CrowdCoin White Paper

Crowdfunding Made Secure

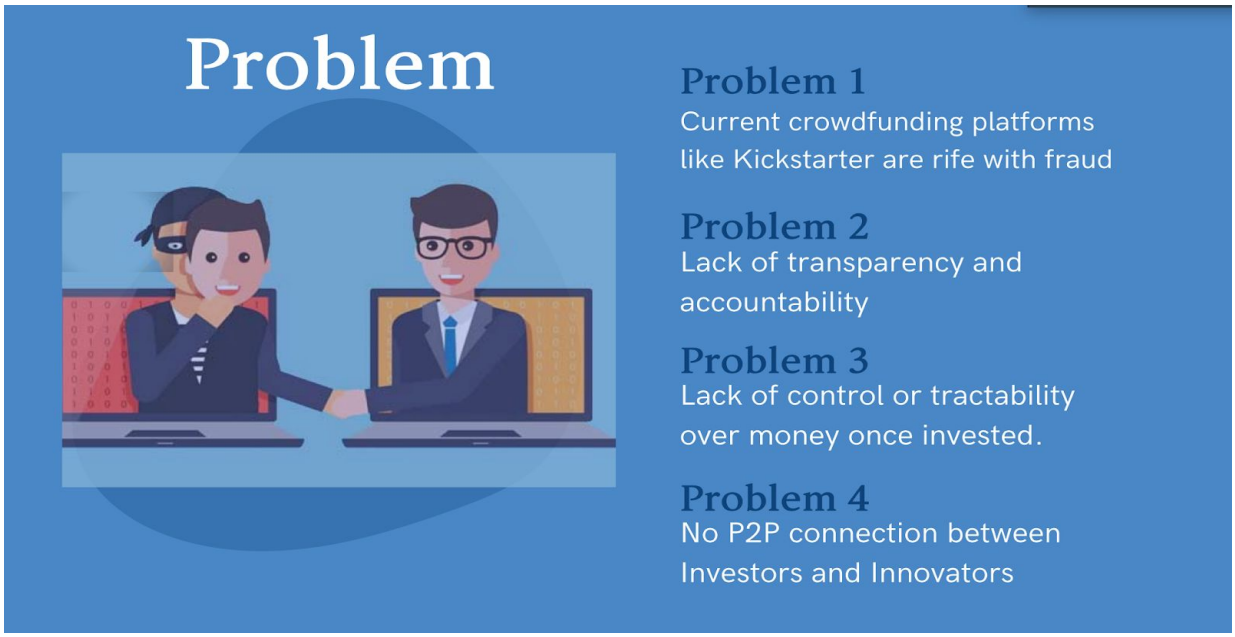
CrowdCoin| April 2020

Contents

Overview of the Problem and Solution

Importance of Crowdfunding

Over the years, thousands of start-ups have raised money through crowdfunding sources. Very often though, small start-ups that seem to have great potential do not get enough investor support, especially the ones unpublicized by media and PR teams. For these projects, the only way to raise a significant chunk of their initial capital is through crowdfunding. Various well established start-ups owe their success to a large part to crowdfunding.



Why is the traditional crowdfunding model not a total win-win situation?

Despite their popularity, crowdfunding platforms have been increasingly subjected to scrutiny by investors. This is mainly due to most start-ups not living up to their

projected growth. Large projects were found to be completely obsolete after a couple of years and investors (mainly community backers) lost their hard earned money.

Last but not least, crowdfunding mainly favours emerging companies. The backers from the early stages can't really share the success of the company they invested in. They either had a beta product with discount or had early access to production level assets. However, when a company that was crowdfunded is sold for millions or billions, backers do not gain any profits.

Key Challenges in Crowdfunding

Crowdfunding poses major challenges to backers/investors and creators just the same. The situation prevalent was such that backers had virtually no protection for their investment and were unprotected from failed projects. There wasn't any security of the money invested. One such instance was CST-01 , a revolutionary e-ink watch by Central Standard Timing. As per its Kickstarter page, the watch was touted to be the world's thinnest watch, and raised over US$ 1 Million from 7,658 backers on Kickstarter.The watch hit rough waters almost immediately after raising funds in 2013. After virtually no updates for years, the company behind the project filed for bankruptcy in 2016 , taking along with it the trust and hard-earned money of backers.

As for creators, most crowdfunding platforms made it mandatory for investors to be in the same geographical location or country as the start-up. This majorly curtailed scope of global fund raising through crowdfunding. The extensive paperwork and legal compliances further added to their woes. Furthermore, tax burdens on investments were eating into their funds as well. In short, a creator had access to only a maximum of 80% of the funds they amassed, while the rest would go to fees and taxes and regulatory compliance costs. This left them with no other choice but to raise fresh crowdfunding requests very often which was not in the interests of backers because they wanted proven results before further investments were made.

