AI In Product Management

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Lecture - 49
AI for MVP (Minimum Viable Product) (Part 2)

Welcome to this NPTEL online certification course on artificial intelligence in product. Now, we are talking about module 49, which is AI for minimum viable product, and this is part 2 of that topic. So, this is what we are talking about, and it is part 10 of this course. To give you an overview of this module, we will start with understanding the use of AI in minimum viable product with an example. How to leverage AI to identify MVP as an early-stage startup.

Then we will understand how to use AI for building an app MVP. How to design MVP using generative AI in detail. The risks involved in making MVP using generative AI and the ways to mitigate them. And then we will talk about what the best practices are while developing MVP using AI. So, let us start with understanding the use of AI in MVP with an example.

So, let us take a business in the e-commerce industry as an example. Let us say you are developing an online shopping platform, and your MVP aims to provide a seamless shopping experience with personalized product recommendations, easy payment processing, and real-time customer service. We will discuss how AI could be integrated into the development of MVP. So, personalized product recommendations.

You could implement a machine learning model to analyze your user behavior, purchase history, and browsing patterns. The model would then provide personalized product recommendations for each user, enhancing their shopping experience and potentially increasing sales. Next is automated payment processing. AI can help secure the payment process and detect fraudulent transactions.

Machine learning algorithms can identify patterns and detect anomalies in transaction data, thereby predicting and preventing fraudulent transactions. The third is real-time customer service. AI chatbots could be used to handle customer queries 24/7, providing real-time support and improving the overall customer service experience. This not only

enhances customer satisfaction but also allows your team to focus on more complex customer issues that require human intervention.

We should remember AI implementation should align with our business's unique needs and enhance the user experience. In the example above, AI not only streamlines the shopping experience but also helps prevent fraud and improve customer service, all crucial aspects of an e-commerce platform. When we are ready to start implementing these AI technologies in our MVP, the team of experts can guide us through the process, helping the business harness the power of AI. to its maximum potential.

AI: Your MVP Development Ally. Harnessing the potential of AI in the development of your business MVP can be a game-changer. By integrating AI technologies in areas such as code generation, bug detection, software maintenance, and others, you can considerably enhance your development process, making it more efficient and effective. We should remember that the essence of AI in MVP development is not about using technology for the sake of it. Instead, it is about identifying the areas where AI can bring real, tangible benefits, whether it is automating mundane tasks, enhancing code quality, accelerating timelines, or improving user experience.

While the path to integrating AI into the MVP development process might appear daunting, the return on this investment in terms of productivity, efficiency, and the overall quality of the MVP will significantly outweigh the initial efforts. The implementation of AI in your MVP development process is not an end in itself but a means to a more streamlined, efficient, and effective MVP development process that will empower the business to thrive in an increasingly competitive market. To reiterate, whether you are in the early stages of developing your business's MVP or are in the midst of an update, consider using AI to optimize your efforts and outcomes.

The next thing we will talk about in this module is leveraging AI to identify an MVP as an early-stage startup. For many early-stage startups, the task of identifying the minimum viable product can seem like a daunting challenge. We might wonder: What features should it include? How should it look? What should resonate most with potential customers?

It is indeed a critical juncture, as the MVP often sets the tone for your startup's future trajectory. With the advent of advanced technologies like artificial intelligence, this task has become considerably less intimidating. Now, what is the role of AI in this? To fully

comprehend the assistance AI can provide, it is crucial to understand its role in the context of an early-stage startup. AI can accelerate your decision-making process by

providing invaluable insights into customer behavior, market trends, and potential competitors. Let us examine each aspect in detail now. So, we will start with the first one, which is customer insights and sentiment analysis. Understanding your customer is at the heart of every successful business venture. AI-powered tools can help you conduct sentiment analysis on social media platforms and other public forums.

