Our logo
Our slogan

Miners' Coffee

Proposed Date: 2021/3/24

Team member

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Exclusive summary

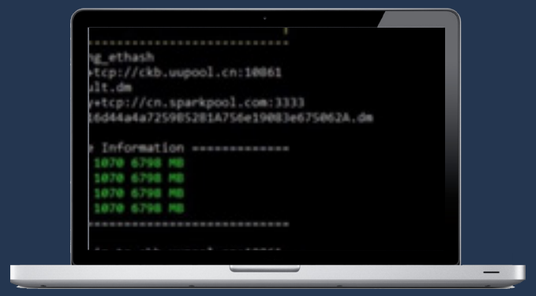
To provide more powerful functions and better user experience, our group has initiated a next-generation GPU mining software named Miner's Coffee. Compared with existing software of the same type, it integrates more system utilities for state monitoring and hardware configuration, more interactions with end-users, and more elegant graphical representation of data. During the design of this software, we have applied a wide range of software engineering expertise. We have adopted the agile software process for higher flexibility and scalability. Furthermore, we have taken

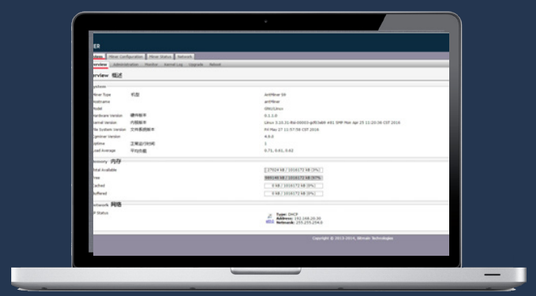
Background

Since the end of 2020, the price of Bitcoin (BTC) has been increasing rapidly. This sharp rise has stimulated the whole market of cryptocurrencies. Consequently, the mining of tokens based on the Proof of Work (PoW) mechanism has been more than popular around the world. Some of these types of tokens, for instance, BTC, BCH, and LTC need application-specific integrated circuits (ASIC) for mining, while others can be mined using GPU of PC. Among the latter, Ether (ETH) of Ethereum is the most favored since it provides the highest profit.

Problems

Currently, ETH miners can choose between two kinds of software. One is open-source mining programs with no graphical user interface (GUI), the other is closed-source commercial mining software with GUI and some additional functionalities such as temperature monitoring and virtual





Open source

The open-source ones are not user-friendly due to the lack of GUI. Users have to learn and type command lines to configure and run the program, which could be annoying for unsophisticated users. Furthermore, this type of mining program can do nothing but mining.

Commercial version

On the other hand, although the commercial ones implement GUI and integrate some utilities, they have the following drawbacks: First, they take 1-5 percent of mining output as their profit, which could be a significant loss for users in the long run.

Problem insuffient functionality

No statistic to lookback

Current software provide neither an estimation of the daily output in dollars nor statistics on computational power and temperature.

Inperfect functionalities

Aome software do not supply utilities for GPU overclocking. The ones which do provide overclocking setting do not provide automatic overclocking. Users must set the overclocking parameters by themselves, test system performance and stability, and then adjust the overclocking parameters accordingly.

Users must set the overclocking parameters by themselves, test system performance and stability, and then adjust the overclocking parameters accordingly. To achieve optimization of the system, users may need to repeat the above process for multiple rounds, which could be time-consuming and tiring.

Problem

Unsatisfied-users experience

- In terms of the user interface, their GUIs are filled with texts and lack graphs, which are neither concise nor elegant.
- As for interoperability, they do not provide sufficient tips or feedback.
- No prompt about the parameters. For naïve users, this may confuse them. Worse still, if the naïve users set the parameters improperly, the hardware can be damaged. Worse still, if the naïve users set the parameters improperly, the hardware can be damaged.

01. The Challenge

Moreover, there is no notification when the system is not running smoothly. For example, if the cooling of hardware is poor or the clock frequency of the GPU is set too high, the power of the GPU will be reduced compulsively by the driver. As a result, the computational power will decrease. However, in this kind of situation, this software does not notify the users directly. Users can realize the problem only by checking the status manually and actively.

