



Case study

Custom Cybersecurity Solution Development: From MVP to Support and Maintenance

Our client is a cybersecurity software provider that needed help developing a minimum viable product (MVP) for a platform that collects and analyzes data on user actions to detect suspicious events.

After analyzing the software development market, the client chose Apriorit because of our niche expertise in cybersecurity, driver development, quality assurance, and security testing.

Apriorit conducted thorough research and developed an efficient MVP that met all of our client's requirements. After a successful MVP release, the client also entrusted us with delivering additional features for their product and providing support and maintenance services.

The client

Our client is a software vendor that offers on-premises and cloud cybersecurity products to businesses and organizations all over the globe.

They were planning to launch a new solution and had an in-house development team. However, they lacked specialists with analytics expertise to finalize product requirements and experienced engineers who could design a reliable software architecture from scratch. After evaluating the market, they chose Apriorit because of our skilled developers with relevant cybersecurity expertise.

The challenge

The client asked us to create a solid MVP for a cybersecurity solution that would collect and store data on user actions.

For a better customer experience and to increase competitiveness, our client also wanted to make the solution lightweight while still being able to provide comprehensive information to platform users.

The result

We provided our client with an MVP that includes crucial functionality for a competitive cybersecurity solution and efficiently performs basic tasks:

- Collects logs on user actions
- Detects suspicious events
- Sends alerts about potential threats to admins

After entering the market with the MVP we delivered, our client received positive feedback from customers and investors and started working on growing their product into a comprehensive platform. While doing so, they kept outsourcing specific development and testing activities to Apriorit. To help our client create a security solution, we mostly assisted them with tasks requiring niche expertise in cybersecurity, driver development, quality assurance, and security testing.

Thanks to our team's work, our client turned their MVP into a competitive and lightweight platform that supports several operating systems.

Our expertise & technologies involved

After thoroughly analyzing requirements and discussing the client's vision, Apriorit was ready to kick off development. To help our client achieve the desired results, we gathered a dedicated team of qualified experts, including:

- Business analyst
- Project manager
- Software engineers
- Software architects
- QA engineers
- DevOps specialists

Then, we outlined the plan for future work, and carefully chose the technology stack.



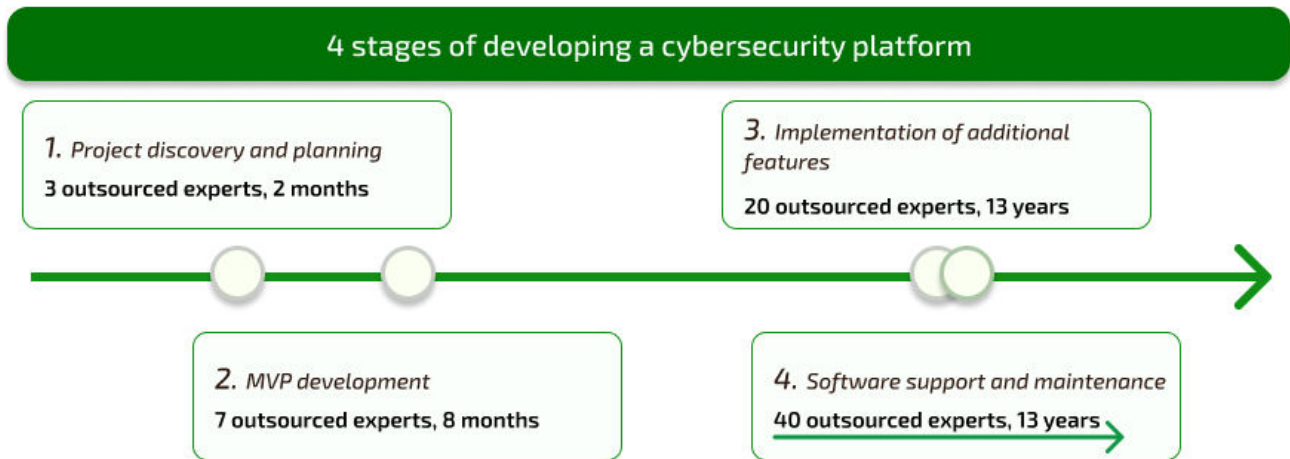
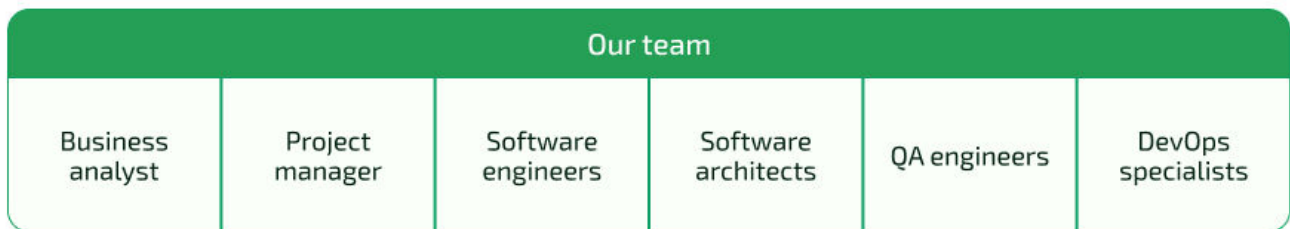
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How we did it

