inter-case Dependencies	
<b>Test Result</b>	<b>Pass</b>

Test Case Identifier	TC 0010
Test Items/feature	Customers Management: Adding new customers once logged in
Preconditions	User logged in and have no customers added , navigates to “customer” screen
Test Steps	1. User clicks blue color “+” icon located on the bottom right of the screen
Output Specifications	Two more icons appear with “New Customer” & “New Invoice”
Inter-case Dependencies	TC 009
<b>Test Result</b>	<b>Pass</b>

Test Case Identifier	TC 011
Test Items/feature	Customers Management: Adding new customers once logged in
Preconditions	User logged in and have no customers added , navigates to “customer” screen
Test Steps	1. User clicks blue color “+” icon located on the bottom right of the screen 2. User clicks icon “New Customer”
Output Specifications	New Customer pop up window appears
Inter-case Dependencies	TC 009
<b>Test Result</b>	<b>Pass</b>

Test Case Identifier	TC 012
Test Items/feature	Customers Management: Adding new customers once logged in
Preconditions	User navigates to New Customer pop up window
Test Steps	<ol style="list-style-type: none"> <li>1. Input name "ABC" , email "ABC@gmail.com" , contact Address "8981 Islander Dr Cleveland Ohio"</li> <li>2. Click "save Customer"</li> </ol>
Output Specifications	One grid appears on the screen with newly added customer details.
Inter-case Dependencies	TC 009
<b>Test Result</b>	<b>Fail : No grid appears</b>

Test Case Identifier	TC 013
Test Items/feature	Invoice Management: Creating New Invoices
Preconditions	Customer doesn't exist
Test Steps	<p>The exact steps to carry out the test case, e.g.,</p> <ol style="list-style-type: none"> <li>9. Once Logged in accountill, on the left side we would find tool bar.</li> <li>10. Choose an option to CREATE.</li> <li>11. Click on New Customer tab.</li> <li>12. Enter Name, Email, Phone, and Address.</li> </ol>
Output Specifications	Firstly, a page will be loaded with invoice form on it. By clicking on the New Customer tab, a dialogue box will pop up asking for the details.
Inter-case Dependencies	
<b>Test Result</b>	<b>Pass</b>

Test Case Identifier	TC 014
Test Items/feature	Invoice Management: Creating New Invoices
Preconditions	Already saved customer details
Test Steps	6. Once Logged in accountill, on the left side we would find tool bar. 7. Choose an option to CREATE. 8. Select an existing customer.
Output Specifications	The saved details of the customer would be visible on the invoice.
Inter-case Dependencies	
<b>Test Result</b>	<b>Pass</b>

Test Case Identifier	TC 015
Test Items/feature	Invoice Management: Editing existing invoices.
Preconditions	Previously entered quantity, price, discount, Tax Rates, Due dates and currency.
Test Steps	6. As we log into Accountill, on the left hand side we would find the toolbar. 7. Select Invoice option, a list of existing invoices appears. 8. Click on the edit logo on the corresponding invoice you want to edit. 9. The selected invoice loads and you could change the numerical accordingly.
Output Specifications	Create invoice page appears.
Inter-case Dependencies	
<b>Test Result</b>	<b>Pass</b>

Test Case Identifier	TC 016
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Test Items/feature	Invoice Management: Adding items to invoices.
Preconditions	A invoice with customer details must be created.
Test Steps	<ol style="list-style-type: none"> <li>1. As we log into Accountill, on the left-hand side we would find the toolbar.</li> <li>2. Select Invoice option, a list of existing invoices appears.</li> <li>3. Click on the edit logo on the corresponding invoice you want to edit.</li> <li>4. Under the items, click on the '+' sign to add any items to the invoice</li> </ol>
Output Specifications	A new line appears where the customer must enter the details of the item.
Inter-case Dependencies	
<b>Test Result</b>	<b>Pass</b>

Test Case Identifier	TC 017
Test Items/feature	Invoice Management: Deleting items from invoices.
Preconditions	Existing items in the list
Test Steps	<ol style="list-style-type: none"> <li>1. As we log into Accountill, on the left-hand side we would find the toolbar.</li> <li>2. Select Invoice option, a list of existing invoices appears.</li> <li>3. Click on the edit logo on the corresponding invoice you want to edit.</li> <li>4. In the item table, the right most part is the action column. In that by clicking the delete icon, we can delete the corresponding item we wish to.</li> </ol>
Output Specifications	Once clicking the delete icon the row disappears.
Inter-case Dependencies	TC 016
<b>Test Result</b>	<b>Pass</b>

Test Case Identifier	TC 018
Test Items/feature	Invoice Management: Adding and Displaying Notes
Preconditions	An existing created invoice
Test Steps	<ol style="list-style-type: none"> <li>1. As we log into Accountill, on the left-hand side we would find the toolbar.</li> <li>2. Select Invoice option, a list of existing invoices appears.</li> <li>3. Click on the edit logo on the corresponding invoice you want to edit.</li> <li>4. When we move to the bottom of the page, a section is present where one can add notes regarding the invoice and payment info.</li> </ol>
Output Specifications	A note would be generated at the end of the invoice.
Inter-case Dependencies	
<b>Test Result</b>	<b>Pass</b>

Test Case Identifier	TC 019
Test Items/feature	Email and PDF Invoice Generation: Generating the Invoice
Preconditions	User must have a prefilled invoice
Test Steps	<ol style="list-style-type: none"> <li>2. Once the invoice is filled with all the details at the bottom of the page click on “ Save and continue” button.</li> </ol>
Output Specifications	A new page with invoices and additional action button appears
Inter-case Dependencies	TC 013, TC 014
<b>Test Result</b>	<b>Pass</b>