Solutions

Our solution is a powerful GPU mining software named Miner's Coffee, which integrates an open-source mining program with utilities for monitoring, overclocking, and tracking.

Affordaable Pricing

First things first, once purchased, Miner's Coffee takes no cut. This charging method would be more economical in the long run.

Powerful Mining Core

At the bottom, it employs NBMiner, one of the most famous open-source ETH mining programs, as the mining core.

Varied Parameter display

Concerning utilities, it provides the following functionalities: real-time GPU hash rate, temperature, power, and frequency monitoring; GPU core frequency, memory frequency, power limit, and fan speed setting; statistics on hash rate, temperature, and power consumption; estimation of the

Graceful GUI

Last but not the least, Miner's Coffee adopts a graceful GUI, which contains a series of line graphs, gauges, and other graphical components. //In summary, Miner's Coffee will provide an easy, economical, and elegant ETH mining

Objectives

To make the final product comprehensively functional, our development process will accomplish the following objectives:

Step -1 Update and improve

Experience the mainstream miner programs and summarize their general system frameworks

Introduce the basic idea of our system framework to current miner programs users and ask for their advice which will be used for further improvement.

Step -2 Implement the prime product:

Develop the product according to the system framework and implement all the desired functions.

Step -3 Test and perfect the product

Comprehensively test the product by the development team and fix all the problems until it works stably.

Include some outside users to use the program to feedback the problems or advice and the development team will update the product accordingly. This step might be repeated iteratively until the product functions stably.

Launch the product online and receive more feedback from board users to further improve the product.

Benefits

1

By integrating the core features of the mainstream miner program, our product is well-equipped which will satisfy the miner users' basic needs.

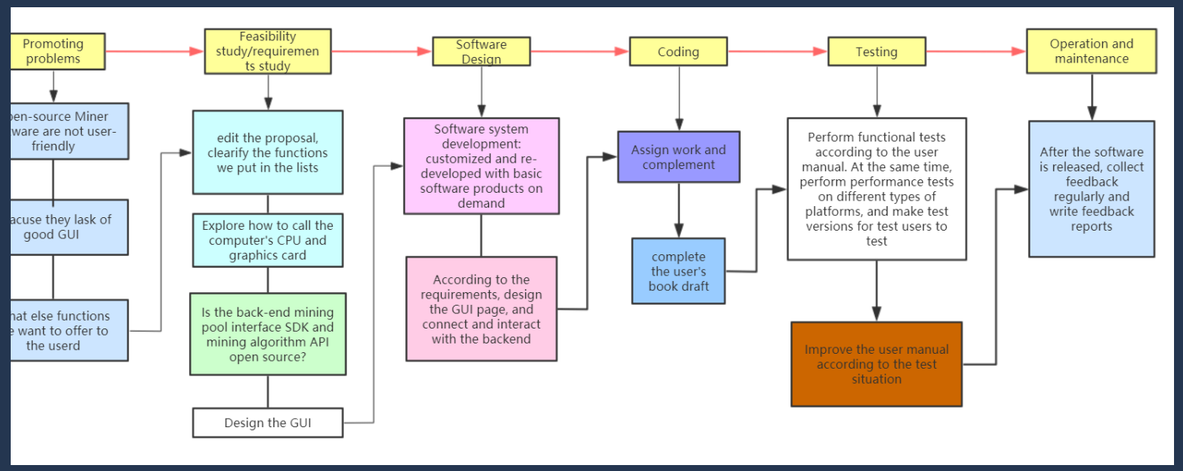
By designing the UI elaborately, our product will be more beautiful and user-friendly.

Plus, by adding additional functions like the estimated earnings and GPU current capability curves, users can have a more concise understanding of the current situation of mining.

Unlike some products that charge the user some portion of their gains as commission, our product only charges the users once for installation which will be more economical.