At first, the Apriorit team only planned the activities necessary to deliver a solid MVP: research, requirements elicitation, and development.

Later, we had to plan extra activities within this project since the client decided to turn the initial solution into a robust platform with extended capabilities after the MVP release. The scope of work for the Apriorit team expanded to developing and integrating new features and supporting the growing platform, freeing the client's in-house resources for more big-picture activities.

During the entire collaboration, the client has been receiving regular updates on the project's progress. We also hold regular scheduled calls with the client's in-house team and stakeholders to align on the next steps and work plan. Such an approach helps us to be on the same page with the client's in-house team, accelerate the decision-making process, and quickly resolve unexpected issues, resulting in an efficient workflow and the ability to meet all deadlines.



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1. Project discovery and planning

To develop a security solution, we first had to conduct thorough research. There were many essential details we researched before planning the software architecture and the entire development process to optimize development and **future-proof the MVP**. For example, during the discovery stage, our business analysts and project managers had to:

- Explore the requirements of security standards and industry regulations that dictate how software must work and process data (what transfer protocols, encryption methods, or databases to use, etc.).
- Research how to create functionality for collecting logs on user actions and spot suspicious events.
- Explore legal requirements in the countries our client plans to operate in. We needed to outline specific features that product versions must have to be released in different markets.
- Research ways to make the requested solution lightweight for user convenience.

Once we finished our research and consulted with Apriorit's top engineers, we presented the scope of work and all essential details to the client and their in-house team. After receiving their approval, our team started building the MVP.

2. MVP development

Our mission was to provide a solid product base that our client's in-house team could later easily evolve and expand. Let's outline the three key objectives our engineers focused on during this project stage:

3 key objectives during MVP development		
Advanced data protection	Robust agent	Secure SDLC

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1. Ensuring advanced data security. To protect sensitive data handled by the software, we leveraged our cryptographic expertise to implement a unique server certificate for data encryption. Apart from that, we worked tirelessly on securing and limiting access to sensitive data. The Apriorit team created a thoughtfully designed system of roles and permissions inside the software to help our client control which users can access which data.

2. Delivering a robust agent. An essential competitive advantage our client strived to achieve for their product was the ability to work seamlessly, without interrupting end users. To help them with this request, we leveraged our internal expertise and experience to develop and implement a robust agent that met all the client's requirements.

3. Establishing a secure development process. To deliver a truly secure software product, Apriorit experts pay lots of attention to the code and environment. Our team implemented specific procedures to achieve a secure software development lifecycle (secure SDLC). We made sure the architecture, processes, and approaches met certification requirements in the markets the client wanted to enter. We also created and ensured the regular updating of a software bill of materials (SBOM) - a list of all dependencies in the code and software versions. The Apriorit team assessed each software version security with security testing, penetration testing, code review, and static code review.

