



# *cPAY - TrustOrder Anti SpamOrder*

Submitted proposal: <https://cardano.ideascale.com/a/383397-48088>

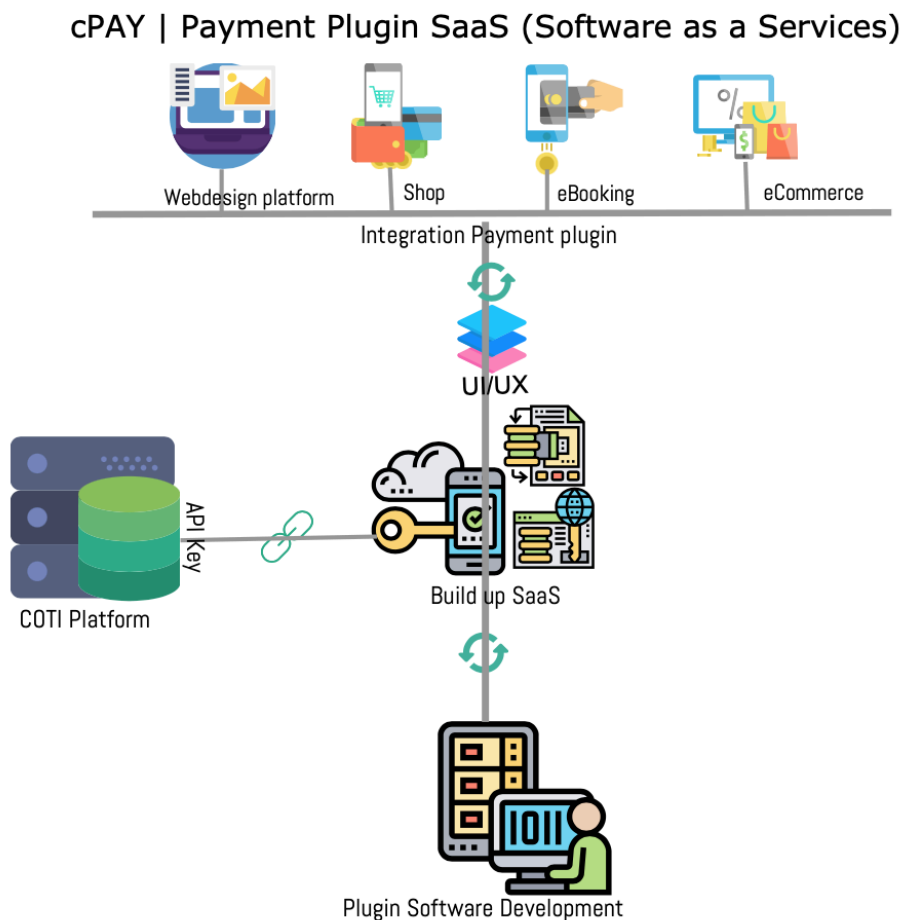
Challenge: [F7: Catalyst Natives COTI: Pay with ADA Plug-in](#)

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# Problem statement

- There is limitation of application for ADA holder to use in real life
- There is limitation of payment methods to protect buyer/mechant from fake request/offer
- There is no simple enough plugin which non technical users can use to integrate with their website

## Overview projects



- ADA digital currency payment integration solution on Coti platform
- Building SaaS software of ADA payment plugin on Coti platform for online commerce payment.
- The plugin software is built as a SaaS Software-as-a-Service that is hosted and operated on a cloud computing platform.
- It will be a set of plugins for separate e-commerce payment platforms.
- The target customers of the software are as follows:

