# **Implementing CryptoWoo as a Cryptocurrency Payment Gateway on the Contemporary Curiosities Online Store**

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Abstract—This study aims to implement the CryptoWoo payment gateway and analyse its implementation on WordPress as a cryptocurrency payment gateway for the Contemporary Curiosities online store. The online store is built using WordPress with additional plugins such as WooCommerce, CryptoWoo, Super Socializer, and Tawk.to. The development of the online store follows the waterfall method, while testing is conducted using black box testing through in-depth interviews. This study evaluates ease of use, functionality, and user acceptance. The results show a positive for CryptoWoo potential as а cryptocurrency payment gateway. Support and acceptance from representatives of the cryptocurrency trading platform Indodax, application development partners, and students as potential consumers of the Contemporary Curiosities online store indicate a positive response.

Keywords— cryptocurrency, CryptoWoo, e-commerce, payment gateway, WordPress

## I. INTRODUCTION

Development in Indonesia is growing rapidly, driven by internet technology that accelerates digitalization across various sectors, including the economy. The shift from traditional markets to e-commerce systems has transformed transaction methods, with the increasing adoption of cashless payments replacing conventional money [1].

Along with the rising popularity of digital transactions, cryptocurrency has emerged as both a payment method and a

digital asset, offering security and transparency through blockchain technology. Additionally, blockchain supports the development of NFTs, transforming artworks into unique digital assets in the form of non-fungible tokens that securely maintain ownership [2], [3].

The concepts of blockchain and NFTs create new opportunities for the digital art market, including in Indonesia. The author is interested in applying this on a small scale, leading to the creation of a store concept called "Contemporary Curiosities." This initiative is developed through collaboration with partners specializing in contemporary art to express important social issues [4].

This site adopts an approach using the WooCommerce plugin, which includes a simple license key feature. The license key serves to grant ownership rights to purchased artworks. An e-commerce site requires a payment gateway to facilitate transactions. CryptoWoo was chosen because it integrates seamlessly with WooCommerce and offers a wide range of features in its free service [5], [6], [7].

This study aims to test the implementation of the CryptoWoo plugin as a cryptocurrency payment gateway on the "Contemporary Curiosities" online store. The research focuses on aspects such as navigation, interface, transaction process, as well as the opportunities, challenges, and user experience when interacting with the site.

## II. METHOD

The diagram below illustrates the development flow of the Contemporary Curiosities project using the Waterfall

model. The Waterfall method is an approach in software development that follows a sequential or phased workflow, where each stage must be completed before moving on to the next [8], [9].

- 1. Software Requirements Analysis The Contemporary Curiosities project begins with a requirements analysis to determine business partners, owners/admins, and other essential features needed.
- 2. Design

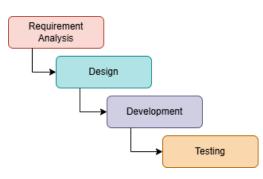
Next, the design requirements for the Contemporary Curiosities site are summarized into several types of diagrams. The goal is to ensure that the program has a clear structure.

3. Development

Development is carried out by selecting a theme and installing plugins such as CryptoWoo, Super Socializer, and Tawk.to to provide functionality for users.

4. Testing

Before the launch, testing is conducted on the Contemporary Curiosities site prototype along with interview respondents using the black box testing method to ensure the site functions properly.



## Figure 2.1 Software development with the Waterfall method

The testing was conducted using the black box testing method, implemented through in-depth interviews to evaluate the functionality of the application without requiring knowledge of its internal structure. The testing includes usability testing to assess the user experience, functional testing to ensure that the software functions according to specifications, and user acceptance testing (UAT) to verify that the system meets user requirements [10], [11], [12], [13].

# III. RESULTS AND DISCUSSION A. CHART MODELS

## 1) Flowchart

A flowchart is a visual representation of a procedure used to illustrate a process or solve a problem [14].

Figure 3.1 below shows the transaction flow on the Contemporary Curiosities website, starting from site access, making a transaction with cryptocurrency, to receiving the digital product and license key. The process ends with either logging out or continuing the order.