This process allows you to comprehend what customers truly want or need, which in turn can help you define the core features of your MVP. For example, imagine you are developing an app to help people improve their fitness. You might use an AI tool like Hootsuite's Insights to track discussions and posts about fitness across social media platforms. This AI-enabled tool can identify trends and sentiments about different workout routines, fitness goals, challenges people face, and what they desire in a fitness app.

By analyzing this information, you can decide what features and functionalities your MVP should have to satisfy potential users. The second step is survey analysis. Market research is another crucial aspect of MVP development. There are various AI-powered survey tools available that help you collect data from potential customers. By analyzing this data, you can gain a better understanding of what your MVP should encapsulate.

For example, suppose your startup is developing an eco-friendly personal care product line. The tool could help you understand which aspects are most important to your potential customers, whether it is packaging, ingredients, price, or brand mission. Analyzing the data can guide you in shaping your MVP to align with your target market's expectations. The third step is prototyping.

When building an MVP, getting a visual grasp of your product before moving to the development stage is paramount. AI tools can assist in quickly creating prototypes or mock-ups of your product, providing a cost-effective way to visualize and iterate on your product idea. For example, consider you are designing a new e-commerce website. An AI tool like Sketch to React can quickly turn your sketches into functional prototypes.

This way, you can quickly visualize your ideas and make iterations based on feedback, reducing the time and money spent on manual coding in the early stages. The fourth step is competitive analysis. Being aware of your competition and what they offer is crucial.

AI can help you analyze your competition, understand their offerings, pricing strategies, and more. This intelligence can give you an idea of the market standard and highlight gaps that your product can fill.

For example, if you are launching a new food delivery service, an AI tool like Crayon can provide you with insights about your competitors' services, prices, promotions, customer reviews, and more. Knowing this information can help you identify what's missing in the market and position your MVP to fill that gap. The next step is demand forecasting. Predicting the demand for a product is no small feat. However, AI can help in this regard too.

By analyzing trends in historical data, AI can forecast how your products might fare once launched, allowing you to plan accordingly. For example, let's say you are about to launch a new line of winter coats. An AI tool like Google AutoML Tables can analyze historical sales data, current fashion trends, and weather forecasts to predict the demand for your coats. This information can help you decide how many units to produce and when to launch your product to maximize sales.

Several cost-effective or even free AI tools and platforms can assist early-stage startups. One is Google AI Hub offers pre-trained machine learning models and a platform for the deployment of AI. H2o.ai, a free open source machine learning platform that provides several API for algorithms such as gradient boosted machine, random forest and generalized linear models. MonkeyLearn provides AI tools for text analysis useful for sentiment analysis and survey analysis. TARS, a bot making platform that can automate conversations with

customers or potential customers, useful for gathering information and interacting with users. RapidMiner, a data science platform that provides an integrated platform for data preparation, machine learning, deep learning, text mining and predictive analytics. So, now we will discuss about using AI for building an app MVP. Use AI for market research. Market research is the key if you want your MVP to succeed.

And using AI for market research when building your MVP can help you get data-driven insights faster. Researchers agree with that too. According to Qualtrics report, 93% of researchers see AI as an industry opportunity and 80% think it will have a positive impact on the market research industry. But why is market research so important? The main reason is because it will show you if there is a market need for your product and according to CB insights,

Having no market need for their product is one of the top reasons why startups fail. In the next slide, we will look into some of the insights from the report. So, these are some of the insights from this report. Top reasons startups fail. One is running out of cash.

No market need. Got outcompeted. Flawed business model. Regulatory or legal challenges. Pricing or cost issues.

Not having the right team. Product mistimed, and so on. So you can see that the biggest reason for failure is running out of cash, and then there is no market need. If you do thorough market research, you will see if your app idea is worth pursuing or if you need to pivot. And with AI, you can speed up the process and get those insights faster.

Now let us discuss some ways you can use AI for market research. So now we are talking about how you can use AI for market research. One of the AI's strong point is analyzing vast amounts of data in a short period of time. And when you do market research, you end up with a lot of data to analyze. A good use case of AI in market research is sentiment analysis.