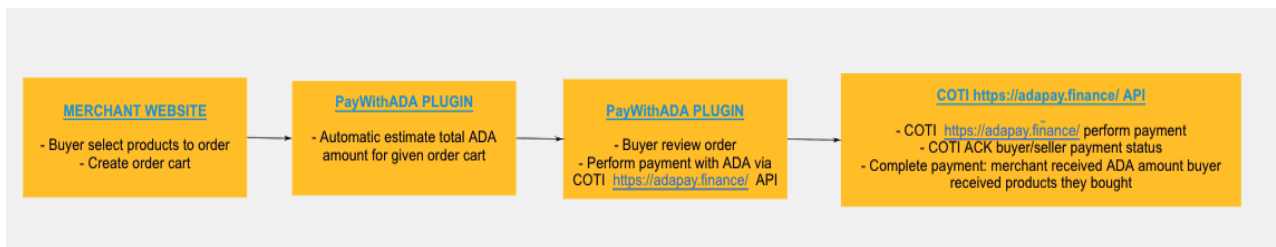
- E-commerce sites to buy and sell goods (Shopify, WooCommerce, e-commerce: Alibaba, shoppee, lazada, sendo, tiki ..)
- Booking, Order, schedule, ticket booking sites (Vntrip, Agoda, Booking, airticket ..)
- Pages and open-source web intermediaries like (WordPress, Joomla, Magento, pentashop, wix..)
- There are also other separate websites

## Scope

Retailer who wish to use ADA for their buy/sale functions:

- Online shopping platform like Shopify accounts
- Online retail websites

## How it works



1. Select item. On the merchant's website:
  - Buyer selects products to order
  - Create order cart
2. Order car. On the cPay backend  
Estimate the amount of ADA for the given order cart.
3. Confirm. On the cPay frontend:
  - Buyer review order
  - Perform payment with ADA via the ADA pay API
  - Showing the seller's ADA address
4. Paying.
  - Buyer send ADA to the

## Tasks

- Develop a plugin for some massive online shopping platforms like Shopify
- Develop a payWithAda button to integrate with the retail online shopping websites
- Develop mobile app for buyer quick payment process by QR scan if needed
- Delivery plugin to merchants and provide technical support for merchants

## Functions

- cPAY plugin software allows to package its product as a set of plugins, it is distributed on the cloud computing platform through a SaaS product.

- Customers are e-commerce sites, retailers, or internet platforms that need to pay online via ADA cryptocurrency.
- cPAY plugin software will integrate directly on the customer's goods payment website through a software package downloaded from cloud computing that we have already deployed on it.

## cPAY plugin has the following main functions:

- Link API Key with the platform provided by COTI.
- Integrate into the website and enable fast and secure ADA payments.
- Custom interface according to customer's device format or website structure.
- Review transaction history and transaction queries
- Depending on the payment interface (simple or full), support Qr code payment ADA
- Multi language function according to the local language.
- Function of CRM administration and end-user customization.
- Function to set features on cPAY software.

## Core of plugin software:

Create seamless payment process with COTI <https://adapay.finance/> for shopping online which output the massive adoption the usage of COTI and ADA by provide merchant and buyer functions:

- . Auto create adapay.finance account for merchant
- . Auto estimated USD to ADA in real time
- . Perform order process with ADA via COTI in merchant web or mobile applications

## Solution

We will develop plugins for some popular shopping online platforms like SHOPIFY, WOOCOMMERCE and SINGLE RETAIL websites which enable buyers to pay their order by ADA through COTI API in a SEAMLESS UX process.

- Each merchant/buyer will submit to <https://adapay.finance/> to get an account with an ada address to perform pement with ADA
- The plugin will modify the current store database to add this COTI ADA address to shop record
- Each product Item listing on the shop will have ADA price which is real time and automatically converted from USD price.
- Add pay with ADA to shopping cart which include the following
  - QR code include:
    - Merchant address
    - Total pay value on ADA (converted from USD in the realtime)
- Client at this step will have 02 options:
  - Pay direct in the shopping page
    - Adapay login
    - AdaPay request with given ADA amount and receiver address(merchant address)