Timeline

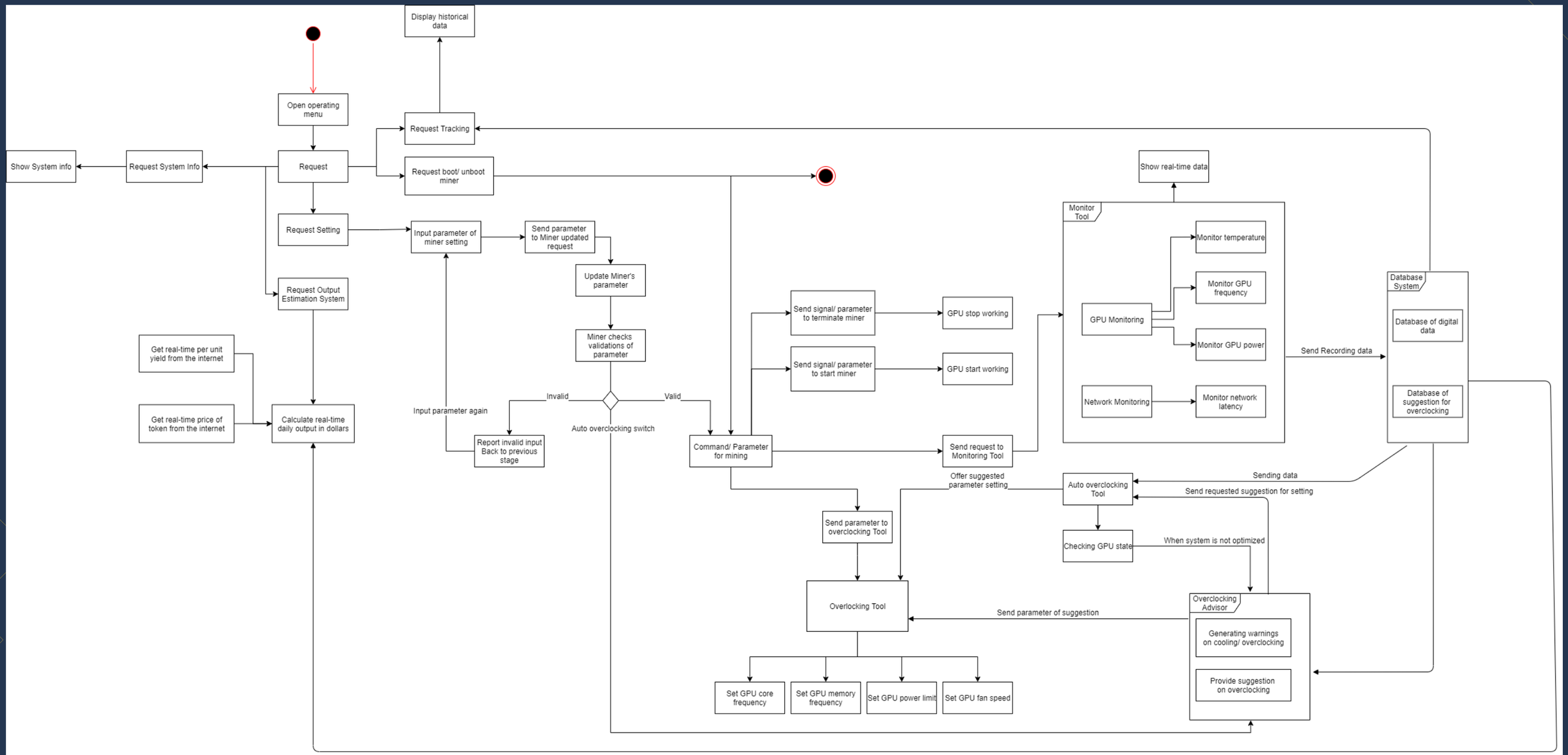
1 software design



2 action shedule

Phase	Description	END DATE
PROMOTING PROBLEM	Promoting problem	20/3/2021
Feasibility study	Study the current problem and find the feasibility of the problem	26/3/2021
Software Design	Design functions	5/4/2021
Coding	Implement functions	25/4/2021
Testing	Find possible problems	30/4/2021
Operation and Maintenance		