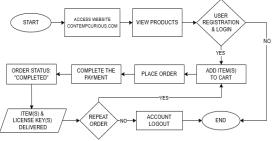


Figure 3.1 Contemporary Curiosities Flowchart

## 2) Use Case Diagram

Figure 3.2 is a use case diagram that illustrates the interaction flow within the transaction system of the Contemporary Curiosities website. This diagram involves three main actors: Admin, User, and the WordPress System.

The admin manages products and processes orders, while the User registers, logs in, places orders, and makes payments using cryptocurrency. The WordPress System, including WooCommerce and CryptoWoo, supports transactions and the distribution of digital products.

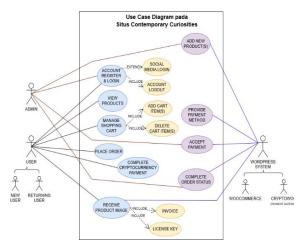


Figure 3.2 Use case diagram

## 3) Activity Diagram

An activity diagram is a diagram that represents the flow of activities or processes within a system that will be operated [15].

Figure 3.3 is an activity diagram that explains the transaction flow from the initial site access to the user's receipt of the digital product on the Contemporary Curiosities website. This diagram includes three main actors: the User who registers, orders, and pays; the admin who verifies payments and completes orders; and the WordPress System which handles technical processes such as data storage, QR code generation, and digital product delivery.

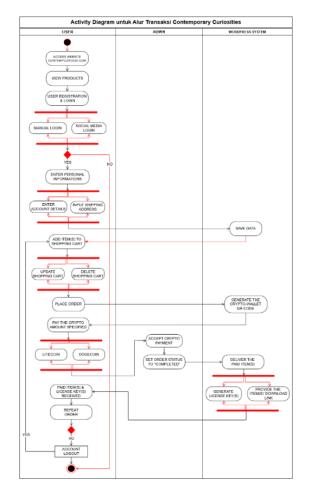


Figure 3.3 Activity diagram

## **B. WEBSITE DEVELOPMENT**

The development of the Contemporary Curiosities website is divided into three main parts: the admin interface, the user interface, and the transaction process.

# 1) Admin Dashboard

## a. Website Plugins

The following are WordPress plugins installed on the Contemporary Curiosities website to enhance its features and functionality.

#### WooCommerce Plugin

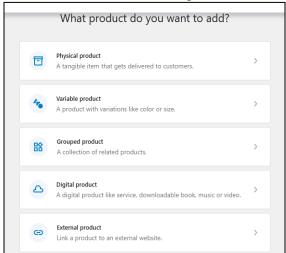


Figure 3.4 WooCommerce settings



Figure 3.5 CryptoWoo settings

#### o Super Socializer Plugin

1 Contemporary C	uriosities ট 🕐 13 👎 0 🕂 1	4ew			Howdy, Sheryl
🔠 Feedback	Disable user registration via Social Login 🚱				
WooCommerce	Disable Social Login for admin	R			Donate Now
Products	accounts				
all Analytics	Select Social Networks	Facebook	Veutube	Linkedin Vicontakta	
€ Marketing		inslagram	Steam	Une Vahoo	Support Forum
cw CyptoWoo		Olicend     Spotity	Amazon	Stack Overflow     Odnoklazanki	
Appearance		Vandex	Twhan	Foursquare	Plugin Demo
🖉 Plugira 📵		Mal/v	C Strue	L Factor	
📥 Users	X API Key 😥	nilygpiD01p3qat	inhER/WM1g		Translate Plugin
🖋 Tools	X API Secret	GELET order 12 holds	CC62FCPay2V013G2rvT1MW	POP3C4-0208	
E Settings					Customize Social Login Icons
Super Socializer	Google Client ID 😥	61333051394-ton	rojgjeo4224873/08fsgc745a0r	Smv.apps.googleusercontent.com	Customize Social Login Icons
General Options	Google Client Secret 😯	GOCSPX-dqQkvA	igPrg@Ph-VCedROz9-gul		
Social Commenting	Line Channel ID 😥	2006509095			Integrate with Google Analytics
Social Login	Line Channel Secret 0				
Social Sharing	Une Channel Secret	42099946683265	48167a68c32ced21b0		Boost sharing by awarding points

Figure 3.6 Super Socializer settings

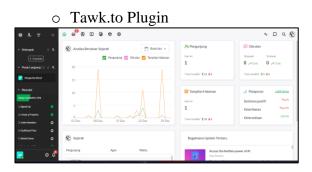


Figure 3.7 Tawk.to admin dashboard

#### b. Orders Menu

The following is the Dashboard Analytics menu interface available in WordPress features for managing order status.