If you are doing it right, you will be engaging with your target audience during your research process. And you will end up with a lot of diverse data from various sources like surveys, questionnaires, social media comments, user interviews, and focus groups. With AI sentiment analysis, you will be able to analyze the feedback and get from all of these sources in minutes. This will save you a lot of time and help speed up your MVP development.

Tools like Lexalytics' Semantria and Stravito are good choices. Another good use case for AI is in competitor analysis. We have discussed competitive analysis in detail in modules 21 to 24. You can use tools like Determ and Lebesgue to help you do it.

This will help you react quickly to any changes in the market and stay ahead of your competition. The next step is speeding up MVP development. The key to a successful MVP is getting your product to the market quickly. And if you use AI when building your app MVP, you will be able to launch it even faster.

This can be the key to your app's success. Getting to market first with a new solution will help you establish brand authority and give you an edge over your competitors. Also, speeding up your app MVP development with AI will help you both save and earn money. You will have a shorter development timeline, and that will reduce your costs.

On top of that, the sooner you get your app on the market, the sooner it will start generating revenue.

And that can be the key if you are operating on a tight budget. Let us discuss specific ways you can use AI to speed up MVP development. So now we are talking about how to use AI to speed up MVP development. A good way you can use AI to speed up building your app MVP is by using it to automate your repetitive tasks. This will increase their productivity and give them time to focus on solving more complex problems.

Coding assistants like GitHub, Copilot and Tabnine are good choices for that task. They automate the creation of boilerplate code and give intelligent code suggestions. This can significantly speed up development time. Also, you can use AI to help you quickly write a requirement document is crucial for your MVP success.

Using AI tools like Metastory and UserTale will help you write them in minutes. You can also use AI tools to speed up app design and prototyping. Then we will see the use of AI for data analytics. We have already mentioned that AI excels in analyzing vast amounts of data in a short period of time. This, that is why it should be no brainer to use AI for data analytics when building your app MVP.

McKinsey's research have shown that data-driven organizations are 23 times more likely to get customers 6 times more likely to retain customers and 19 times more likely to be profitable. And that will save you time and money and get your MVP to market faster. Now let us discuss some specific use cases of AI for data analytics. So how you can use AI for data analytics?

A good way you can use AI for data analytics when building your MVP is for real-time user behavior tracking and analysis. We have discussed real-time data tracking in modules 42 and 44. Gallup's research shows that companies that use user behavior insights outperform their competition by 85% in sales growth and 25% in gross margins. AI tools like Qualetics and Whatfix are solid choices for this task. Here, we provide an example of this.

User summary. Active users also go up. Users impacted. Client impact. And error frequency.

Another way you can use AI data analytics is for forecasting and trend analysis. This will be especially important once you have launched your MVP. AI can analyze current trends and make predictions about user engagement, growth rates, and revenue potential. This

data will be invaluable for future marketing strategies and feature rollouts, and it will help you make data-driven decisions.

Next comes improving your MVP's user experience, that is, UX. Improving your app's user experience is one of the best ways to use AI when building your app MVP. Just because you are building an MVP does not mean you can ignore UX. On the contrary, good UX is key to your app's success, and investing in it yields great results. For every dollar invested in UX, you get $100 in return.

That is an ROI of 9900%. That is a very compelling reason to invest as much as possible in improving your MVP's UX. Let us see some of the ways we can use AI for that task. Now, we are looking at how you can use AI to improve your MVP's user experience. One way to use AI to improve your MVP's UX is by enhancing your app's user onboarding experience.

Onboarding is one of the most important steps in a user's journey. It tells users everything they need to know about your app and its features. If your MVP has poor user onboarding, it will turn off a large number of potential users. AI can help you tailor it to each user's experience. A good example of this is Duolingo's placement test.