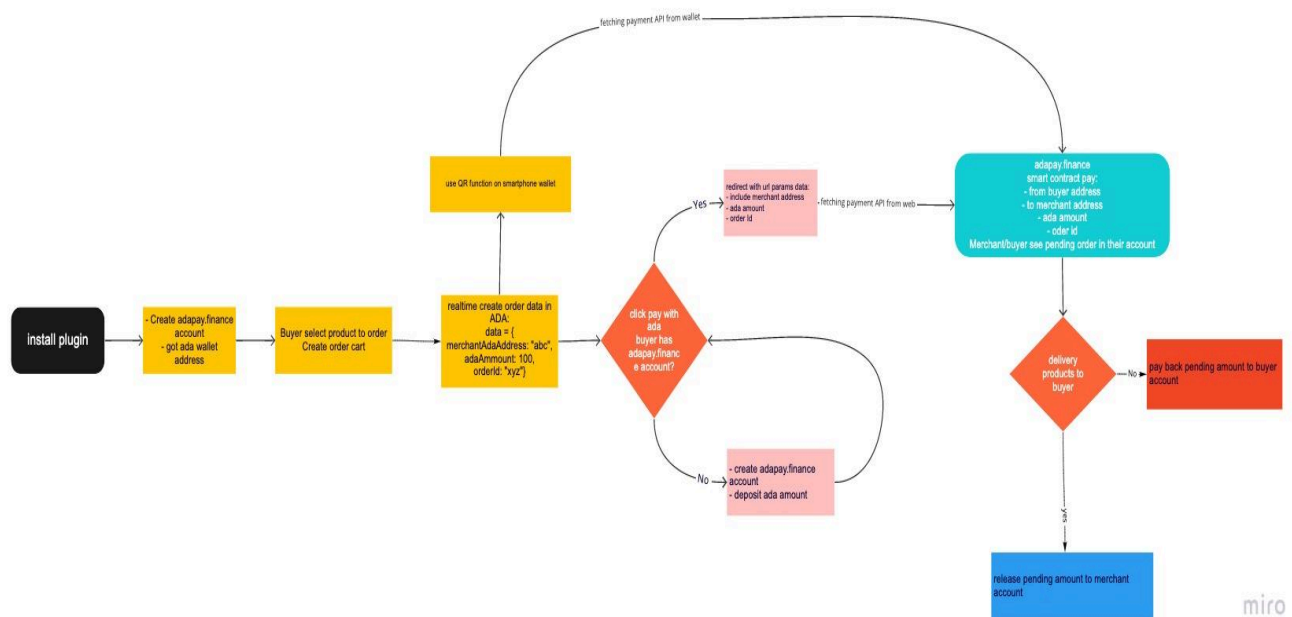
- Client accept payment with given amount
- Merchant will receipt the notification that the buyer has been submitting the payment
- Pay by its mobile phone with coti wallet app or our app by scan the QR code then accept payment

## Item pay information

```
ItemByAda = {
  merchantAddress:
    "5666518a3164ad677ccdd2ee81b37d180351dfe4a0201bd1ff35b6581b6ce39afcf20fd7683c8
    3202d9d5bc758fa8463aa2dca348c0536725274749052b624c086b69579",
  usdPrice: 234,
  adaValue: 20
}
```

```
sumPayValue = {
  merchantAddress:
    "5666518a3164ad677ccdd2ee81b37d180351dfe4a0201bd1ff35b6581b6ce39afcf20fd7683c8
    3202d9d5bc758fa8463aa2dca348c0536725274749052b624c086b69579",
  selectedItems: [{
    product_1: 10,
    product_2: 20,
    Product_3: 30
  }],
  usdValue: 334,
  adaValue: 100,
  isSubmitted: true,
  isComplete: false
}
```

