SpectaCoin Milestone 1

CSC 648 Section 04
Team 4
2/28/22

Joshua Boelman - Team Lead
Jack Deremiah - Backend
Kenneth Galang - Github Master
Madeleine De Mesa - Scrum Master
Elizabeth Kirwan - Frontend
Tony Tran - Frontend

1. Executive Summary - Josh

SpectaCoin is an interactive cryptocurrency tracking and planning website, where you can view your planned market value, investment performance, and portfolio allocation in real time. Our objective with this application is to provide cryptocurrency support and information to those who may not have the capital to invest right away. The market for crypto is quite volatile, and there is a large proportion of new investors who don't want to risk their savings without testing first, our application serves as an intermediate between those users and trading sites like Coinbase. The problem we aim to solve can be defined as such: users are losing money on crypto because they don't understand the market. The solution to this issue is to allow users to trade crypto with faux money, giving them the opportunity to trade and learn the market without losing money.

2. Personas and User stories - Josh

Use Case #1	Entering the crypto market
Actor(User)	Middle class employee - Brad Basil
Basic Flow	Every Saturday morning our user opens our website to see how the crypto market is performing. Brad is a trust fund baby that never earned the respect of his parents, but he wants to turn that around. He is new to cryptocurrency as a whole and would like to learn the market before investing some of the household's money into such a volatile market. While Shiba Inu skyrockets he allocates some of his faux money into it, watching to see if its in fact a good investment. The market takes a hit but he doesn't as it was not an actual investment.
Alternative Flow	Our user is told by her friends that crypto is the new wave, however she is tentative on investing. She opens our site where she can get a hang of things in the crypto world before moving to another site like Coinbase or Crypto.com.

Use Case #2	Class learning
Actor(User)	Student - Helen Hydrangea

Basic Flow	Our student is in 8th grade and choosing electives. She sees that there is a cryptocurrency class available and chooses to sign up. Once the class starts the students are assigned an account with our website. Then they are given 1000$ of fake money to invest in different stocks and cryptocurrencies based on what they learn in class.
Alternative Flow	One of the students in the class find out they are quite good at investing and are able to turn a profit in the class. After a few months they decide to take what they have learned and apply it to a real portfolio outside of class, where that profit brings home money for the user.

Use Case #3	Moving from traditional stocks
Actor(User)	Elderly person - Frank Foxglove
Basic Flow	Every Sunday our grandparent turns on the news and watches what's happening around the world. Frank is a megolomaniac and wants to prove he is smarter than his brother in law. He is more or less familiar with what crypto is but hasn't tried investing. A news bulletin pops up saying the US and Russia are both creating a plethora of new laws to apply to cryptocurrency. He decides its a great time to start learning about crypto and testing the waters, so he opens up our website to test the market. A month later he sees his entire portfolio has taken a hit, and therefore learned that with regulation comes a drop in price.
Alternative Flow	This man, like many of his age, has a lot of free time. He used to invest in stocks back in the day but has since moved all his money to a roth IRA. He sees his friends making money off of crypto but it takes some time to move his money from the other accounts, so he opens our app and plays around with the market in the meantime.

3. Data Definitions - Jack / Mad

1. (main data elements used in your app, types of users and their privileges)

Name	Meaning
Account ID	Unique identifier for User
Username	Login
Password	Login
Email	Authentication
Tracking Cryptocurrency ID	Identifier
Cryptocurrency Name	Identifier (ticker)
Cryptocurrency Money Value	Currency (in USD)
User Portfolio	Container of user's favorite crypto assets
User Status	(Admin, Moderator, Standard)
Admin	Control of App
Moderator	Assistance in Control
Standard User	Default
Cryptocurrency Search Filter	Filters type of Crypto

4. The initial list of functional requirements

ID	Title	Description	Priority	User Story Reference
1	Account Creation	Users can create a new account using an email address. Our website won't keep track of names or passwords.	High	Helen Hydrangea, who is just a high school student, likes websites that are free and easy to sign up for. She appreciates that you don't need to enter any credit card information since she doesn't have

				that yet.
2	Login	If a user already has an account, they can log in by entering their email. Supabase will authenticate the user.	High	Brad Basil, who works in the tech industry, has used Supabase in the past and trusts their verification process.
3	Dash-board	The dashboard is where users view their chosen crypto currency. This is personal to every user, and they get to choose which currencies to add and how many they want to keep track of. If a user is not logged in, they won't have a dashboard feature.	High	Brad has many different crypto wallets and loves that he can keep track of so many different currencies in one convenient location.
4	Search	Users can use the search function to look up specific crypto currencies. If the user is logged in, they have the option of adding cryptos to their dashboard.	High	This feature is great for Brad who loves researching new crypto currencies online.
5	Filter	Users can add a filter when they are using the "search" feature or when they are browsing. Some ways you can filter include: price, change %, or whether the price is rising or falling.	Medium	Brad prefers viewing cryptos based on their percentage change while Helen likes viewing their price.
6	Trending	All users have a "trending" feature, whether or not they're currently logged in. This section displays the most popular crypto currencies.	High	Frank Foxglove, a recent retiree with a savings account, wants to learn about new ways to invest and make money. This feature gives him a "starting off point" to learn about which cryptos to look into.
7	Browse All	Users can view all crypto currencies listed in alphabetical order. They can also filter the results using the "filter" feature.	High	Helen likes seeing all the possible cryptos she can invest in when she gets older. With this feature, she can start becoming familiar with them now.
8	Forum	Users can also browse a forum by clicking the "Forum" button at the top of the screen or in the drop down menu on the left-hand side. In the forum, users can create posts, respond to others, or just read through discussions on different topics. It will let users talk to each other about anything crypto related, whether it be tips for investing, past experiences, or	Medium	The forum is great for building community. Brad loves sharing his knowledge about crypto. Frank loves asking questions and chatting with people who have more experience with investing