They customize their lessons based on user performance in the placement test, ensuring that they are tailored to their skill levels. So, are you a beginner or not a beginner? Another good way you can use AI to improve your MVP's UX is by enhancing its security. AI cybersecurity tools like DarkTrace Enterprise Immune System and CrowdStrike Falcon are good choices.

They will improve your MVP's security and help you counter threats in real time. In turn, this leads to a better UX because your users will know that their information is safe from threats. And a better UX is exactly what you need in your MVP. The next thing you need to do is add personalization to your MVP. Personalization is the name of the game in today's market when using AI.

When building your MVP, it will help you do it at scale. HubSpot's research shows that personalized calls to action perform 202% better than basic CTAs. A Twilio Segment report shows that 56% of customers say they will become repeat buyers after a personalized experience. Your competitors are likely using AI for personalization too. Twilio's report also showed that 92% of businesses are already using AI for personalization.

That is why we cannot afford to ignore it. Now let us discuss some specific ways you can use AI personalization in your MVP. So now we are talking about how to use AI to add personalization to your MVP. There are several ways you can use AI to personalize your MVP. Which one you choose will depend on your specific business needs.

But a simple and cost-effective solution is integrating an AI chatbot. You can add a customer service chatbot that will help solve the most common problems your users might have with your app. Another innovative way you can use an AI chatbot is as a learning tool for your users. This is particularly useful if you have an educational app. Another good way to personalize your MVP is by adding an AI-powered recommendation system.

This is a great option if you are building an e-commerce app. Of course, building one from scratch is too expensive and time-consuming if you are developing an app. Several platforms like Amazon offer their recommendation engines as an API you can integrate into your app through Amazon Personalize. And the best thing about it is that it has a proven track record. McKinsey estimates that it is responsible for generating 35% of Amazon's yearly revenue.

Considering their revenue was $514 billion in 2022, this means that their recommendation is responsible for $180 billion. of their revenues. So, now this is start with add your data, then you customize your model, create a solution, tune recommendation, access your recommendation and customize a personalized app and contextualize recommendations. The next is to automate testing and quality assurance. Would you ever use an app littered with bugs?

Of course, you would not. Your users would not either. That is why testing and quality assurance, that is QA, are so important and you can use AI to make your QA engineers how efficient, more efficient when building your app MVP. They are essential process without which your MVP will not succeed. And with AI, you will be able to get them done faster without sacrificing quality.

The main advantage of automating testing and QA is that automated testing can run 24 by 7. This means that your QA engineers will be notified immediately after a bug happens. And that is just a few reasons why it is a good idea to use AI to automate your testing and QA process. Now let us see about exactly how you can do it. So, how you can go about doing this?

One way AI can automate testing and QA is by automating various testing methods. Some testing methods you can automate are unit testing, integration testing, regression testing, and performance testing. AI will be able to test scenarios, create test scripts, and run them without human intervention. Tools like Testcraft and TestSigma are good choices for this task. Also, you can use AI code review tools to analyze your codebases.

So, why did this test fail? Invalid selector. Wait until the page loads completely. The model exists. This is the screenshot of this. They will be able to find potential bugs in code that can be optimized for better performance. A bug-free, well-performing app MVP will have a much better chance of success. Let us now discuss some of the popular AI testing tools. One is XLQ. XLQ automates different test designs and plans and executes them. It is one of the AI testing tools with self-healing capabilities. Besides, it is useful for UI, mobile, API, and PC software tests.

Furthermore, it displays a complete view of the entire QA lifecycle. Also, it features predictive and path analysis for multiple test scenarios. In addition, it is a cloud-based tool that offers non-stop API and functional automated tests. Moreover, it leverages natural language processing to offer continuous testing at every phase. The next is Functionalize.