# Plugin process flow



# POC screenshots (proof of concept)

← → ↺

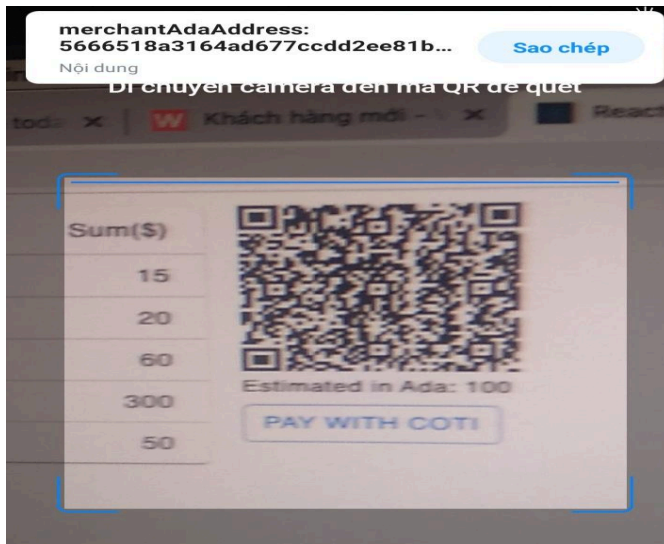
localhost:3001

Product	Price(\$)	Quantity	Sum(\$)
T-shirt	15	1	15
PIXEL SWEATER	10	2	20
Jacket	25	3	60
HOODIE	50	6	300
SPORTY SET	5	10	50

Estimated in Ada: 100

PAY WITH COTI

Total value: 445\$



## QA

### 1. How to test Plug-in's quality?

The plugin quality will be defined then test before ship with the following:

- The speed: How fast it processes an order? expect < 1 second for a full process.
- Simplicity: Buyer will need NOT to make anything more than some clicks.
- UI/UX: it will be designed with MATERIAL-UI framework.
- Security: avoid any fraud attack for the payment by FETCHING RECEIVER ADDRESS IN TIME.

### 2. How easy is it to implement to the software platforms?

- Most of the steps will be automatic for example: create a COTI account, add a new database record and it will be handled by a script which is public on our github.
- All user guides will be very clear and easy to understand for extra steps of implementation.
- We always keep getting feedback and keep continuing to improve to make it simple as much as possible.
- With popular platforms like SHOPIFY we expect MERCHANT need NOT to do any code, they install by visual MOUSE CLICKs.
- With a client single website we provide a plugin as COMPONENT.

### 3. Is the plug-in able to process big amounts of transactions from different websites without problems?

The process model design:

- Client browser fetch merchant's ADA address from merchant web server API at the loading phase
- Plugin estimates ADA amount for an order from client browser at time when user completes the product items selection.
- Client send payment request from its browser or mobile app NOT from server side

With this model each payment process from a buyer will be handled mostly by client's browser SEPARATELY(each buyer will process payment request from their browser and mobile app) and ASYNCHRONOUSLY(the stage of fetch and load data will happen at different time) this will help to reduce server load for multiple requests meaning that the PLUG-IN will be able to process large amounts of transactions.

In other words the plugin WILL NOT ADD MUCH CPU/MEMORY LOAD TO THE MERCHANT WEB SERVER AND BROWSER when they apply it for ada payment. The server and browser cost to process is super small, JUST 02 HTTP FETCHES WITH VERY SMALL DATA:

- fetch ADA address from merchant's server API
- post payment process to COTI API

4. Design the function for user's needs and incorporate merchant's feedback regarding plugin performance

There will be a feedback button/form inside the merchant's website when they install a plugin which we use to collect their feedback to improve the quality and functions of the plugin.

5. Is a hacker able to fake a merchant's ADA address in a processing order?  
NOPE. The address will be stored in the merchant's server side DB and fetched in time.
6. Is a hacker able to make a fake payment for its order?  
This question will be subject to COTI as to how it protects merchants.

## Tech stack

- NodeJs for server API/scripts.
- React/HTML5 for web UI, react native for mobile app.
- NoSQL and SQL script will provide for popular DB like MongoDB, SQL, Postgres.
- All source code, user guide will be public at github.

## Social channel

<https://github.com/adaboys/cPAY>

## Relevant experience

We are a multidisciplinary team of 3 professionals with a vast skill set from tech, UX/UI, product design, business and community leading.



