

Accounttill: Invoicing Application

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### **Software Test Plan**

EEC 623/CIS 636 Software Quality Assurance

### **Proposed by**

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## SOFTWARE TEST PLAN

### Software to be tested

Developed by Panshak Zion, Accountill is an accounting software that is open-source and designed to cater to the financial management needs of small to medium-sized businesses and non-profit organizations. Among its features are Accounts Receivable, Accounts Payable, Bank Reconciliation, Financial Reports, Multi-user Access, and User-Friendly Interface.

With Accounts Receivable, users can conveniently handle invoices, payments, and receipts while the Accounts Payable feature enables them to create bills, monitor payments, and manage vendor accounts. Bank Reconciliation allows for easy comparison of bank statements with Accountill's records, reducing errors and promoting accuracy. Financial Reports enable users to generate financial statements such as income statements, balance sheets, and cash flow statements. The software also allows for multiple users to access it simultaneously, which is beneficial for businesses with several departments or locations.

The latest version of Accountill available on the GitHub repository was version 1.0.2. This version was released on June 8, 2020, and included several bug fixes and improvements to the software's functionality.

Accountill is built with PHP, MySQL, and Bootstrap, making it customizable and extensible. Its open-source nature permits developers to modify and improve the software to fit their unique requirements. Overall, Accountill is a comprehensive and user-friendly accounting software that is well-suited for small to medium-sized businesses.

### Functions to be tested

The section gives a list of functions/features to be tested. As we have mentioned about the functional decomposition of the Accountill in the previous project plan we would be going forward with those functions itself which are to be tested the open source website.

- User Management:
  1. Registering new users.
  2. Authenticating users using JWT token and Google OAuth.
  3. Managing user accounts and profiles.
  4. Resetting user passwords.

- Customers Management:
  1. Adding new customers once logged in.
  2. Performing CRUD over customer data.
- Invoice Management:
  1. Creating new invoices.
  2. Editing existing invoices.
  3. Adding items to invoices.
  4. Deleting items from invoices.
  5. Displaying invoice details.
  6. Adding and displaying notes to invoices.
- Email and PDF Invoice Generation:
  1. Generating PDF invoices, receipts, estimates, quotations, and bills.
  2. Sending invoices, receipts, estimates, quotations, and bills via email.
  3. Downloading invoices, receipts, estimates, quotations, and bills in PDF.
- Setting due dates for invoices:
  1. Automatically changing invoice status when payment is recorded.
  2. Recording payment history for each invoice.
  3. Allowing partial payment of invoices.
  4. Displaying payment history and invoice status
- Reporting and Analytics:
  1. Generating financial reports by generating charts.
  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.

## Major software technologies [1]

This project was built with the MERN stack (MongoDB, Express, React and NodeJS) [1], please see details of the technologies used in this project.

### Client

- React JS
- Redux (for managing and centralizing application state)

- React-router-dom (To handle routing)
- Axios (for making api calls)
- Material UI & CSS Module (for User Interface)
- React simple Snackbar (To display success/error notifications)
- Cloudinary (to allows users to upload their business logo)
- Apex Charts (to display payment history)
- React-google-login (To enable authentication using Google)

## Server

- Express
- Mongoose
- JWT (For authentication)
- bcryptjs (for data encryption)
- Nodemailer (for sending invoice via email)
- html-pdf (for generating invoice PDFs)
- Database
- MongoDB (MongoDB Atlas)

## Testing strategy:

Unit Testing: Developers should write unit tests for all the individual functions and components of the system. This will help ensure that each piece of functionality is working correctly in isolation. Unit tests can be automated and run frequently during development. As we are focusing more on the functionality and QA perspective, we will be considering the System testing as our strategy to ensure the functionality testing.