		predictions for the future of crypto currency.		than he does. Helen just loves browsing through all the discussions.
9	Accessibility	Users can choose between a light mode and a dark mode. This is helpful for people with poor vision or who want to view the web application in dim lighting.	Low	Frank is far sighted and has trouble reading from his phone. He prefers viewing in “light mode”. However, Brad is on the computer all day for his job and feels that “dark mode” is easier on his eyes.
10	Remove Account	Users can delete their account from our website.	Low	Frank doesn’t like having too many accounts and passwords to keep track of. When he's done using a website, he likes deleting his account.
11	Email Notifications	Users can sign up to get notifications about cryptos listed in their dashboard.	Low	Helen has had a smartphone since she was little and is used to getting news and messages instantly. She almost always signs up for email notifications.

5. List of non-functional requirements

1. (performance, storage space, usability, security, storage, availability, fault tolerance (with the expected number of users))
2. (compatibility) Application shall have a responsive design, which is compatible on multiple devices such as mobile phones and computers.
3. (development requirement) User data will be stored on supabase.
4. (usability) The application will be smooth and easy to use with an easy to use user interface.
5. (development required) The master branch code will always be working and deployable.
6. (development requirement) Users will be allowed to enter using emails.
7. (fault tolerance) Application will be able to handle multiple users. We expect that the application will be able to handle 40 users.

6. Competitive analysis - Tony

1. Find 3-4 competitive features against existing solutions which are available in the market
2. First, create a table with key features of competitors vs. yours planned, at only a very high level, 5-6 entries max
3. must summarize in one paragraph what are the advantages of your planned product to what is already available.

Competitor Features	**Planned Features (ours)**
Large full detail breakdowns of Pricing (changes, trends, history)	Condensed Initial info ->then expand if requested/needed
Table-based display that throws all details on the main page	Card base/compartment display meant for quick and easy checking
Displays nearly every possible option on at once	Watch what you want to watch (keeping track of crypto you care about)
High detail-oriented initial display	Easy to read, easy to learn platform
Table Based organization	Card style presentation of data

The end goal of our web app is to create something that beginners can start with and pick up. At first glance at our competitors, many interested users are flooded with tables and graphs. We want to reduce the amount of overload and ease users into the experience. That way the introduction of crypto isn't as overbearing.

Then when our users start to get the hang of things and want access to more information to better inform their choices, we will also have methods to access additional details and information at their request.

7. High-level system requirements

1. Briefly provide an itemized list of all main SW components such as frameworks, tools and systems to be used, supported browsers and deployment platform (SW and server) to be used. This list is to be the list of approved tools and systems from M0. Any other external (open source) code/API/tool must be listed.
    - Apis: Api.coinbase.com
    - Server: aws-ec2 instance (nginx server; built on linux ami)
    - Supported browsers: all
    - Deployment platform: CodeDeploy from github to our ec2 instance
    - Technologies

- Database: Supabase
- Front end: React.js
- Full Stack: Next.js

8. Team:

List student names, names of the roles for each member. If you form the study group, please list them too with their key milestones. (If you present a detailed study plan, will earn extra points).

- Team Lead - Joshua Boelman
- Backend Lead - Jack Deremiah
- Front End - Elizabeth Kirwan
- Front End - Tony Tran
- Github Master - Kenneth Galang
- Scrum Master - Madeleine De Mesa

9. Checklist:

[x] Team found a time slot to meet outside of the class DONE
    Mondays after Lecture, Wednesdays at 1pm, Fridays at 1pm
[x] Scrum Master shares meeting minutes with everyone after each meeting. DONE
    On Notion
[x] Github master chosen DONE
    Kenneth Galang
[x] Everyone sets up their local development environment from the team's git repo. DONE
[x] Team decided and agreed together on using the listed SW tools and deployment server
[x] Team ready and able to use the chosen back/front-end frameworks. DONE
[x] For each technology (front/back-end/DB/cloud) , team decides who will lead the study of each technology and what will be output of the (feasibility) study within one month. DONE
    Before milestone 2, we will do a Figma and React tutorial to prepare for it. For Milestone 3, we will study Next.JS and supabase.
    React Refresher lead by Kenneth
    Everyone else can read Documents / Tutorials on their own time.
[?] If you list a detailed study plan for this, earn extra point!
[ ] Team lead ensured that all team members read the final M1 and agree/understand it before submission