Test Case Identifier	TC 020
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Test Items/feature	Email and PDF Invoice Generation: Sending Invoice via Email to customer
Preconditions	The invoice must be created and saved by the user.
Test Steps	<ol style="list-style-type: none"> <li>1. Once the invoice is filled with all the details at the bottom of the page click on “ Save and continue” button.</li> <li>2. On the top of the page, the user would find Send to Customer button where the email would sent to customer directly.</li> </ol>
Output Specifications	An email would be sent to the customer directly.
Inter-case Dependencies	TC 019
<b>Test Result</b>	<b>Fail. The email was not received by the customer.</b>

Test Case Identifier	TC 021
Test Items/feature	Email and PDF Invoice Generation: Downloading Invoice in PDF
Preconditions	The invoice must be created and saved by the user.
Test Steps	<ol style="list-style-type: none"> <li>1. Once the invoice is filled with all the details at the bottom of the page click on “ Save and continue” button.</li> <li>2. On the top of the page, the user would find Download PDF and the invoice would be downloaded automatically.</li> </ol>
Output Specifications	The invoice in the PDF format would be generated.
Inter-case Dependencies	TC 019
<b>Test Result</b>	<b>Fail. It did not have the pdf format downloaded.</b>

Test Case Identifier	TC 022
Test Items/feature	User Management : Validate Email
Preconditions	User has gmail account/email
Test Steps	<ol style="list-style-type: none"> <li>1. Navigate to URL <a href="https://accountill.com/login">https://accountill.com/login</a></li> <li>2. Select and click "DON'T HAVE AN ACCOUNT? SIGN UP" in the main screen</li> <li>3. input "Suman" in "First Name" field</li> <li>4. input "Kumar" in "Last Name" field</li> <li>5. input ".email@domain.com" in "Email Address" field</li> <li>6. input a "Password@123" in "Password" field</li> <li>7. Repeat the same password in Repeat Password field</li> <li>8. click Sign up</li> </ol>
Output Specifications	It shouldn't allow login and throw error as Invalid Email as the leading dot in the address is not allowed
Inter-case Dependencies	
<b>Test Result</b>	<b>Fail. The system allowed the invalid email to signup.</b>

Test Case Identifier	TC 023
Test Items/feature	User Management : Validate Email
Preconditions	User has gmail account/email
Test Steps	<ol style="list-style-type: none"> <li>1. Change the email as "<a href="#">email.@domain.com</a>" in "Email Address" field</li> <li>2. click Sign up</li> </ol>
Output Specifications	It shouldn't allow login and throw error as Invalid Email as trailing dot in address is not allowed
Inter-case Dependencies	TC [PREVIOUS ONE]
<b>Test Result</b>	<b>Fail. The system allowed the invalid email to signup.</b>

Test Case Identifier	TC 024
Test Items/feature	User Management : Validate Email
Preconditions	User has gmail account/email
Test Steps	<ol style="list-style-type: none"> <li>3. Change the email as "<a href="#">email..email@domain.com</a>" in "Email Address" field</li> <li>4. click Sign up</li> </ol>
Output Specifications	It shouldn't allow login and throw error as Invalid Email as multiple dots in address is not allowed

Inter-case Dependencies	TC [PREVIOUS ONE]
<b>Test Result</b>	<b>Fail. The system allowed the invalid email to signup.</b>

Test Case Identifier	TC 025
Test Items/feature	User Management : Validate Email
Preconditions	User has gmail account/email
Test Steps	5. Change the email as "email@domain" in "Email Address" field 6. click Sign up
Output Specifications	It shouldn't allow login and throw error as Invalid Email as missing top-level domain (.com/.net/.org/etc.)
Inter-case Dependencies	TC [PREVIOUS ONE]
<b>Test Result</b>	<b>Fail. The system allowed the invalid email to signup.</b>

Test Case Identifier	TC 026
Test Items/feature	User Management : Validate Email
Preconditions	User has gmail account/email
Test Steps	7. Change the email as " <a href="#">email@domain.web</a> " in "Email Address" field 8. click Sign up
Output Specifications	It shouldn't allow login and throw error as Invalid Email as .web is not a valid top-level domain
Inter-case Dependencies	TC [PREVIOUS ONE]
<b>Test Result</b>	<b>Fail. The system allowed the invalid email to signup.</b>

TC 023	TC 027
Test Items/feature	User Management : Validate Email
Preconditions	User has gmail account/email
Test Steps	9. Change the email as " <a href="#">email@111.222.333.44444</a> " in "Email Address" field 10. click Sign up
Output Specifications	It shouldn't allow login and throw error as Invalid Email as invalid IP format
Inter-case Dependencies	TC [PREVIOUS ONE]
<b>Test Result</b>	<b>Fail. The system allowed the invalid email to signup.</b>

Test Case Identifier	TC 028
Test Items/feature	Invoice Management: Editing existing invoices.
Preconditions	Previously entered quantity, price, discount, Tax Rates, Due dates and currency.
Test Steps	As we log into Accountill, on the left hand side we would find the toolbar. Select Invoice option, a list of existing invoices appears. Click on the edit logo on the corresponding invoice you want to edit. The selected invoice loads and you could change the numerical accordingly. The final total will be amounted.
Output Specifications	The final total to be paid must be rounded off up to 2 decimal places in the currency.
Inter-case Dependencies	
Test Result	<b>Fail. It did not round off to 2 decimal places.</b>

Test Results:

TOTAL EXECUTED	<b>28</b>
Pass	<b>17</b>
Fail	<b>11</b>

Conclusion: The software is good with rich UI, but required to fix minor issues , Error handle-ling along with email validation and send functionality.

## References

- [1] <https://www.panshak.com>
- [2] <https://github.com/panshak/accountill>