UML Diagrams



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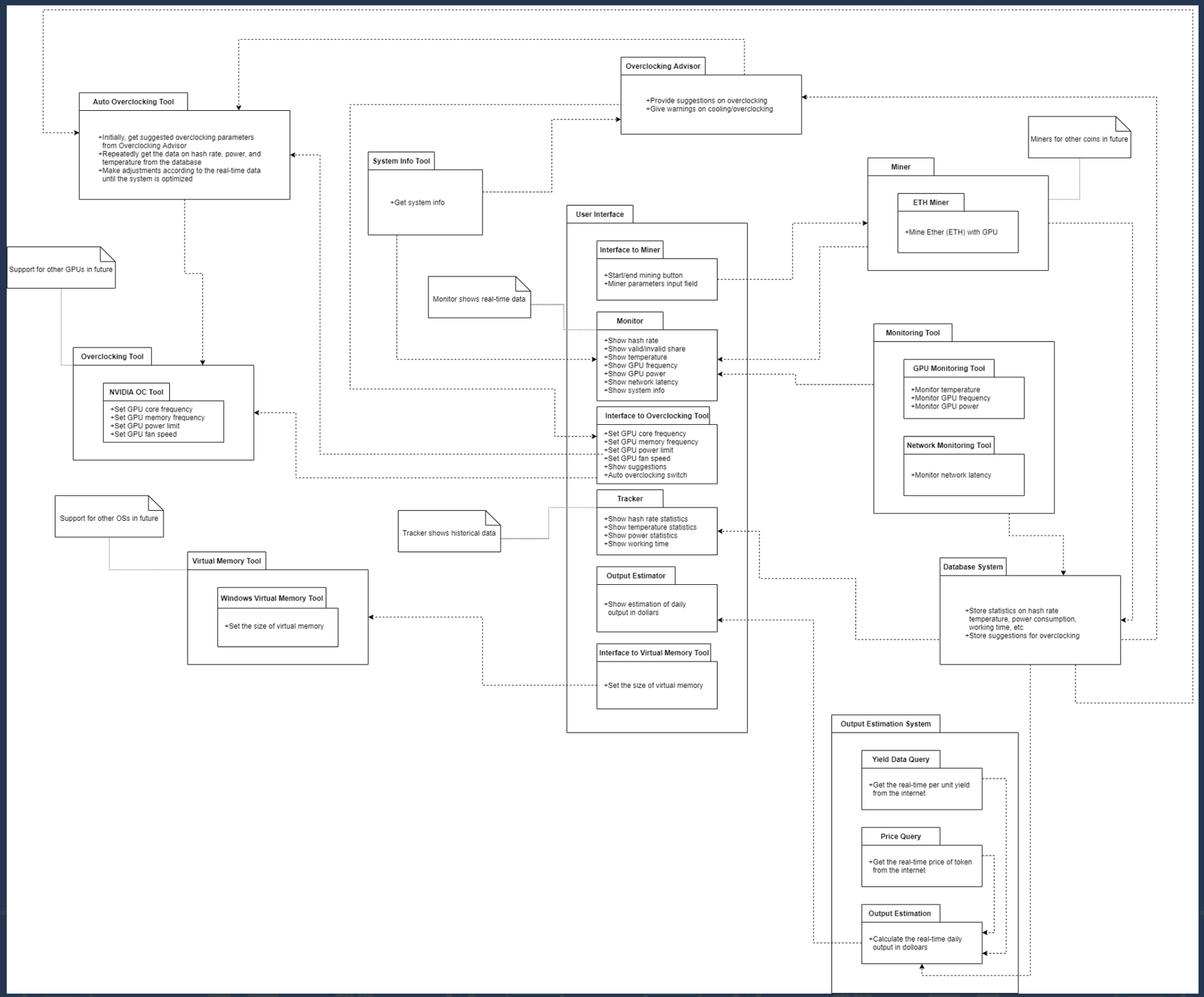