Bulk	actions	~	Apply All d	lates 👻 Filts	ir by registered	customer 👻	Filter			
	Order ‡		Date \$	Status	\$ Total	Origin	Amount due ¢	Amount received	Payment Currency ¢	Payment Address ©
	#289 denis r	•	Dec 28, 2024	Completed	Rp155.000	Direct	46,55	0,00	DOGE	DStb5gzUk4dc HleGevNs1Kbc mCy1qwcfMp
	#284 Felix Christian	÷	Dec 8, 2024	Completed	Rp25.000	Direct	5,38	5,00	DOGE	DDMop5z6eB/ Mc9VReCzNAe AV/NA7qgQD
	#232 Denis Hehe	•	Nov 4, 2024	Completed	Rp25.000	Direct	10,78	0,00	DOGE	DLENg4CRUcvi XJcbHufvSDBI mZZ6vai
	#177 sheryi kumiawan	•	Oct 16, 2024	Pending pay	Rp30.000	Direct	0,00	0,00	DOGE	

Figure 3.8 Orders menu for admin

#### c. Dashboard Analytics

The following is the Dashboard Analytics menu interface available in WordPress features for summarizing sales on the Contemporary Curiosities website.



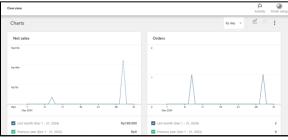


Figure 3.9 Dashboard Analytics page

#### 2) User Interface a. Homepage

The following is the Homepage display created on the Contemporary Curiosities website.



Figure 3.10 Homepage

#### b. Shop Menu

The following is the Shop menu display created on the Contemporary Curiosities website. Users can choose the products they want to purchase.

	Shop	
Showing 1-12 of 23 results		Default sorting 🗸 🗸
	4	
Statement St.		
Contractor and		
1 10 10 10 10 10 10 10 10 10 10 10 10 10		
A False Idea of Poetry	A Lesson in Futility	American Standard Code for Information
	Revolution Ret 10,000	Interchange
Rg/75.000	All and a second s	2pit-100 0p12 550

Figure 3.11 Products catalogue

#### c. My Account Menu

The following is the My Account menu display created on the Contemporary Curiosities website, which contains account settings and user profile information.

Acco	unt details
	With your Social ID
-	e and agree to my personal data being stored and used as per <u>Privace Palicy</u>
Login	Register
USERNAME OR EMAIL ADDRESS*	EMAIL ADDRESS*
sheryimargareta28@gmail.com	
PASSWORD *	A link to set a new password will be sent to your email address.
•	Your personal data will be used to support your experience throughout this website, to manage access to your account, and for
	other purposes described in our <u>privacy policy</u> . Register

Figure 3.12 My Account menu

#### d. Orders Menu

The following is the Orders menu display created on the Contemporary

Curiosities website to monitor order history and status.

Contemporary Curiosities				My Account	Shop *	Orders	Cart	About Us	
		Orders							
Dashboard	Order	Date	Status	Total			Actions		
Orders     License keys	#289	December 28, 2024	Completed	Rp155.000	for 2 items		View		
Downloads	#123	October 13, 2024	Cancelled	Rp45.0001	or 1 item		View		
Addresses     Account details									
<ul> <li>Log out</li> </ul>									
									ARE N
								1	
									Ģ
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Figure 3.13 Orders menu for user

#### e. Cart Menu

The following is the Cart menu display created on the Contemporary Curiosities website.

to contempourious.co	m/cart/			Q \$ 0
PRODUCT		Cart	CART TOTALS	
3	A Lesson in Futility	Rp110.000	Add a coupon	~
SUL	Rp115.000 Rp110.000		Subtotal	Rp225.000
	Postmodernis - A Lasson in Putility		Total	Rp225.000
	Lukhan-belum terseleaikan berupa proyek KOOV yang terbengkalai - 1 = = Barmowiliem		Proceed	i to Checkout
	Hand Held Ry-130.000 Fp115.000 (avr aros) A lo -studented (avr aros) Battochan	Rp115.000		

Figure 3.14 Cart menu display

#### f. Chatbot Menu

The following is the AI-based chatbot menu display created on the Contemporary Curiosities website, located at the bottom-right corner of the Homepage.

