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Coworking Abstract— ABC Space Company is a service provider offering event space, meeting rooms, private offices, and coworking spaces for professionals. The company faces financial accounting challenges, particularly in recording sales transactions due to the limitations of the free Point of Sales (POS) system used, and complex, error-prone manual accounting processes. This research aims to develop an Accounting Information System (AIS) integrated with POS and online booking using the Rapid Application Development (RAD) method. The results show that the developed system minimizes inaccuracies in transaction recording, speeds up financial report preparation, and improves efficiency customer operational and satisfaction. The implementation of online booking features also successfully enhances the customer experience. With this new system, the company can manage sales, expenses, and financial reports in one integrated platform, significantly improving financial and operational management. Testing through User Acceptance Testing with the Blackbox method and interviews with front desk. finance staff, and customers indicates that the system meets user needs effectively.

Keywords— accounting information system, coworking space, online booking, point of sales, rapid application development

I. INTRODUCTION

ABC Coworking Space Company (pseudonym) is a provider of coworking space services in Semarang. As a service company, its operational needs rely on equipment, buildings, and supplies [1]. Purchases of equipment are made not for resale, but to provide services to customers [2]. Nonetheless, the company still requires an accounting system to facilitate transaction recording, improve financial performance, and strengthen management control [1].

Currently, they face challenges in recording financial transaction and accounting processes. The free Point of (POS) system they Sales use has limitations, such as restricted database capacity, resulting in many transactions not being recorded and invoices having to be manually created using Google Docs. In accounting, the semi-computerized process using Google Sheets is also prone to errors and slows down the preparation of financial reports.

The company needs a technological solution in the form of an efficient and accurate information system to support business processes [3]. An information system, which consists of people. processes, data, and technology, is used to disseminate collect, process, and information within the organization [4]. It is generally used to speed up data processing and support decision-making [5]. This research aims to design and develop an Accounting Information System (AIS) that minimize errors, expedite the can reports, preparation of financial and automatically generate more accurate reports[6].

Additionally, the company also needs a system that supports online booking, which

is currently unavailable. Integrating online booking into the POS system will enhance the company's efficiency and responsiveness to customer needs [7]. With an online booking system, customers can make reservations anytime and anywhere, increasing the efficiency and effectiveness of the booking process [8], [9].

A good information system must be well-designed [10]. The Rapid Application Development (RAD) method is chosen for the system development because it focuses on rapid iterations and user feedback throughout the process, ensuring the results meet business needs [11]. Developing an AIS connected to the POS will integrate sales, expenses, and financial reporting systems into a single web-based platform. The ease of use of information technology is a significant factor in technology adoption [12]. This technology is expected streamline sales processes to and accounting management, providing significant benefits to the company for faster and more accurate decision-making.

II. METHOD

This research employs the Rapid Application Development (RAD) method for fast and flexible system development. The stages of the RAD method include requirements analysis to identify key features; detailed system design; development; and implementation with testing before deployment [13].



Figure 1. Rapid Application Development

In the implementation stage, User Acceptance testing is carried out using the black box method to verify that the system can function properly.

III. RESULTS AND DISCUSSION

The result is an Accounting Information System (AIS) with an integrated POS and online booking system. This solution addresses financial accounting challenges, enhances operational efficiency, and improves customer satisfaction.

A. Requirement Analysis

A use case diagram is designed to outline the modules within the system and to separate functions according to user roles. There are four roles: customer, front desk, finance, and finance director, each with their respective authorities and access levels.



Figure 1. Use Case Diagram

B. System Design

The Entity-Relationship Diagram (ERD) for a Coworking Space Management System outlines the key entities and their relationships within the system.



Figure 2. Entity Relationship Diagram

Development of an Integrated Accounting Information System with Point of Sale (POS) and Online Booking (Study Case: Coworking Space)



Figure 3. Point of Sales Flowchart

The flowchart outlines the process flow for the POS system. It begins with creating an order, followed by generating an invoice. Then proceeds to making a payment. The process ends with generating a receipt.



Figure 4. Chart of Accounts Flowchart

The flowchart outlines account management processes: inserting, deleting, editing, viewing, and exporting accounts. Each starts with specific user actions followed by steps.