Solution

Solution 1

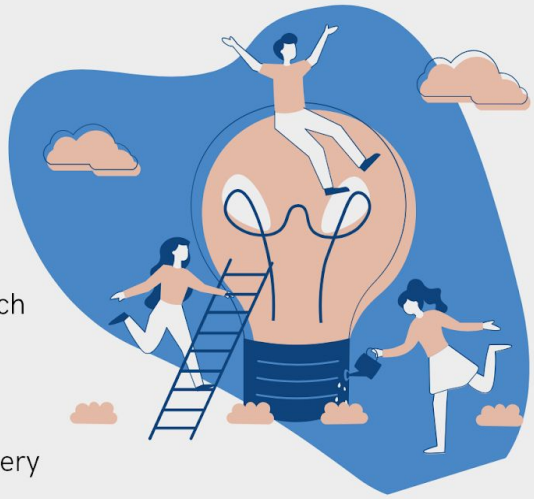
Direct peer to peer connection between the funder and the inventor

Solution 2

Vendor makes request, gets approval by network, money is sent via smart contracts which hold and release finances to the vendor.

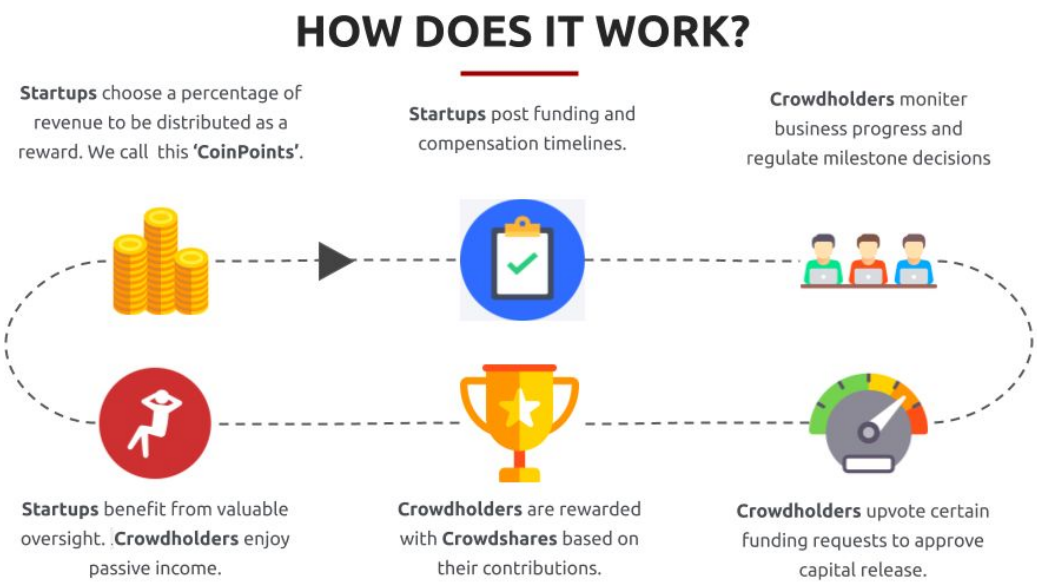
Solution 3

Ensured accountability and transparency for every transaction



What do we propose ?

With CrowdCoin, we aim to establish a direct peer to peer connection between the funder and the inventor. A vendor makes a request which is sent to gain approval by the network of funders. Once approved, money is then sent via smart contracts which holds and releases finances to the vendor. If the request is not approved, finances will not be sent to the vendor. In utilizing digital ledger technology, each step of a vendor's process which requires additional funding will display how the backers investment is spent. Each step of a contract must be completed for additional finances to be received. This process ensures accountability and transparency in every step of the process.



How are we unique?

Crowdcoin is unique in that we incentivize a community platform, increase opportunities for wealth creation and substantially decrease fraud, and increase accountability and transparency in the crowdfunding ecosystem.

For startups:

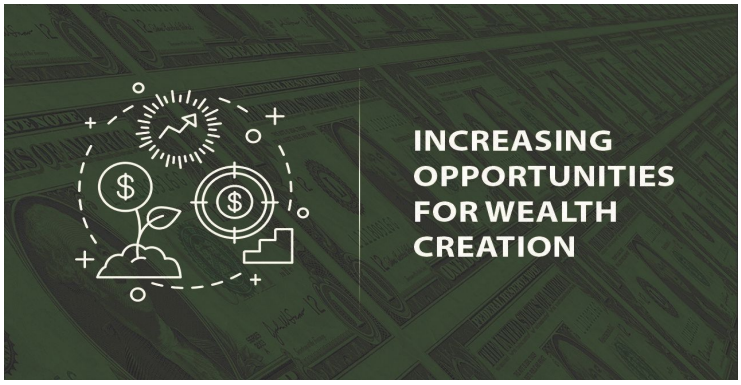
Crowdcoin creates an environment to receive funding by backers who have a genuine interest in the product you are creating. By beginning your journey in an ecosystem founded upon ethical exchanges and creation, you can be assured that you will be part of an ever growing economy centered upon equitable practices. Receiving funding by backers who are engaged in the smart contract process opens up doors for a startup to build strong and lasting partnerships through seeing the completion of your contract

through. This is both an investment into the manifesting of a cherished idea and the fortifying of future investments.

- Crowdcoin enables startups to create or expand their team and gain additional traction. We enable the connections of talented individuals and teams and garner the attention of both their personal and professional social networks.
- We help build relationships with early customers and supporters. Making these connections early on helps teams know who has a genuine interest in the problem they're trying to solve.
- We provide startups with the opportunity to raise capital and build equity. One way we do this is through the enabling of selling a portion of future sales in return for an investment, all while maintaining 100% ownership of your business or operation.