Functionalize is one of the top AI test automation tools that leverages both AI and ML. The tool is best for testing complex applications for small and large organizations. Apart from this, the tools eliminate the need for creating repetitive test scripts. Moreover, it is an intelligent platform that combines both ML and insights from humans. It allows any developer to

Create end-to-end test in no time. Additionally, it allows collaboration between production, quality, engineers, and development teams. AppliTool is one of the AI test automation tool with multiple uses. It is used for software testing, monitoring, and apps visual management. In addition, it can be used for manual QA and automated tests for desktops, mobile, and web-based apps.

The tool is a good choice for engineers and digital transformation teams. Furthermore, it is a highly adaptive tool that leverages AI and ML to perform tests. Equally, the tool is known for its speed and accuracy in meeting performance needs. As an AI technology, generative AI empowers the process of designing minimum viable product. Here we will discuss generative AI-based minimum viable product designs aimed at addressing user needs and market trends through intelligence assistance from ChatGPT.

So, in the next slide, we will look at the steps involved. In the making of an MVP for an event finder application with the help of generative AI. Step one is to start with an idea. Every great MVP starts with an idea, but not just any idea—one that solves a real problem. In this case, let us assume that we have noticed our friends constantly struggling to find local events.

They would jump between multiple apps and websites, often missing out on cool happenings nearby. 1. Our idea is to build a simple, centralized local event finder. Your idea does not need to be revolutionary; it just needs to address a pain point or fill a gap in the market.

The key is to keep it focused and manageable for an MVP. Don't try to build the next Facebook. Aim for something you can realistically prototype quickly. Once you have an idea, write it down in a single clear statement. Let us suppose: create a web app.

that aggregates and displays local events from multiple sources in one easy-to-use interface. Step 2. Break up execution of your idea into small steps. When it comes to building an MVP, we must go fast. It must sound counter-intuitive, but it is the best way to move fast is to make time-breaking your ideas into bit-sized pieces.

Below you can see the broken bit-sized pieces of the ideas of local event finder. The first map view, display local events on a map. Event list, show a list of events based on user search or filter criteria. Next is the event details, show detailed information about an event when selected and then search and filter. Allow users to search events by name or filter by categories like date, type, proximity or theme.

It is not an exhaustive list but it is a good representation of the types of elements you will need to consider as you build. Think of what it will take for the solution to be effective. Each of those can become a potential task where AI can assist making your development process smoother and faster. The goal is to have tasks small enough that you can tackle them in a single sitting and clearly see your progress. If a task feels too big or vague,

It probably needs to be broken down further. The third step is to choose your generative AI tools. You have your idea, and you know what parts of the solution are critical to success. Now comes the part where you choose the generative AI tools that can get your MVP to market faster than you can on your own. Think of it like this.

Picking your character in Super Smash Bros. Each comes with different skills and strengths. You need to pick the one that will bring you success. When selecting your generative AI tool, consider functionality. Does the tool address your specific needs?

Ease of use. How steep is the learning curve? Integration. Will it work well with your existing tech stack? Cost.

Is it within your budget, especially for long-term use? And community and support—is there a robust community for troubleshooting? Output quality—how reliable and accurate are the results? And then customization—can you fine-tune the AI to your specific use case? For your local event finder MVP, we can choose a mix of generative AI supporting tools.

First is ChatGPT. It acts like a Swiss Army knife, generating everything from the logo to schema and sample data. Its versatility is hard to beat. Then comes Amplication. This toolkit can take us closer to a full MVP and even production, providing Docker containers, APIs, authentication, and an admin UI.

Prisma ORM. This can facilitate our data management setup, making database operations very easy. Mermaid for creating a visual architecture diagram. Which helps in planning and communication. Once you get close to building the product, you can start to use Create React App or refine.dev.

instead of a sandbox environment like jsfiddle.net. Start with creating React app. It provides the pre-configured setup for front-end JavaScript applications using React, facilitating the quicker launch of an application. Refine.dev, it offers comparable speed at the start and infinite scaling in the long run. It can build React-based internal tools, admin panels, and B2B apps with a lot of flexibility.