During the entire MVP development stage, Apriorit quality assurance engineers conducted thorough testing to make sure everything worked flawlessly. After we finished the MVP, the client delivered their first software version to end users and received positive feedback.

3. Implementation of additional features

After a successful MVP release, the client started planning improvements and new functionality to enrich their product. Although they used their in-house team for expanding the delivered MVP into a full-scale cybersecurity platform, the client kept involving our team for assisting with non-trivial tasks. When building this cybersecurity solution, we helped the client's team introduce new features that required niche expertise.

Implementing additional functionality per client requests	
Kernel driver development for new features	Improved integration capabilities

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1. Developing drivers for new features. Some features our client wanted to add to their product were not possible to implement at the user level. Therefore, our team had to create and test kernel drivers to help our client enable the desired functionality. Developing and implementing drivers is quite tricky because if implemented poorly, kernel drivers can disrupt the end user's workflow. To avoid such issues, Apriorit built mechanisms to ensure smooth driver performance and notifications to alert admins about issues worth their attention. Thanks to our deep experience with drivers, we are extremely careful when developing them. Therefore, each time we added a new driver or modified an existing one, we made sure that our actions didn't affect existing users or the platform's performance.

2. Ensuring rich integration capabilities. Our client's target audience tends to integrate cybersecurity solutions with additional software and services. Therefore, throughout our collaboration the Apriorit team worked on the platform's integrability, focusing on integration with solutions like SIEM software.

Apart from that, we assisted the client's team in researching and implementing ways to create licensing options to meet the needs of different target audiences.

These are only a few of the many requests we successfully fulfilled for this client. We continue working on new requests and gradually integrating new features, enhancing the platform's capabilities and competitiveness.

4. Software deployment, support, and maintenance

Our client didn't have enough in-house resources to ensure efficient support and maintenance of their platform, so they delegated this task to Apriorit because of our expertise and experience working with their product. Since our team assisted with building the MVP, we knew all the specifics and nuances of the architecture. The client also entrusted us with support because of our experience maintaining product versions on rare platforms.

4 main software support and maintenance tasks	
1. Distributing data storage	2. Simultaneously supporting a variety of platforms
3. Improving load balancing on servers	4. Other regular support activities

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1. Storing large quantities of data. At some point after the product's release, the client requested assistance in reviewing the way they handled large quantities of data for better security and efficiency. We helped our client optimize data storage in their product by reserving space in databases for some data types and using file systems for others. Our engineers also implemented the necessary protocols and ensured the possibility to store data on offline endpoints.

2. Supporting a variety of operating systems. Since our client wants their solution to be available for users of multiple operating systems, they faced the challenge of simultaneously supporting a range of platforms. Apriorit developers monitor updates to operating systems to make sure they won't break business processes for platform users. Whenever we find compatibility issues, our engineers research ways to fix them. We also maintain software on rare platforms.

3. Improving load balancing on servers. Once our client started receiving deployment requests for large numbers of endpoints, they reached out for help on account of Apriorit engineers' skills and expertise in overcoming deployment challenges. We successfully improved the deployment process for such requests by enabling server support in cluster mode and integration with commonly used load balancers. As a result, we optimized platform performance, distributed the load among servers, and increased the software's fault tolerance.

4. Other regular support activities. A significant part of our responsibility is taking care of routine support tasks. For example, the Apriorit team regularly checks all third-party tools and solutions before integrating them. We also make sure that previously added third-party components perform as expected and check vulnerability databases to see whether components we use are compromised.

Our client continues collaborating with Apriorit for software support and maintenance services, entrusting us with additional tasks whenever they need our unique expertise.

The impact

During this project, Apriorit engineers thoroughly designed the software architecture and additional functionality. As a result, our client was able to launch their product, test their business idea, turn the MVP into a comprehensive platform, and tailor it to regional and industry-specific markets.

Due to carefully planned communication and reporting, we ensured smooth and productive collaboration with the client's in-house team.

The client continues entrusting us with additional feature development and leveraging our software support and maintenance services to keep their product working efficiently and their customers satisfied.