For crowd holders:

Crowdcoin enables backers to engage in the crowd funding and startup creation process like never before. With the medium of smart contracts, they are part of every major milestone of a product or idea's creation. All investments come with some degree of risk, but by engaging in transparent interactions, you can be assured that for every dollar spent the probability of return is exponentially higher. With the malleability of contractual terms, engagement with startups can take new heights.



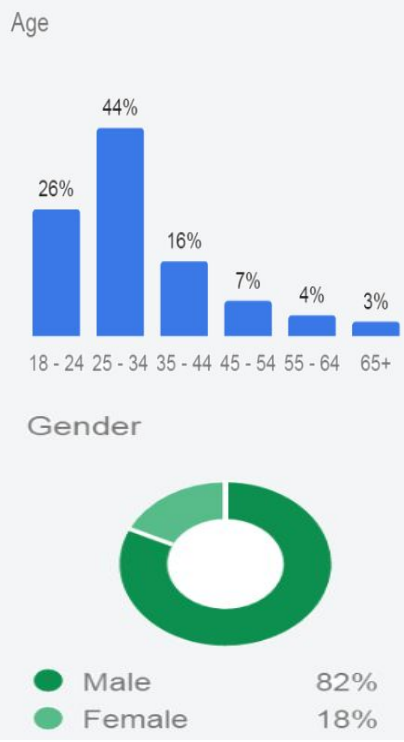
- You can influence your favorite brands through co-creating products and services with companies you love.
- Earn extra income through receiving compensation for your contributions and feedback.
- Develop a personal brand and unique professional identity through showcasing

your work to hundreds of startups and people.

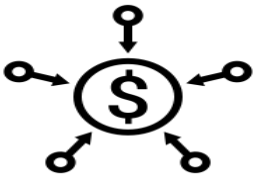
Business Model

Target Market

The target market for CrowdCoin is the sphere of startup funding, especially but not only targeting the portion of the population that values corporate transparency and innovation. The market is currently reliant on established platforms, however the market has a large potential for growth. CrowdCoin is fundamentally overhauling the crowdfunding business in order to constructively disrupt the market for funding entrepreneurs by enabling and fortifying the idea that transparency and accountability in the distribution of funds leads to greater and more sustainable business success.



$34.4bn
Total alternative finance volume



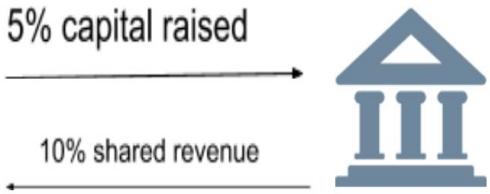
$6.5bn
US Crowdsourced Market

Potential Revenue Model

CrowdCoin is positioned to become a revolutionary funding platform which will protect investors while providing greater access to funding and feedback for entrepreneurs. CrowdCoin will have the ability to facilitate high value fundraises, while eliminating uncertainty and risk for investors. The platform will charge a modest service fee on all the capital raised, with an additional service fee on all capital which is held in our "limbo" funds. In addition to this, CrowdCoin will receive a portion of all revenues charged back with investors. Finally, CrowdCoin is looking at expanding its outreach horizon in order to operate as a Saas company,providing firms with premium features accessible through subscription which provide value to our entrepreneurs.

Ideal Customer Profile
Geo: USA
Employees: 2 -25
Investment: $50K - $100K (FFF)
Industries: Tech/FMCG brands/Health & Fitness

Early Adopter Profile (Users)
Age: 18-34
Language skills: English-speakers
Occupation: Student/entry-level job
Motivation: New skills/Join a Community/Recognition



MARKETING & SALES

3 Acquisition Channels

1. Organic Growth

- 41% of 7000 Unique Visitors
- 10% Signup Conversion Rate

2. Sales

- 10 Qualified Startup Demos/Month
- **75%** Post-demo Conversion

3. Marketing

- **40** Communication Channels
- Content Playbook

We've identified repeatable strategies to acquire new customers. We will iterate on those and double down on the winners.

Current Marketing Mix

ALTERNATIVE REVENUE STREAMS

	Bounty	SaaS	Advertising	% Holdings
What is it	Projects with a cash bounty ($1-10,000) used to incentivize Crowdholders' contribution.	Freemium model with premium paid features (Private analysis, branding, user data & etc)	Serve Premium Targeted Ads	Earn interest most likely 1% on all money held.
Target Group	Large companies looking to crowdsource microtasks/projects	Project creators in need for additional support and/or user analysis	Advertisers looking for targeted customer base & High quality user data	N/A

** Important note: these are all opportunities we are looking at while we focus and establish a solid proof of concept. We need to make sure our startup is flexible in any way, in case of a pivot*

Technology Design

How does it work?