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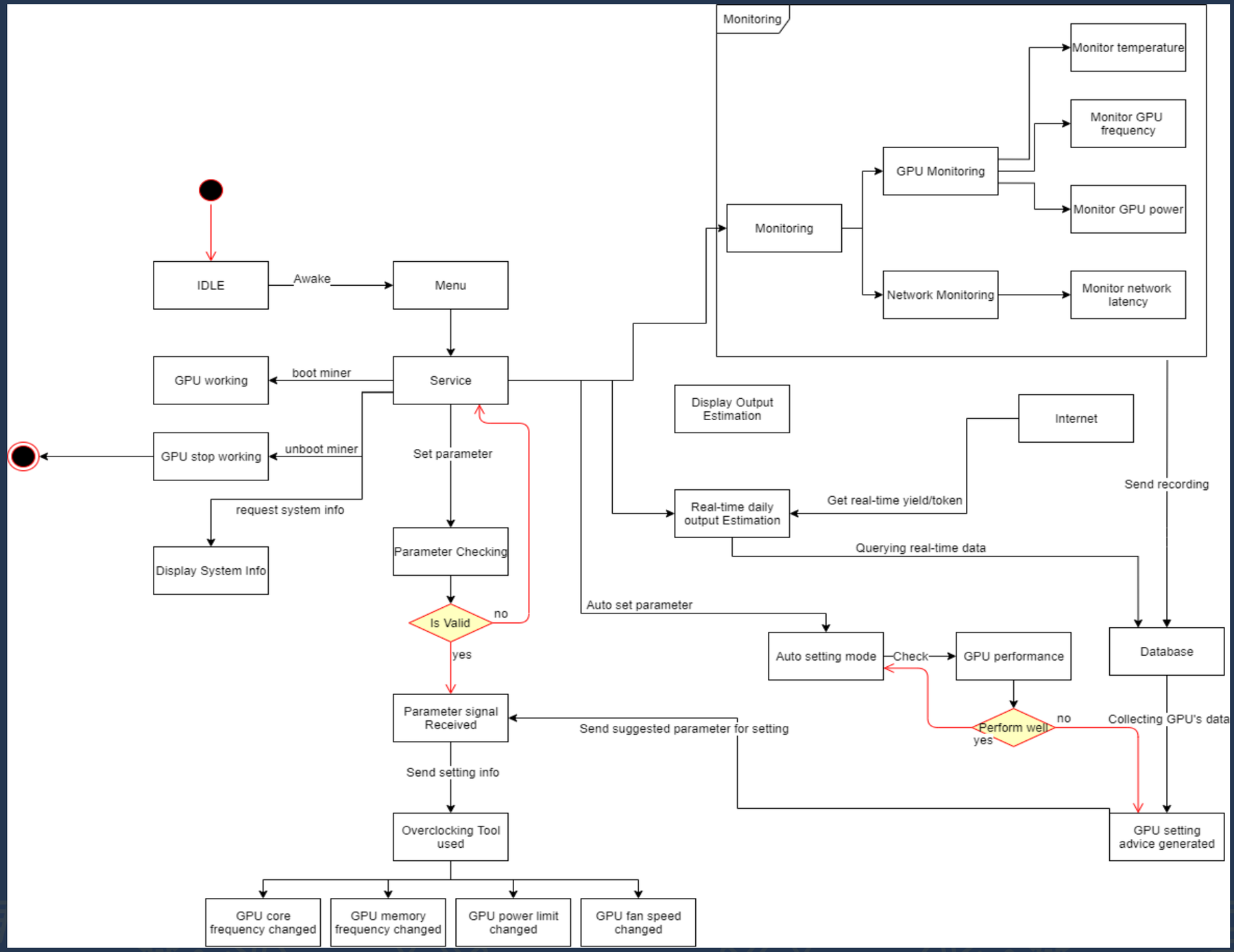