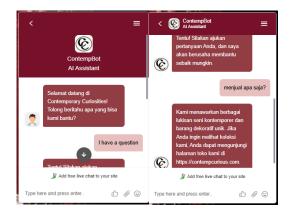


Figure 3.15 Chatbot menu usage

#### **3)** Transaction Activities

Below is an overview of the transaction sequence that has been carried out on the Contemporary Curiosities website.

o Adding products to Cart

ntemporary	Curiosities		My account Shop ~	Orders Cart About I
		Cart		
PRODUCT		TOTAL	CART TOTALS	
The second	Halved	Rp25.000	Add a coupon	~
30	Rp25.000 Digitalistik - Halvet		Subtotal	Rp25.000
	Poto yang menumpilkan bulan		Total	Rp25.000
	- 1 -		Proceed to	

Figure 3.16 Cart menu page

temporary Curlosities		My account Shop *	Onders Cart
	Checkout		
Contact Information Will see the enal to contract module Device the enal to contract module Device the enal to contract module Information	and soliton shout user solito. SUBJVK IDAALSYNTH-DISCOURTLAND PRODUCT	Order summary 1 Indexil RpdS1000 Displainia-1 Feb yeag Here Index	
Billing address Enter the billing address that matches	rour payment method.	Add a coupon	
Enter the billing address that matches		Add a coupon	Rµ25.00
Enter the billing address that matches		Subsciel	Rp25.00
Enter the billing appress that matches Counter happen Indonestia	Lators	Subscrad	Rp25.00
Enter the billing address that matches CounterIngton Indocesia Finances Felix	Lators	Subscrad	Rp25.00
Ener the billing convect that matches Source - Hagine Indonesia Freix Addresse Addresse	Untere Desition	Subscrad	

Figure 3.17 Checkout page



Figure 3.18 Payment page

• Receive order invoice



Product	Downloads remaining	Expires	Download
Halved	1	Never	halved.png
Order det	ails		
Product		Total	
Halved × 1		Rp25.000	
Subtotal:		Rp25.000	
Payment me	thod:	Cryptocurrence	/
Total:		Rp25.000	
Order again			
Your licen	se key(s)		
Halved			
CCTK40-NTK3-5	P39-1V0L2024		
	iress		
Billing add			
Felix Christia	n		
S .	n		
Felix Christia semarang semarang	n		
Felix Christia semarang semarang Jawa Tengah	n		
Felix Christia semarang semarang Jawa Tengah 50269	n Ienis343@gmail.com		

Figure 3.19 Invoice page

## C. TESTING

The testing involved four respondents, consisting of two students from the Information Studies Program at Unika Soegijapranata as regular users, one student from Unika Soegijapranata as a project partner, and one employee from Indodax as a special user.

## 1) Implementation of CryptoWoo on the Contemporary Curiosities online store

According to the respondents, CryptoWoo is considered relevant to the latest developments in digital technology and offers good transaction security. However, there are some weaknesses, such as the limited variety of cryptocurrency wallets available in Indonesia, the manual order confirmation process, and slow transactions due to server dependency.

2) Management of collaboration with project partners for the Contemporary Curiosities online store

The partner stated that the collaboration is going well with smooth communication. For the continuity of this partnership, work efficiency could still be

improved through a project management platform. The partner also suggested enhancing branding by using a distinct colour scheme to make the website look more professional.

3) Public reception of the implementation of the Contemporary Curiosities online store

The public, represented by the respondents, expressed enthusiasm and satisfaction with their shopping experience on the Contemporary Curiosities online store. They hope for updates to improve server speed and the automation of order status. The limited variety of products and UI design were also pointed out as areas for improvement on the website.

## **IV. CONCLUSION**

The implementation of CryptoWoo as a cryptocurrency payment gateway on the Contemporary Curiosities online store shows good potential to be accepted by terms managing users. In of the collaboration with project partners, efficiency still needs to be improved in development activities. Furthermore, the site received positive feedback from the public, accompanied by suggestions to add more product variety and improve UI design.