Definitions

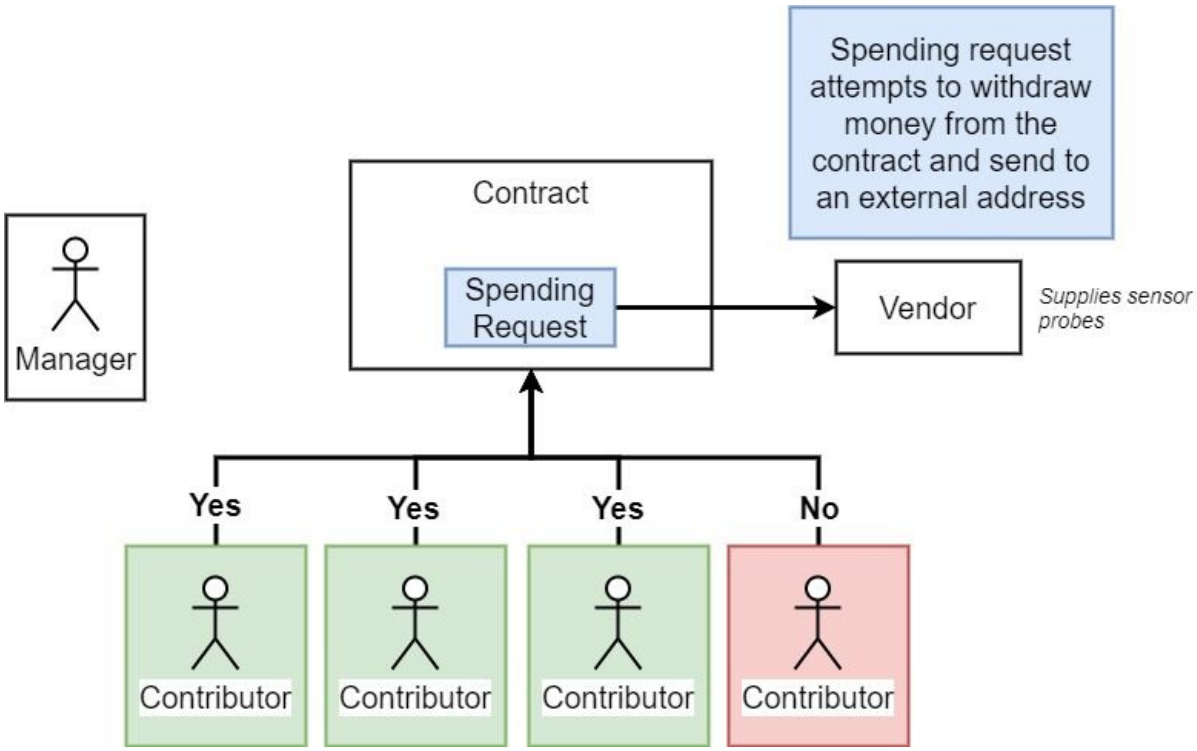
Campaign: Each campaign refers to a project/product which is listed by a “manager”, with an intention to raise money or receive funding for the same.

Manager: Users of theCrowdCoin platform that create and list their project as a crowdfunding “campaign” for “backers” to support. This person is essentially trying to raise money to build some sort of product

Backer/Contributor: Users of the CrowdCoin platform that pledge ether in support of a project.

Vendor: They are potential suppliers of materials/equipment relevant to a particular “campaign”.

Approver: “Backers” who contribute more than the minimum contribution, automatically become approvers, and in a way have a say in how their money is being used.



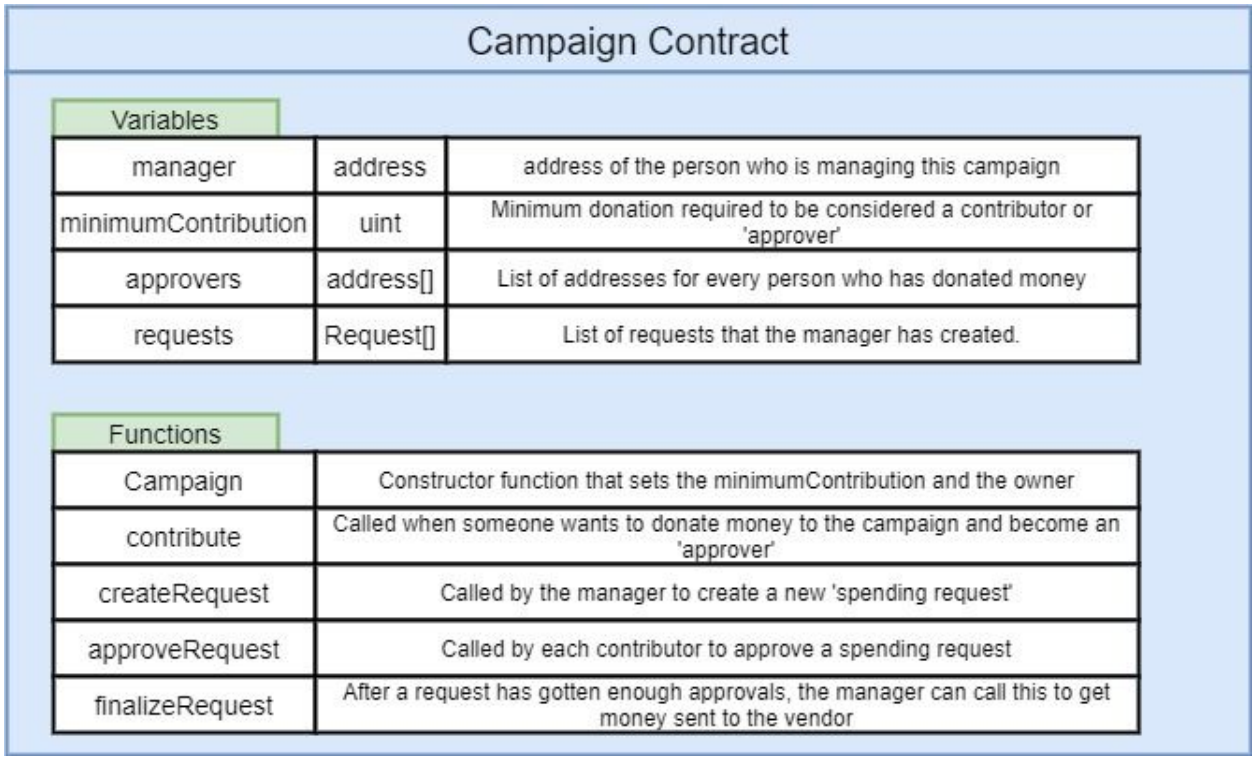
A manager can create new campaigns on our platform, in order to raise funds for the same from potential investors/funders. Contributors/Backers can invest in and pledge certain ether for projects which they want to support. Once the project manages to reach its funding goal, the manager can start making spending requests to vendors, a copy of which will be available to all the approvers in the network. The manager would need a majority of the approvers to approve that transaction, for him to be able to transfer the funds to the vendor in exchange for some supplies. If the spending request has enough votes, it is upto the manager as to when he wants to transfer the funds from the contract holding the funds, to the vendor.

