

Stratis Blockchain  
Proof of Concept

*“A goal without a plan is just a wish.” (Larry Elder)*

Table of contents

[Summary 3](#_Toc517182780)

[Motivation 3](#_Toc517182781)

[Disclaimer 3](#_Toc517182782)

[1 - The idea 4](#_Toc517182783)

[2 - Filling the dots 5](#_Toc517182784)

[How to read/monitor the blockchain to list all bounties 5](#_Toc517182785)

[What kind of operations can be executed on a smart contract 5](#_Toc517182786)

# Summary

This plan describes an application to be build on top of the Startis blockchain with the sole purpose of education. This enables me to learn how to create SmartContracts and interact with the blockchain.

## Motivation

As an independent software developer I think being able to provide blockchain related services will give me an advantage over other developers.

## Disclaimer

English is not my native language therefore this document may contain grammar and linguistical mistakes.

I'm a completely new to blockchain development so excuse my ignorance, wrong assumptions and stupid questions.

# 1 - The idea

The SDF (Stratis Development Foundation) has published some bounties. These are tasks other developers in the community can perform and when the task is executed to satisfaction a bounty in the form of Stratis will be send to the developer. These bounties are published on a webpage, when a developer want to execute one of the tasks he/she communicates with the foundation via discord. Upon finishing the task the foundation validates the results and transfers the promised funds to the developers account.

I want to create a blockchain backed application for the situation above. My idea is to build a smart contract and two applications (dApps?) to interact with these smart contacts. The system will consist off:

* Management app (webapplication?)  
  List bounties, create new bounties, transfer funds to a bounty (by multiple parties), approve enrollements
* Enrollment app (webapplication?)  
  List bounties, enroll in a bounty, mark your work as finished, see status (waiting, accepted, paid) of the bounty.
* Bounty Smart Contract  
  The thing that “lives” on the blockchain that gets created and is being managed through the management app. That holds the details of the (development) task, the funds. On which a developer can enroll through the enrollment app.

# 2 - Filling the dots

As said this is a learning project therefore there are a lot of dots to fill and connect.

The questions I have at this moment are:

## How to read/monitor the blockchain to list all bounties

The management- as well as the enrollment app should list all available and historic bounties. These are meant to be read from the blockchain, how is this achieved?

Question: how would one inspect the blockchain and list all instances of a certain smartcontract?

## What kind of operations can be executed on a smart contract

The smart contract that contains the task details, funds and enrollments is accessed by operations/transactions. The following operations have been identified:

* **Create/construct**parameters:
  + name (string),
  + description (string),
  + funds (ulong),
  + funder (string)
* **DepositBounty**  
  parameters:
  + amount (uint)
  + funder (string)
* **Enroll**  
  Called by a developer that wants to work on the bounty  
  parameters:
  + developerName (string),
  + address (Address)
  + motivation (string)
* **PickEnrollment**  
  Only callable by creator of contract  
  parameters:
  + developerAddress (Address)
* **RequestReview**Called by a developer when the task is done and wants the issuer of the bounty to review the work.   
  parameters:
  + none
* **PayBounty**Called by the issuer of the bounty when the review is done and the result is accepted.  
  parameters:
  + None

Questions: are these operations possible? Is this the best way to structure a SmartContract?