Your tool could may look different depending on your project needs, but the principle remains the same. Choose tools that complement your skills, fit your project requirements and most importantly, speed up your MVP development process. Fourth step is to craft your prompts. The quality of your generative AI output comes down to how well you prompt it.

Let us look at the prompts we can use and the output received. First is you generate a logo for the following application. Application Local Event Finder. Description. This app allows users to find local events like fair, concerts, food, festival, etc.

happening around them. The app can display events on a map and provide details such as events name, time, description, and direction and ChatGPT creating images. So, this is what you have told ChatGPT. This prompt is relatively logo shown below.

So, this is the output that we got. So, here is how we can prompt to create a POC that is proof of concept. You, I want to build a POC of an application. I want it to be quick and simple. So, I could

Like to leverage JS, fiddle.net and simply passed JavaScript to be able to present the POC to stakeholders. I do not want to obtain API keys etc. So, I would like the map library to be simple and not require a key. Please provide all the JavaScript code I will need to accomplish a map that displays markers and has tooltips with additional event information. The context of the project.

The first is application local event finder description. This app allows users to find local events like fairs, concerts, festivals, etc. happening around them. The app can display events on a map and provide details such as the event's name, time, description and direction. And this is the snippet of what we get from chat GPT.

We have to be specific in our prompt about what we are asking the generative AI to do, but also not overloading it with information or asking far too much to be done at once. This allowed the generative AI to write JavaScript that can be used immediately. It can do so in seconds. Some advice while writing prompts would be to write one prompt per task. For larger tasks, provide a step-by-step outline that you need and then give the AI context.

Be specific if you need JavaScript, ask for JavaScript. Use bullet points, numbering and markdown things or prompts to structure complex requests clearly. If the first result is not quite right, use it as a basis for a more refined prompt. Five step is to paste the code. Before integrating into your main project, test the code snippet in a separate environment like JSFittal to ensure it works as expected.

So, this is what we got. We can see in the previous slide that the code has created a map view of local events. After this, we can refine and customize the code to fit specific needs. Here is how we can approach it. The first step is to add your personal touch.

In this case, we can add our newly created logo to the interface. This small addition can make the app feel more polished and branded. Second, don’t hesitate to go back to a generative AI tool for improvements. For instance, if you want to display more events,

we could prompt ChatGPT with: 'Update the following code to display 20 events instead of 10 and add functionality.' The third step is, as you add more features, keep an eye on performance.

You want to refine your MVP until it is not just functional but genuinely user-friendly and efficient. Step 7 is to enhance the MVP. Now that you have an MVP and have gone ahead to develop it further, You need to think about what else you will need to do to turn it into a functioning tool. We can discuss some of the ways in the next slide.

The first is API integration. Identify and integrate necessary APIs for our event finder we might need. Event data API, Maps API for location services, Weather API to display events day. The forecast. Use generative AI to help with API integration.

Generate a JavaScript function to fetch and parse event data from the EventWrite API. The second is database implementation. Move from static data to a database solution. Consider choosing between SQL and NoSQL based on your data structure. Implement data models and relationships.

Set up data persistence and retrieval operations. Leverage generative AI for database queries. Write a PostgreSQL query to retrieve events filtered by date, range, and category. The third is user authentication. Implement secure user accounts and authentication.

This might include sign-up and login functionality. Password hashing and security measures, user roles and permissions. Ask Generative AI for help with authentication implementation. Provide a code snippet for implementing JWT authentication in a Node.js Express app. The fourth is documentation.

Create comprehensive documentation for your project. API documentation, user guides, developer documentation. Use generative AI to assist with documentation. Generate a template for API documentation, including endpoints, request-response formats, and example usage. The fifth is scalability considerations.

Prepare your app for growth. Implement caching mechanisms. Consider serverless architecture for certain functions and plan for database scaling. Prompt generative AI for scalability advice. Suggest strategies to improve the scalability of a

Node.js event finder app as user numbers grow. The sixth is advanced features. Add more sophisticated functionalities, personalized event recommendations, social sharing

features, and in-app messaging for event organizers and attendees. Get feature implementation ideas from generative AI, outline, and algorithm for providing personalized event recommendations based on user preferences and past attendance. The seventh is mobile responsiveness.