Technology Stack Used

Backend:

Smart Contract:

All the functions and variables, along with their data types used in the smart contract are listed in the grid image below. The functions and working of the contract was first tested on https://remix.ethereum.org/.



Campaign Contract

Variables

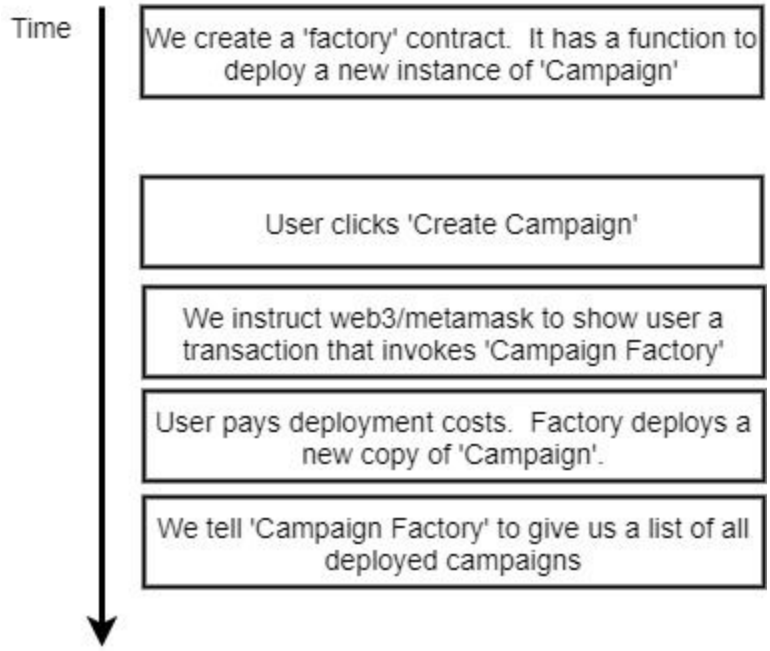
manager	address	address of the person who is managing this campaign
minimumContribution	uint	Minimum donation required to be considered a contributor or 'approver'
approvers	address[]	List of addresses for every person who has donated money
requests	Request[]	List of requests that the manager has created.

Functions

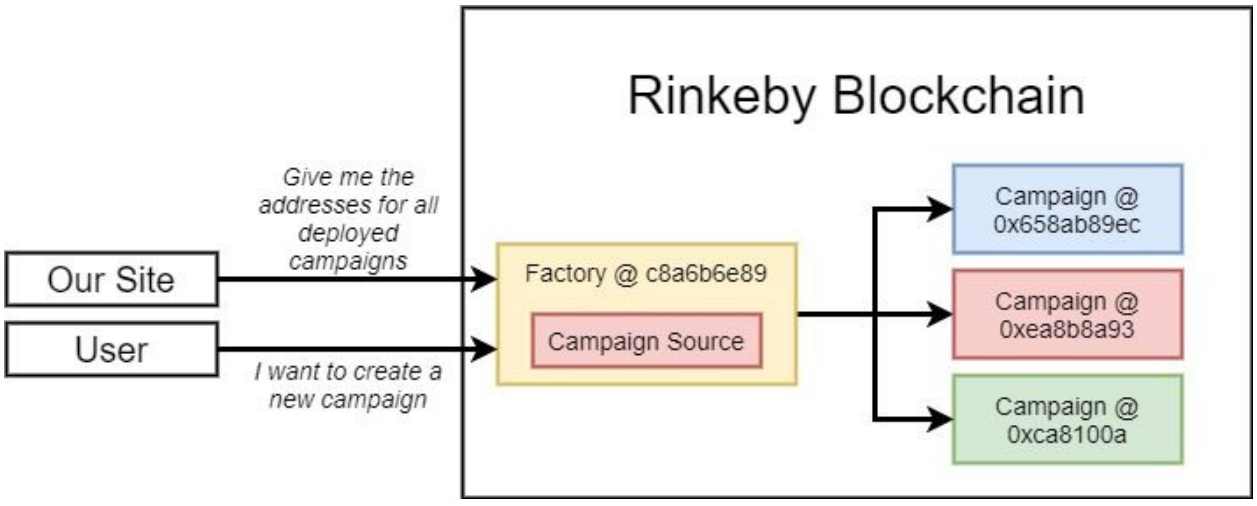
Campaign	Constructor function that sets the minimumContribution and the owner
contribute	Called when someone wants to donate money to the campaign and become an 'approver'
createRequest	Called by the manager to create a new 'spending request'
approveRequest	Called by each contributor to approve a spending request
finalizeRequest	After a request has gotten enough approvals, the manager can call this to get money sent to the vendor

