Paystream: An escrow-stream based token distributor service system.

Abstract

Paystream is a blinks based tool that lets a user create streams and accept/distribute funds on different mathematical equations making it a trustless source for clients and service providers.

Introduction

Paystream bridges the gap between a client and a service provider by becoming an escrow-stream-based payment gateway.

The service provider and client will decide the terms for service (amount, wallet's addresses, duration of the service), and then the client will create a stream based on his needs. After the creation of the stream, the client and service provider agreed amount gets transferred to an escrow account with a hashed 'Stream-ID.` This hashed ID will act as a unique identity that maps to a respective client and service provider agreement.

Then, as per the stream chosen during the creation, the amount will start to get distributed on a periodic basis, giving the client trust that if the service provider doesn't match up to their expectations, they can cancel the stream, and the rest amount will be transacted back to their wallet. Also, the service provider doesn't have to trust the client that they will give the money after the service is completely provided.

This process will safeguard both the client and the service provider from any kind of scam or malicious intent.

Streams

There will be three streams that will be supported by Paystream aiming for different needs of the users:-

Linear Stream

This stream works on a simple linear equation as shown in the *Fig:A* , it will be releasing funds linearly every hour, in starting it will be low as client has the highest risk but then it will gradually start to increase as the deadline starts to come near reducing the risk for service provider.
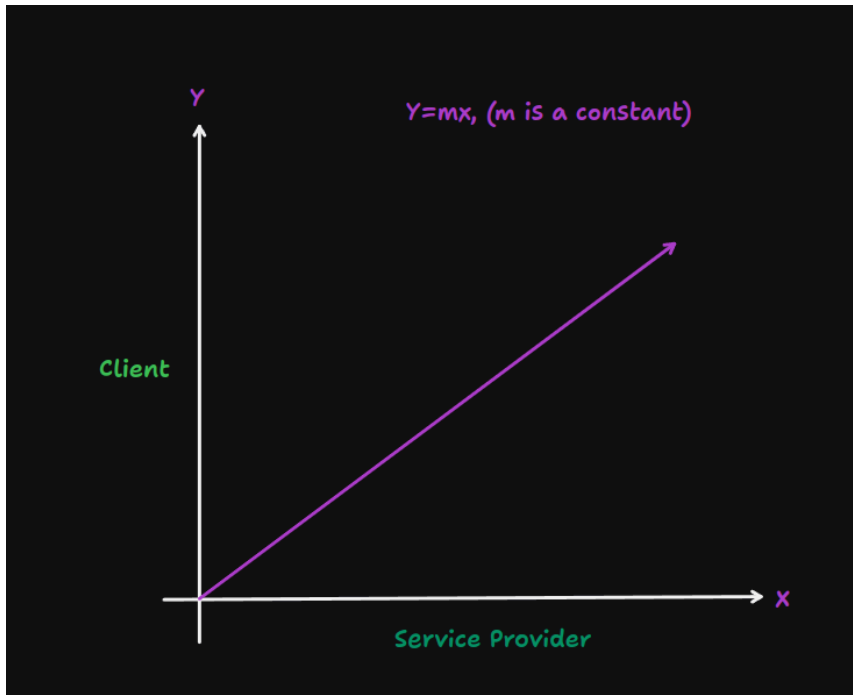
Fig:A

Cliff Stream

Cliff stream works on an equation(See Fig:B) in which for a time period no distribution takes place(cliff, here it is x_0)This is generally for purposes where initial Services are very useless from client's perspective providing him an additional low risk stream but when cliff occurs Service Provider will get a continous stream of funds distribution from the escrowed Solana program.

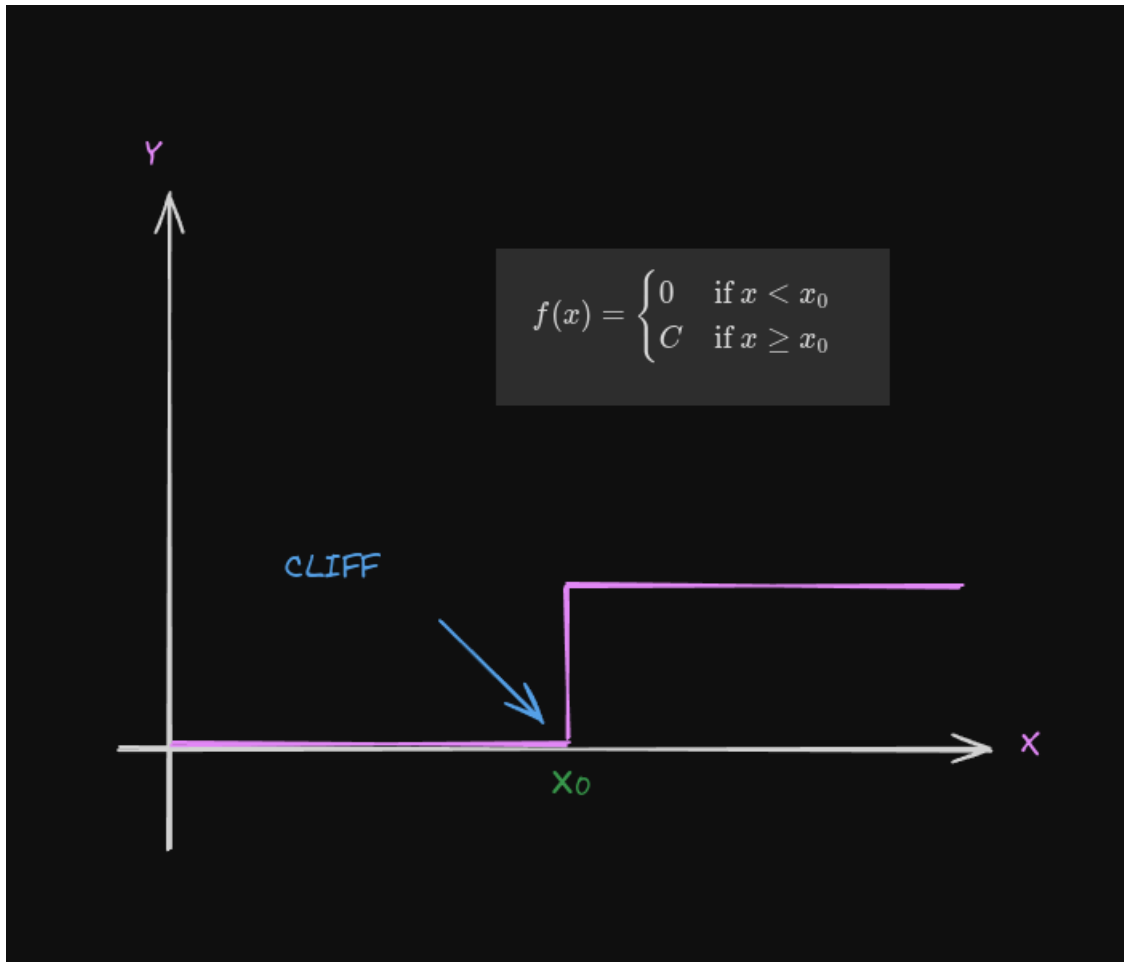$$f(x) = \begin{cases} 0 & \text{if } x < x_0 \\ C & \text{if } x \geq x_0 \end{cases}$$

Fig:B

Step-wise Stream

This stream is simply a time period-based stream. it distributes funds to the service provider on the basis of a time period, like every month on the same day and time. Clients who hire independent contractors for long periods of time can use this to create a salary stream with the contractor.