# Core team



***Duc Tiger, [Co-Proposer], Founder of 2Min Review.***

Experiences:

- Business owner
- Digital marketing
- Community management
- Data analysis

Obligation:

- Marketing management
- Finance management

Social channel:

- Telegram: <https://t.me/DucTIGERpool>
- LinkedIn: [www.linkedin.com/in/DucTIGER](http://www.linkedin.com/in/DucTIGER)

## **Thang Tran**

Software expert along with others to create some of the very successful high volume and high availability critical mission software. With 10 years of experience in software product development and bigData analysis.

- Software design at all levels
- Backend/frontend and mobile development
- Blockchain and hash algorithms
- Skill React Native, Node, Haskell, and Plutus

Obligation:

- Product development
- Data analysis

Social channel:

- Telegram: <https://t.me/ThangTranNam>
- Github: <https://github.com/saigonbitmaster>

## Trong Nguyen

Experience:

- An IT specialist who worked for many big IT tech firms in Japan such as GNT, ISFNet, and IBM.
- Experienced in software product management, digital content with 10 years of mobile app development for Android and IOS.
- Mentor for startups in mobile content and blockchain, startup founder, dev team maker. He is also a software engineer with many years of experience in internet-based product development.

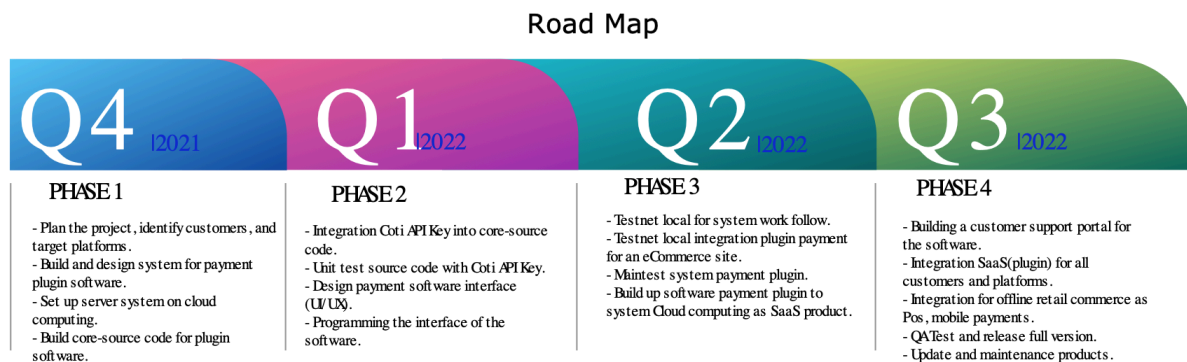
Obligation:

- Product management
- Digital content
- Project Schedule Management

Social channel:

- Telegram: [https://t.me/alex\\_trongnguyen](https://t.me/alex_trongnguyen)
- Linked: <https://www.linkedin.com/in/trong-nguyen-4092b568>

## Roadm



### Q4/2021

- Plan the project, identify customers, and target platforms.
- Build and design system for payment plugin software.
- Set up a server system on cloud computing.
- Build core-source code for plugin software.

### Q1/2022

- Integration Coti API Key into core-source code.
- Unit test source code with Coti API Key.

- Design payment software interface (UI/UX).
- Programming the interface of the software.

## **Q2/2022**

- Testnet local for system work follows.
- Testnet local integration plugin payment for an eCommerce site.
- Multi language integration in plugin user interface.
- Maintest system payment plugin.
- Build up software payment plugin to system Cloud computing as SaaS product.

## **Q3/2022**

- Building a customer support portal for the software.
- Integration SaaS(plugin) for all customers and platforms.
- Integration for offline retail commerce as Pos, mobile payments.
- QA Test and release full version.
- Update and maintenance products.

# **Our model of success**

Our model of success is to make customers have a new and exciting experience with new payment methods through COTI's platform, we will target each customer.