Deployment:

We made a second smart contract called “factory” which acts as a manager to handle all the deployed instances of the child contract which eventually get deployed on the rinkeby network.



One single campaign factory contract is in charge of all the instances of the deployed campaign contracts, hence we deployed it just once on the rinkeby ethereum network.



Whenever a user creates a new campaign, the campaign is deployed with a randomly generated address and it has all the smart contract functions within it. The addresses

of all these deployed campaigns are stored in the campaign factory, which are then displayed on the user interface by making a simple call to the factory contract.

Front-end:

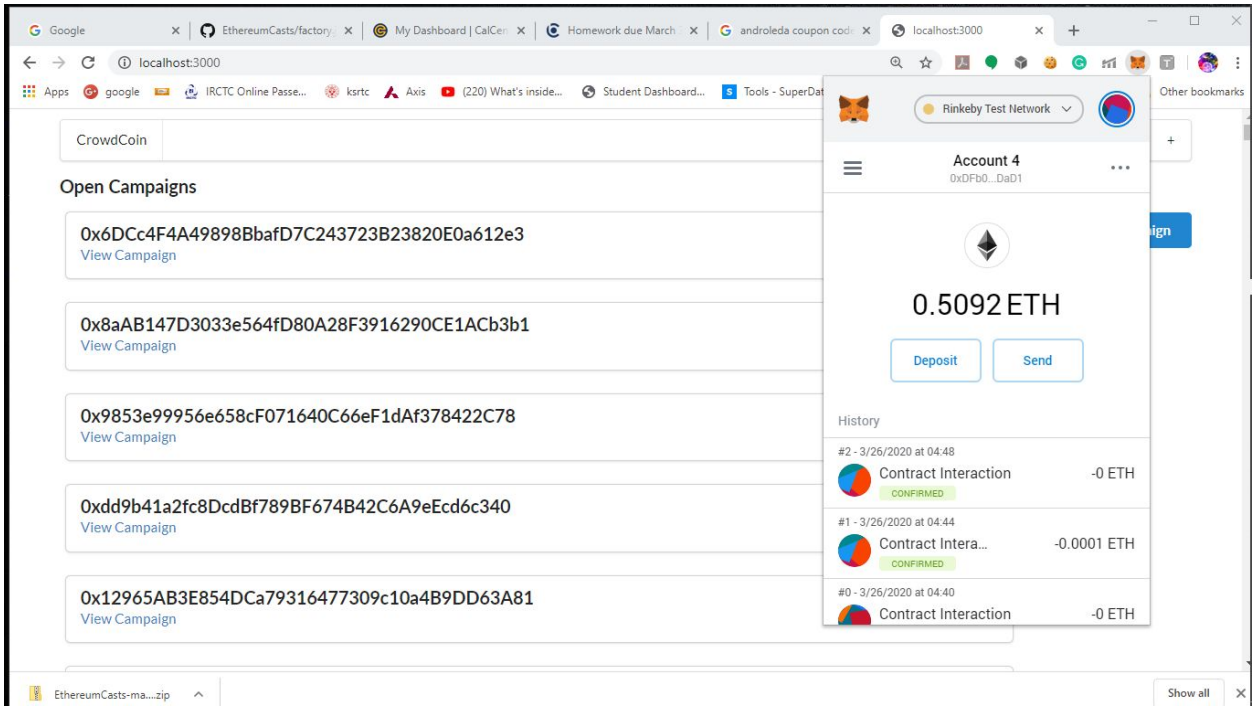
- Used next.js to enable dynamic routing between pages.
- Used solidity compiler solc to compile the smart contract
- Used webpack to use the ABI and bytecode generated from the compiler, to deploy the contract
- Used test accounts given by infura and used truffle wallet provider to use these accounts to call the functions of the smart contract
- Used web3 and metamask wallet to enable real time user interaction with the web application and to enable end to end transactions
- Used semantic UI react for different UI components