## System testing:

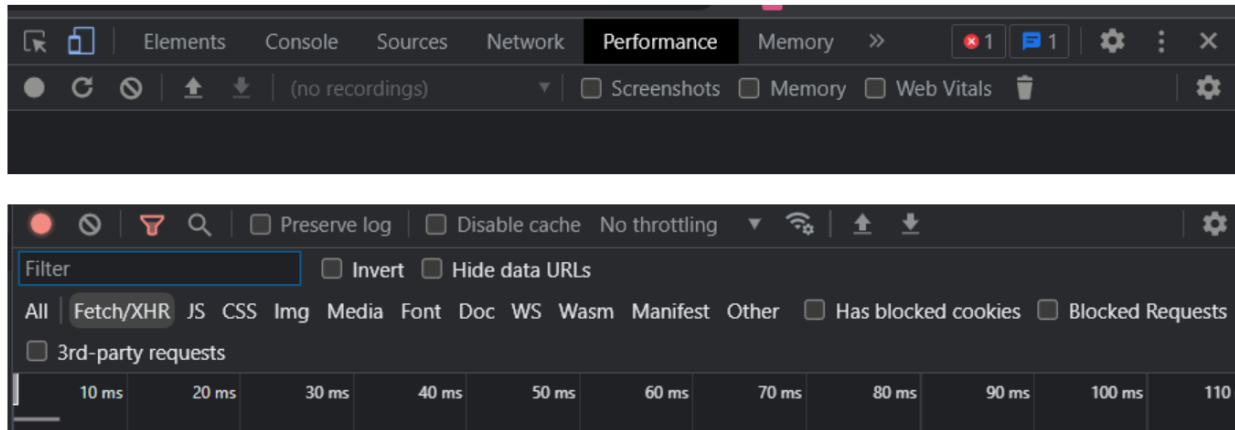
The system testing strategy for Accountill includes a range of system tests to be conducted to ensure that the system meets the functional and non-functional requirements. The types of system tests to be conducted include:

Integration testing: This type of testing verifies that the different modules of the system work together and that the data flow between them is seamless like integrating the OAuth for authentication in the system and ensuring the authentication and authorization works fine in the application.

Acceptance testing: This type of testing is conducted to verify that the system meets the user's requirements, and the user can work efficiently with the system like creating customer, using them to add invoice and generating dashboard data.

Performance testing: This type of testing checks the performance of the system in terms of response time, scalability, and resource utilization. We will be using Google Chrome Developer tool to see the request and response time over a normal stable network.

The responsibility for conducting the system tests lies within the team. We will ensure that the system tests are conducted according to the test plan, and the test results are recorded and reported.



To design test cases, we will follow a systematic approach to identify and document test scenarios and use cases. The approach and methods for designing test cases will include identifying the critical functionality of the system, defining test objectives, and creating test cases to achieve those objectives. Furthermore, we will use appropriate testing tools like Google Chrome Developer tool and techniques to design and execute test cases effectively. We will also maintain proper documentation of the test cases, test results, and defects found during testing

## Schedule

This section presents a list of project tasks with their starting and ending dates

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

	3. Adding items to invoices.	6-Apr-23	25-Apr-23	Suman	yet to start
	4. Deleting items from invoices.	6-Apr-23	25-Apr-23	Suman	yet to start
	5. Displaying invoice details.	6-Apr-23	25-Apr-23	Suman	yet to start
	6. Adding and displaying notes to invoices.	6-Apr-23	25-Apr-23	Suman	yet to start
	• <b>Email and PDF Invoice Generation:</b>	6-Apr-23	25-Apr-23	Anubhuti	yet to start
	1. Generating PDF invoices, receipts, estimates, quotations, and bills.	6-Apr-23	25-Apr-23	Anubhuti	yet to start
	2. Sending invoices, receipts, estimates, quotations, and bills via email.	6-Apr-23	25-Apr-23	Anubhuti	yet to start
	3. Downloading invoices, receipts, estimates, quotations, and bills in PDF.	6-Apr-23	25-Apr-23	Anubhuti	yet to start
	• <b>Setting due dates for invoices:</b>	6-Apr-23	25-Apr-23	Anubhuti	yet to start
	1. Automatically changing invoice status when payment is recorded.	6-Apr-23	25-Apr-23	Anubhuti	yet to start
	2. Recording payment history for each invoice.	6-Apr-23	25-Apr-23	Anubhuti	yet to start
	3. Allowing partial payment of invoices.	6-Apr-23	25-Apr-23	Anubhuti	yet to start
	4. Displaying payment history and invoice status	6-Apr-23	25-Apr-23	Anubhuti	yet to start
	• <b>Reporting and Analytics:</b>	6-Apr-23	25-Apr-23	Suman	yet to start
	1. Generating financial reports by generating charts.	1-Apr-23	5-Apr-23	Suman	yet to start
	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	yet to start
	Summarizing results	25-Apr-23	12-May-23	All	yet to start
	Final report preparation	29-Apr-23	29-Apr-23	All	yet to start
	Final presentation preparation	2-May-23	2-May-23	All	yet to start
	Final submission	6-May-23	6-May-23	All	yet to start

## 1 References

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