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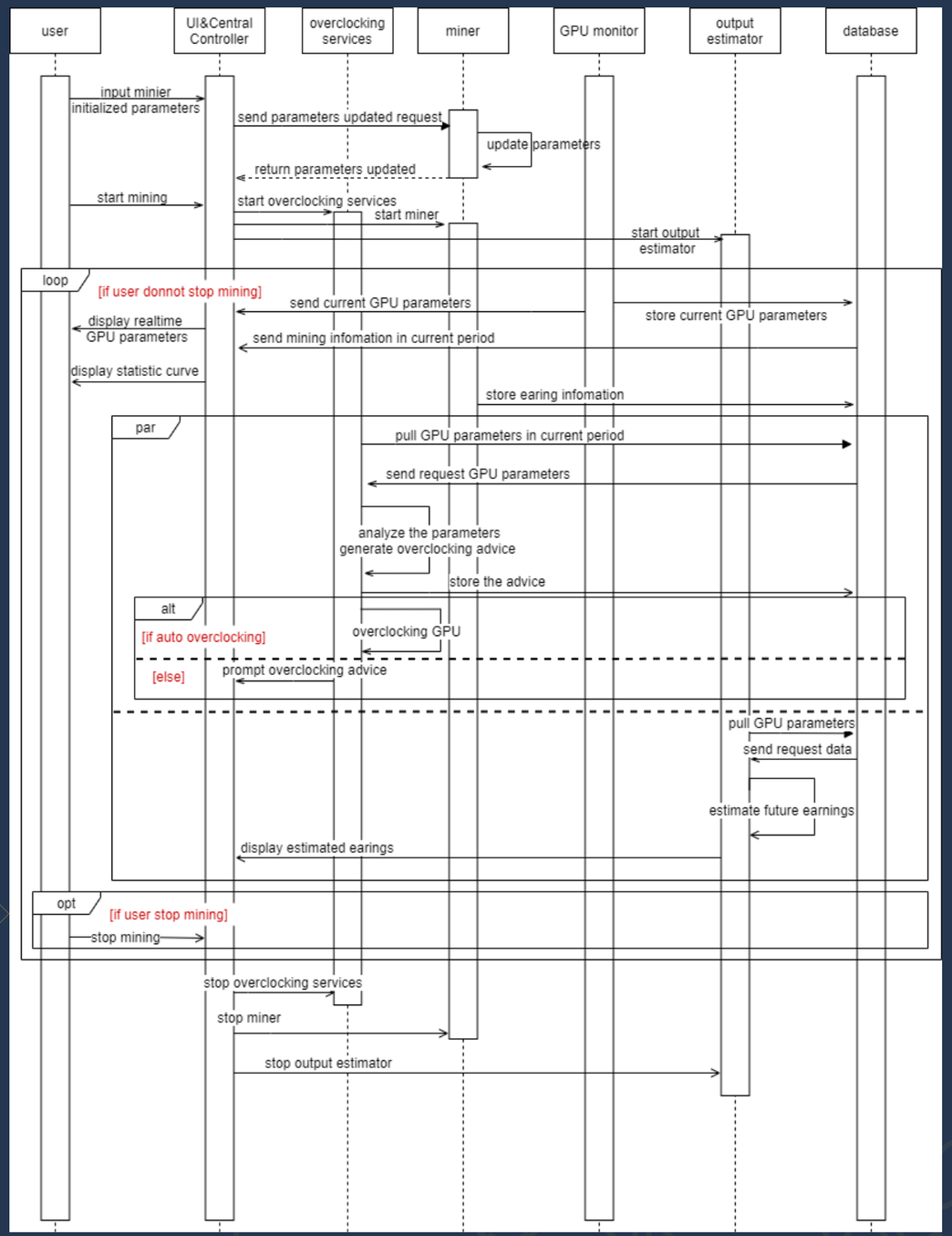