Entire tech stack:-

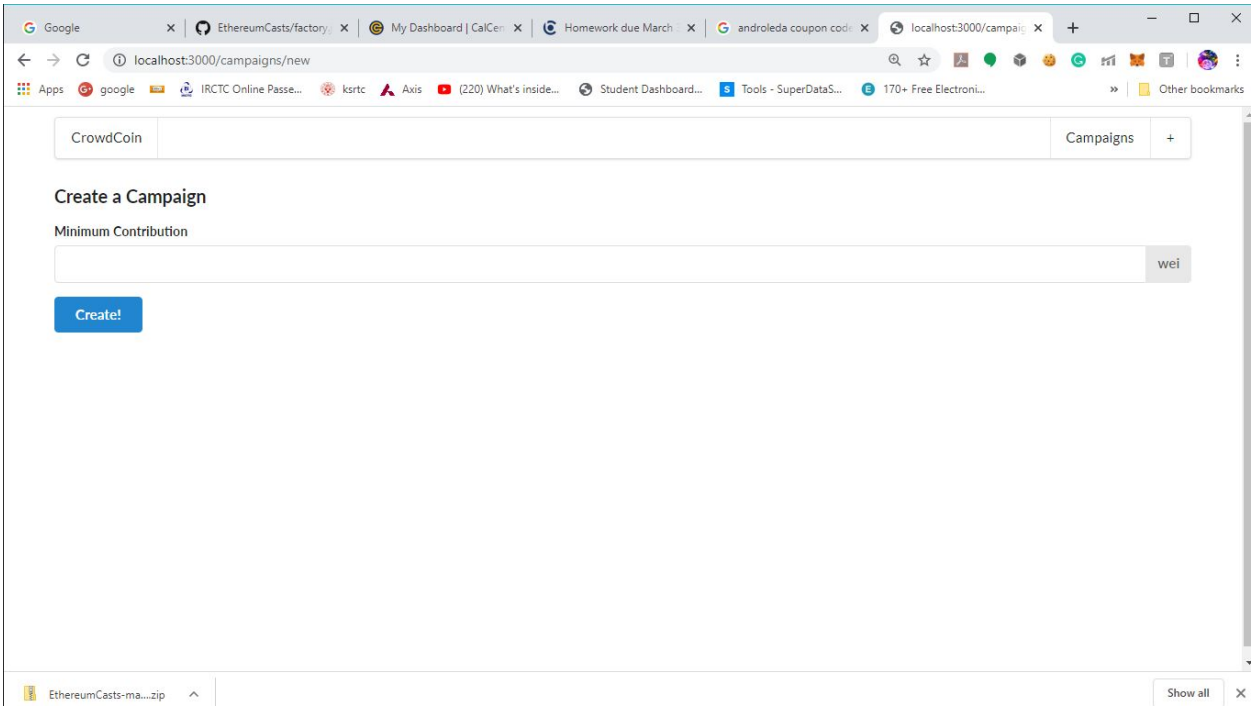
- Remix
- Metamask
- Solidity
- Solc
- Babel
- Webpack
- Infura
- Next.js
- Semantic ui react
- Truffle hd wallet provider

Prototype and Code Samples

Dashboard page where all the open campaigns can be seen:-

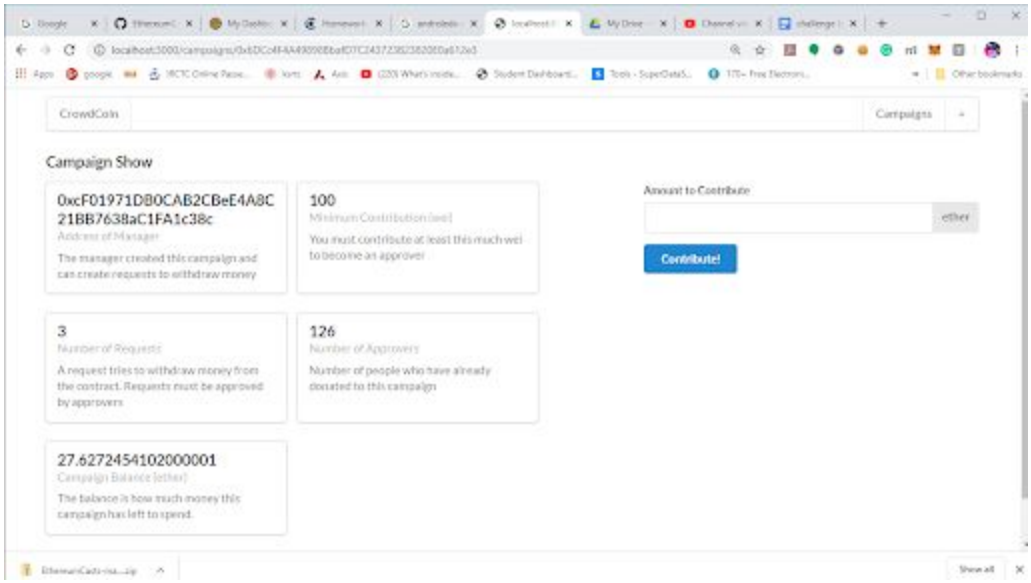


The page where an innovator can create a campaign and request for funds:-



He has the option to set a minimum contribution for that particular campaign. Any investor/funder will have to donate equal to or greater than the minimum contribution to automatically become an **approver**.
An approver is one who has the say in the innovator's spending requests