Figure 4. Transaction Flowchart

This flowchart details the process of managing transactions in the POS system. Steps include inserting, editing, and viewing transactions, validating and saving data, and displaying success messages. Options to view detailed reports and export data to Excel are also included.



Figure 5. Report Flowchart

This flowchart shows the process from the selection of a report type to the generation and printing of the report. The flow includes data retrieval from different tables depending on the report type and the eventual printing of the report



Figure 6. Online Booking (Customer) Flowchart

The flowchart outlines the online booking process. It starts with the user entering booking details on the online booking page, proceeds to checkout, and then to payment via QRIS Midtrans Payment Gateway. If payment is successful, data is inserted into various tables, a receipt is generated, and an email notification is sent to the user. If the booking is canceled, the booking data is deleted. The process ends after payment or cancellation.



Figure 7. Order Flowchart

The flow is divided into two main parts: handling online booking and handling all incoming orders, both through online booking and POS.

C. Construction

The development is carried out using the PHP programming language with a

popular web framework for PHP-based application development, namely Laravel [14]. By using Laravel, developers can accelerate the development process and enhance the quality and efficiency of the applications created [15].



Figure 8. Accounting Dashboard Page

Figure 8 presents a dashboard page that provides a comprehensive analysis of the company's accounting.



Figure 9. Point of Sales Page

Figure 9 depicts the initial view of the POS menu, which will be used by the Frontdesk to process on-site room sales and handle payments, including cash and QRIS.

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	Showing 1 to 10 of 18 entries				2

Figure 10. Chart of Account (COA) Page

The COA Master page presents a neatly organized table containing a list of accounts

in the Chart of Accounts (COA). It includes action options for viewing, editing, and deleting each account entry.

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Figure 11. Add Transaction Page

On the transaction addition page, accountants or front desk personnel will enter transactions. They do not need to input journals but can utilize existing templates from the journal templates. Therefore, a front desk employee without accounting knowledge can more easily perform transactions.

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₽ PO\$xAccounting	Ξ	Report		Victorio Almers
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		4-40012 Pendiopoton Meeting Room		
		4-40032-1 Pendopoton Meeting Room 3 Jam		200.000
		Total of Revenue		Rp2.850.00
		Operational Expenses		
		6-60121 Bioya Catering & Makon Karyawan		851.200
		8-60122 taban pengaluaran tinack		50.000
		Total of Operational Expense		Rp901.20
		Profit (Loss)		Rp1.948.800

Figure 12. Income Statement Report

Figure 12 illustrates a sample report, specifically the profit and loss statement generated for the selected period. This report can be exported in PDF format.



Figure 13. Customer Online Booking

Figure 13 displays the mobile interface for the online booking page, designed to be responsive and user-friendly for customers to make bookings and payments using QRIS. Afterward, they receive an email containing a QR code which they will show to the front desk during check-in.

Figure 14. QR Code Scanner

Figure 14 illustrates the process where the front desk scans the customer's QR code to initiate the check-in process. Staff will use a QR Code Scanner device to read the customer's booking data stored within the system.

D. Implementation

The testing process will be conducted using User Acceptance Testing (UAT) with a Black Box approach, where testing is performed without considering the internal details of the system.

Table 1 Black Box Testing Login			
Test Case	Result	Status	
Incorrect Username/Email	Login failed with a warning message	Passed	
and Password	displayed.		
Correct	Successful login	Passed	
Username/Email	redirects to the		
and Password	dashboard.		
Table 2 Black Box Testing Dashboard			
Test Case R	esult	Status	

Accounting Analytics	Displays accounting charts and data.	Passed
Sales Analytics	Displays sales charts and data.	Passed

Table 3 Black Box Testing POS			
Test Case	Result	Status	
Input and	Successfully inputs	Passed	
edit Cart	product data (name and		
	quantity) and customer		
	into the cart.		
Invoice Page	Displays order details	Passed	
-	and prints the invoice		
Cash	Successfully processes	Passed	
Payment	payment via cash		
QRIS	Successfully processes	Passed	
Payment	payment via QRIS using		
	"Midtrans" payment		
	gateway.		
Customer	Customer receives an	Passed	
Email	email with payment		
Notification	details.		
Product	Available seats change	Passed	
Availability	automatically.		

Table 4 Black Box Testing Order			
Test Case	Result	Status	
Display Order Data	Successfully displays daily order data and totals	Passed	
Print Receipt	Receipt can be printed and saved as PDF.	Passed	

Customer	Customer status and	Passed
Checkout	room availability are	
	updated.	