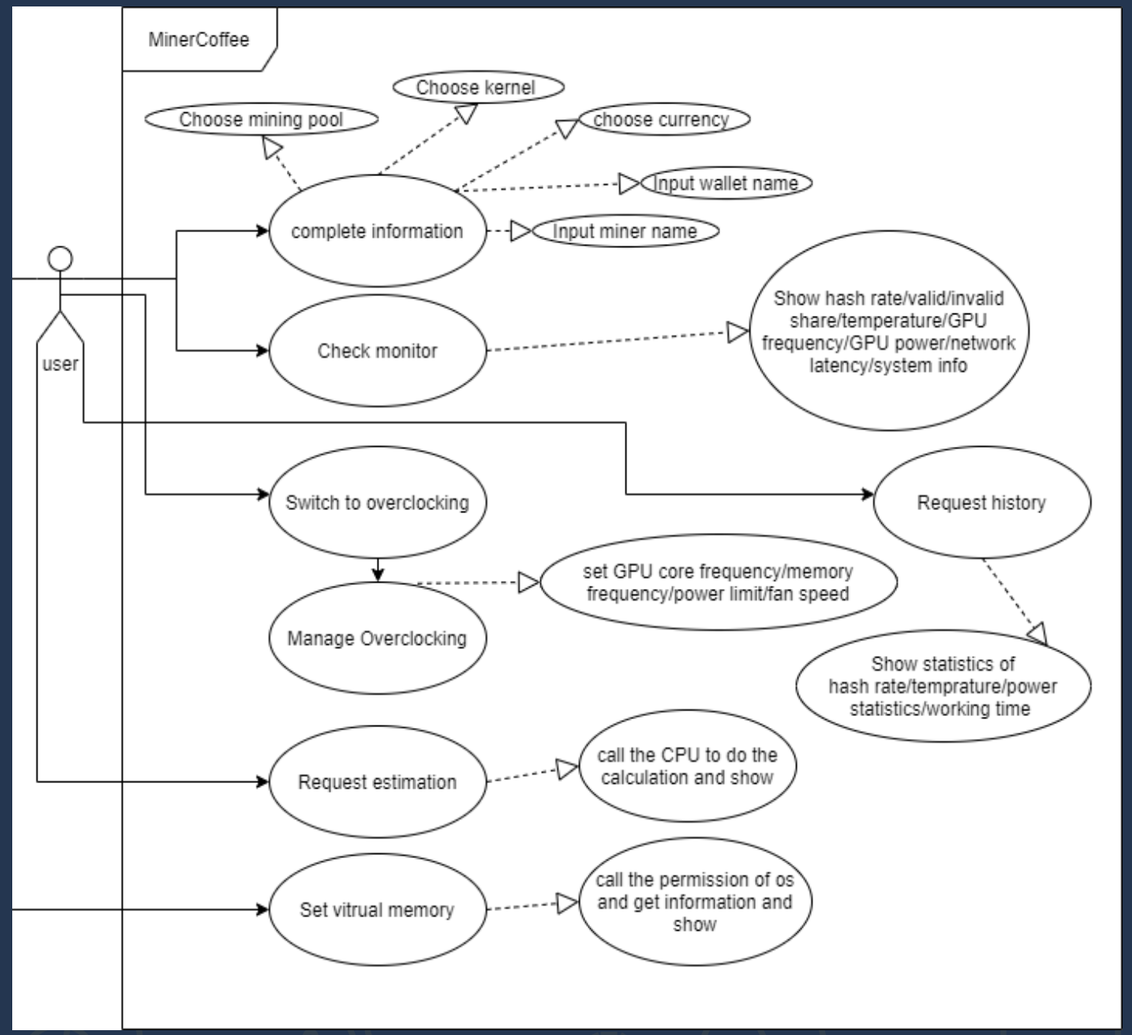

Our Team

Our team core members are experienced in mining which makes sure our product can be designed in an all-around manner to provide a better user experience. Also, all our team members have been involved in some small and medium-sized projects, which means our team could design the product in a more system and suitable way. With sufficient program developing knowledge and passion, our team will try the best to present a powerful product to miner users.

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Reference

https://help.poolin.com/hc/zh-cn/articles/360038625812-EasyMiner%E8%BD%BB%E6%9D%BE%E7%9F%BF%E5%B7%A5%E6%8C%96%E7%9F%BF%E6%95%99%E7%A8%8B

https://cool-mining.com/en/mining-en/nbminer-v33-4-nvidia-amd-gpu-miner-for-eth-rvn-grin-beam/v

THANK YOU

Aming this in first