The show page of each individual campaign:-



README.md | deploy.js

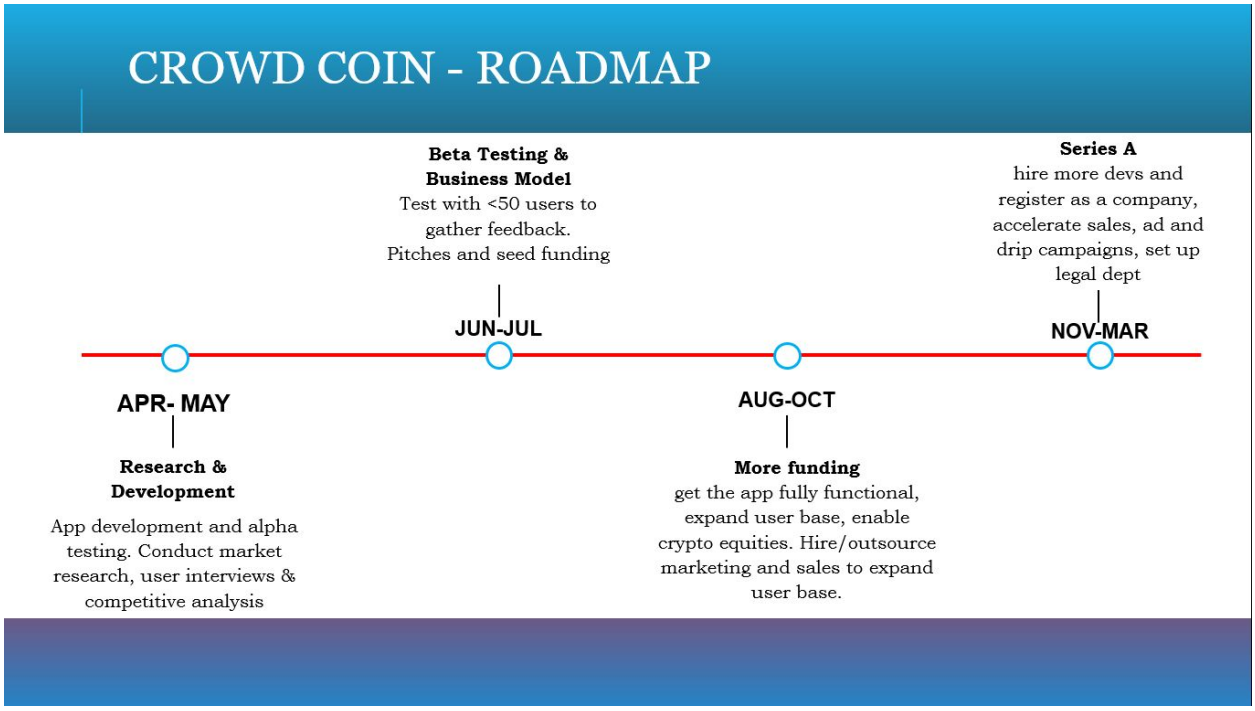
```
const HDWalletProvider = require('truffle-hdwallet-provider');
const Web3 = require('web3');
const compiledFactory = require('./build/CampaignFactory.json');

const provider = new HDWalletProvider(
  'force maid unfold broom potato skirt purpose shield action aspect glue
  'https://rinkeby.infura.io/v3/d351aedb395b441998b4dcfcc3c8a485'
);
const web3 = new Web3(provider);

const deploy = async () => {
  const accounts = await web3.eth.getAccounts();

  console.log('Attempting to deploy from account', accounts[0]);

  const result = await new web3.eth.Contract(
    JSON.parse(compiledFactory.interface)
  )
    .deploy({ data: compiledFactory.bytecode })
    .send({ gas: '1000000', from: accounts[0] });
```

README.md | Campaign.sol

```
pragma solidity ^0.4.17;

contract CampaignFactory {
    address[] public deployedCampaigns;

    function createCampaign(uint minimum) public {
        address newCampaign = new Campaign(minimum, msg.sender);
        deployedCampaigns.push(newCampaign);
    }

    function getDeployedCampaigns() public view returns (address[]) {
        return deployedCampaigns;
    }
}

contract Campaign {
    struct Request {
        string description;
        uint value;
        address recipient;
```

The above code snippets show the deploy script and the smart contract respectively.

Roadmap and Launch Plans



Our roadmap for the coming months is to first be able to make a full fledged decentralized crowdfunding application which will be ready for alpha testing. Adding to that we will also continue to do our user interviews and taking surveys for feedback on our application because we believe in giving best user experience to our customers.Secondly over the summer, we will gear up our app with the latest updates based on our feedback and test it with at least 50 users to get more feedback and later even seek seed funding for our product. Next, over August to October we will boost up our working force and expand our user base by hiring people from the marketing and technical industry eventually making our product ready to launch during November to March alongside accelerating sales, hiring more developers, organizing ad and drip campaigns, set up legal dept and successfully making our step as a startup into the blockchain industry.

Team

Matthew Dodd
CFO
Business Administration

Rishvanth
CTO
Computer Science

Abrar
CIO
Computer Science

Jack
COO
Psychology

Sreeram Gopinath
CEO
Mechatronics

SangJun
CSO
Computer Science