By distributing the payment plugin as a SaaS product, we will quickly serve a variety of customers with different website platforms as well as customizations on smartphones.

In addition to the core value of COTI's ADA payment platform, we wanted to add value to the cPay plugin payment tool with a user interface experience. Customers can change the interface, customize it according to simple or complete features.

In the future, when completing the project and having the target number of customers reached, we will add many new features in addition to payment such as customer transaction reporting function, customer statistics function. We will develop paid plugins in ADA or COTI, this part lets us fund for updating plugin changes such as:

- Update API Key from COTI.
- Add new features to the plugin.
- Design a more custom user interface.
- Marketing for the project and expanding the scale of customers.

In addition to focusing on customers paying online for the first versions of the project. We are also planning a mobile payment offline version on COTI platform, It will target local retail customers.

## **KPIs**

### **Month 1 KPIs**

- Build system for cPAY plugin development (% of delivery) - 100%
- Coding core-source code of cPAY plugin software (% of delivery) - 100%
- Research and Analysis among 10 customers of eCommerce.

## Month 2 KPIs

- Integration Coti API Key into cPAY plugin (% of delivery) - 100%
- Complete design user interface for the plugin (% of delivery) - 100%
- Research and Analysis among 50 customers of eCommerce.

## Month 3 KPIs

- Integration plugin pilot website for customers eCommerce (3 customers).
- Build up the community who is interested in ADA payments (5 social media)
- Research and Analysis among 100 customers eCommerce, and build a customer database.
- Launch cPAY plugin as an MVP version to verify all software logics and test with REAL LIFE situations.

## In next 6 months

- Build product which meet proposal expectations
- Test all the functions
- Launch cPAY plugin software version 1.0
- Integration for more than 10 customers use cPAY plugin for paying ADA via Coti API Key.

## In next 12 months

Marketing to promote this product to all merchants include:

- Retailer who run business on platform like Shopify
- Retailer who has online shopping website
- Get the feedback and improve software
- Release cPAY plugin software full version with many template user interfaces.
- Integration for more than 50 customers use cPAY plugin for paying ADA via Coti API Key.

# Risks management

- The stability of customer transactions is highly dependent on the stability of COTI's platform API Key.
- The actual needs of customers who want to pay with ADA cryptocurrency have not been assessed yet.
- At this time, the hardware infrastructure for the project has not been calculated. However, with the use of cloud computing as a plugin development platform, we will be able to account for an increase in customer usage.
- Difficulty in reaching customers who need to integrate with the new payment method by ADA.

## Solutions to solve the potential risks

- We will build multiple API Key connections to ensure the plugin always has a connection to the COTI platform, which may require COTI to provide us with additional fallback API Keys. One of them will be activated instead when there is an issue with the previous API.

- With funding in the next Fund combined with the revenue from paid plugins from customers for those versions or upgrading the plugin's interface. We will use a significant portion to promote our products, which make us reach our customers more naturally and widely.

## Budget

===== Fund7 Detail Fund Allocation=====

### **BUDGET**

The budget consists primarily of the development of plugin software. Budget breakdown is as follow:

- Architecture design for cPAY plugin software: 40h x (\$30/h)
- Design UI/UX for cPAY plugin software: 60h x (\$30/h)
- Build coding for cPAY plugin software: 120h x (\$35/h)
- QA & Test plugin: 40h x (\$30/h)
- Integration plugin for website of customers eCommerce: 100h x (\$35/h)
- Demo & documents: 30h x (\$30/h)
- Environment setup plus cloud costs: USD 400

**TOTAL BUDGET: USD 12,500**

## Impact

We would expect the high impact of this plugin on some levels.

## Feasibility

With proven motivated members we are highly confident to complete projects as expected.

## Audibility

All the source code, documents, and user guide will be public at given github to let the community contribute, improve.

## Conclusion

We are very much excited with this idea and highly confident to complete it as expected.