Table 5 Black Box Testing Produk			
Test Case	Result	Status	
CRUD Products	Product data can be added, updated, or deleted.	Passed	

Table 6 Black Box Testing Customer			
Test Case	Result	Status	
CRUD	Customer data can be	Passed	
Customers	added, updated, or deleted.		

Table 7 Chart of Account Master Testing		
Test Case	Result	Status
COA Data	Displays structured company Chart of Accounts (COA) data.	Passed
CRUD COA	Ability to add, modify, and delete COA entries.	Passed
Current Balance	Current balance updates correctly when closing the balance.	Passed

Table 8 Journal Master Testing		
Test Case	Result	Status
Journal Data	Successfully displays company journal template data.	Passed
View Journal Template	Displays the structure of an accounting journal for a transaction	Passed
CRUD Journal	Ability to add, modify, and delete journals.	Passed
Journal Warning	Warning when a journal has problematic Chart of Accounts (COA).	Passed

Table 9 Transaction Testing			
Test Case	Result	Status	
Sales	Orders via POS and	Passed	
Transaction	successful bookings are		
Data	automatically generated		
	as transactions		
Add	Successfully adds a	Passed	
Manual	transaction using a		
Transaction	journal template.		
Balance	Displays alert for	Passed	
Validation	balanced/unbalanced		
	input of debit and credit.		
Transaction	Displays different	Passed	
Details	transaction details		
	between JM (Journal		
	Memorial), JKM (Jurnal		
	Kas Masuk), and JKK		
	(Jurnal Kas Keluar).		
Cancel	Cancels transactions in	Passed	
Expense	memorial journals and		
Transaction	expenditures.		

Table 10 Report Testing			
Test Case	Result	Status	
Select	Successfully navigates to	Passed	
Report	respective report menus.		
Generate	Displays a well-organized	Passed	
General	general ledger for each		
Ledger	account.		
Generate	Displays a comprehensive	Passed	
Profit and	profit and loss statement.		
Loss			
Generate	Displays a well-organized	Passed	
Balance	and comprehensive		
Sheet	balance sheet statement		
Print	Reports can be printed or	Passed	
Report	saved as PDF.		

Table 11 Closing Balance Testing Test Case Result Status

I est Case	Reput	Status
Closing Book	Closing the books can	Passed
Validation	end of the month	
Closing Statement Report	Displays the Closing Statement Report	Passed

Tart Car	D14	C 4 - 4
Test Case	Kesuit	Status
Close	Executes the closing	Passed
Balance	balance process.	
Table 12	2 Roles & Permissions Testi	ng
Test Case	Result	Status
CRUD	Ability to add modify	Passed
Roles and	and delete roles and	1 asseu
Permissions	permissions	
I erimssions	permissions.	
Role-Based	Logging in with different	Passed
Menu	roles displays different	
Access	menu access.	
Table 13 Or	nline Booking (Customer) T	esting
Test Case	Result	Status
Fill	Successfully fills out the	Passed
Booking	booking form up to the	1 ussed
Form	checkout process.	
	entento de processo	
Payment	Successfully makes QRIS	Passed
Process	payment via Midtrans.	
Ordor	Order data is deleted and	Decod
Cancellation	removed upon	r asseu
Cancentation	cancellation	
	cancentation.	
Email	Receives an email	Passed
Notification	containing order details	
	and QR code.	
Table 14 (Online Booking (Admin) Tes	sting
Test Case	Result	Status
Booking	Displays booking data	Passed
Data	zispiujo oconing unu.	1 40004

Data	Displays booking data.	Passed
Cancellation via Admin	Booking status changes to "Cancelled".	Passed
Check-in Menu	Successfully scans customer QR code using a QR Scanner device.	Passed

IV. CONCLUSION

Based on the research, it is concluded that:

1. The implementation of Accounting Information System (AIS) improves efficiency and accuracy in sales recording and accounting processes through automated journaling, profit and loss statements, and financial reports.

- 2. Integrating AIS with POS and online booking systems simplifies transactions and online reservations, enhancing operational efficiency and customer experience.
- 3. System testing shows improved transaction accuracy, faster financial reporting, and enhanced customer satisfaction through online booking.

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