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## REFERENCES

- M. S. Honggowongso, "Legalitas Bitcoin Dalam Transaksi E-Commerce Sebagai Pengganti Uang Rupiah," Jurnal Privat Law: Surakarta, vol. IX, no. 1, pp. 143-154, 2021.
- [2] A. Ghosh, S. Gupta, A. Dua and N. Kumar, "Security of Cryptocurrencies in Blockchain Technology: State-of-art, Challenges and Future Prospects," *Journal of Network and Computer Applications*, vol. 163, no. 102635, pp. 1084-8045, 2020.
- [3] F. Kılıçaslan and H. Ekizler, "Factors Effecting Purchase Intention in Blockchain and NFT (Non-Fungible Token) Technologies," *Journal of Research in Business*, vol. VII, no. 2, pp. 604-623, 2022.
- [4] D. Nurcahyanti and T. B. Affanti, "Pengembangan Desain Batik Kontemporer Berbasis Potensi Daerah Dan Kearifan Lokal," *Jurnal Sosioteknologi*, vol. XVII, no. 3, pp. 391-402, 2018.
- [5] WooCommerce, "Marketplace," [Online]. Available: https://woocommerce.com/documen t/marketplace/. [Accessed 9 Januari 2025].
- [6] WooCommerce, "License Manager,"
   [Online]. Available: https://woocommerce.com/documen t/license-manager-woo/. [Accessed 7 Januari 2025].
- [7] CryptoWoo, "Cryptocurrency Payment Gateway by CryptoWoo AS," [Online]. Available: https://wordpress.org/plugins/crypto currency-paymentgateway/?\_ga=2.102909890.396721 450.1736395101-31242269.1728444306. [Accessed 7 Januari 2025].

- [8] Kurniawati and M. Badrul, "Penerapan Metode Waterfall Untuk Perancangan Sistem Informasi Inventory Pada Toko Keramik **PROSISKO:** Bintang Terang," Jurnal Pengembangan Riset dan Observasi Sistem Komputer, vol. VIII, no. 2, pp. 57-52, 2021.
- [9] W. A. Putra, I. Fitri and D. Hidayatullah, "Implementasi Waterfall dan Agile dalam Perancangan E-Commerce Alat Musik Berbasis Website," Jurnal JTIK (Jurnal Teknologi Informasi dan Komunikasi), vol. VI, no. 1, pp. 56-62, 2022.
- [10] A. Fahrezi, F. N. Salam, G. M. Ibrahim, R. R. Syaiful and A. Saifudin, "Pengujian Black Box Testing pada Aplikasi Inventori Barang Berbasis Web di PT. AINO Indonesia," *LOGIC: Jurnal Ilmu Komputer dan Pendidikan*, vol. I, no. 1, pp. 1-5, 2022.
- [11] D. Kurniawan and F. Yuamita, "Usability Testing Penggunaan Menu Kartu Hasil Studi di Website Sistem Informasi Akademik Universitas Teknologi Yogyakarta," Jurnal Teknologi dan Manajemen Industri Terapan (JTMIT), vol. II, no. 1, pp. 41-52, 2023.
- [12] D. Kurniawan, M. Chandra and A. Saifudin, "Peningkatan Kualitas Aplikasi dengan Pengujian Fungsional Menggunakan Robot Framework," *OKTAL : Jurnal Ilmu Komputer dan Science*, vol. III, no. 6, pp. 1473-1479, 2024.
- [13] H. Yakub, B. Daniawan, A. Wijaya and L. Damayanti, "Sistem Informasi E-Commerce Berbasis Website Dengan Metode Pengujian User Acceptance Testing," JSITIK Jurnal Sistem Informasi dan Teknologi Informasi Komputer, vol. II, no. 2, pp. 113-127, 2024.
- [14] B. Kurniawan, Q. J. Adrian and D. Alita, "Media Pembelajaran Senam

Dan Yoga Untuk Ibu Hamil Dengan Augmented Reality Berbasis Android," *Jurnal Informatika dan Rekayasa Perangkat Lunak*, vol. II, no. 4, pp. 514-525, 2021.

[15] K. Hafidz, M. D. Irawan and H. D. Nawar, "Sistem Penginputan Data Bahan Pokok pada Pasar Tradisional Sumatera Utara Berbasis Website di Disperindag Sumut," Sudo Jurnal Teknik Informatika, vol. I, no. 3, pp. 98-107, 2022.

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