Ensure your app works seamlessly on mobile devices. Implement responsive designs, consider developing native mobile apps, use generative AI for responsive design tips, and consider CSS media queries for making an event listing page responsive on mobile devices. Step 8 is to test the MVP. Will your MVP work in the sandbox environment? Keep in mind that if you are only at a proof-of-concept stage, you won't need to run tests. This is strictly for when you have moved on to building a product that will be used. In the next slide, we will look at some test types that you can run. One is functional testing.

Test each feature individually. For example, check if the date filter accurately displays events within the selected range. Test edge cases, like selecting a date range with no events or entering invalid dates. User interface testing. Ensure all UI elements are responsive and work across different screen sizes.

Check that the newly added logo displayed correctly without overlapping other features. Performance testing. Load the app with a large number of events to test how it handled increased data. Cross browsing testing, test the app in different browsers Chrome, Firefox, Safari to ensure consistent functionality. User testing, ask a few friends to use the app and provide feedback which leads to some UI improvements with the addition of clear filters button.

Accessibility testing, run the app through accessibility checkers to ensure it was usable for people with disability. Generative AI can assist in testing too such as To create diverse realistic test database, for example, generate a JSON array of 100 events with varied dates, times, categories, and locations for testing by Event Finder app. To create performance test script, have the AI help create performance test script, write a basic JavaScript performance test script to measure load times and event rendering speed for my event finder app.

To prompt the AI to develop different user personas to guide your testing, create five user personas with different preferences and behavior for testing an event finder app. Now, let us look at the risk of building MVPs with generative AI and how to mitigate them. The first is getting outdated code results. Generative AI models might Generate code based on outdated libraries or practices leading to compatibility issues or security vulnerabilities.

How to mitigate it? Always verify the generated code against current best practices and documentation. Use linters and code analysis tools to catch. potential issues. Stay updated with the latest versions of libraries and frameworks you are using.

Prompt the AI to use specific up-to-date versions. Generate code using React version 18.2 or Node.js version 16.x. You have broken it into too many steps. You might break your project into an excessive number of small tasks, creating an overwhelming and potentially Counter-productive development process.

Now, how to improve it? Leverage additional accelerators such as low code, framework, etc. Employ API-first development using tools like Swagger or Postman to streamline your API design and implementation process. Third, you might have a limited skill set. If you are not a developer with the knowledge to write and implement codes, you might struggle to use generative AI to produce it because you don't know what to prompt.

How to mitigate it? Ask the right questions to ZGPT and use its own knowledge to shape prompts. Start with simpler tasks and gradually increase complexity as you learn. Collaborate with more experienced developers when possible. Now let us look at what are best practices for accelerating MVP development with AI.

The first is clearly define the MVP scope, identify the core problem the MVP aims to solve and the key features needed to address it. Then prioritize features based on user demand and impact. Use tools like Moscow method must have, should have, could have, won't have to determine the priority of features. Engage with users early and often. Gather feedback through beta testing or focus groups to quickly identify misalignments with user experience and

Iterate accordingly. Automate the build and deployment process. Use tools like continuous integration and continuous delivery pipelines to reduce further time to market. Maintain clear communication alignment within the team. Use project management platforms like Jira or Trello to ensure transparency, clarity and shared understanding of priorities.

So, to conclude this module, we first introduced the use of AI in MVP with an example. Then, we discussed how to leverage AI to identify MVP as an early-stage startup. Thereafter, we discussed how to use AI for building an app MVP. We also went through the steps to design MVP using generative AI in detail. Then, we discussed the risks involved in making MVP using generative AI and ways to mitigate them.

Finally, we understood the best practices for developing MVP using artificial intelligence. And these are some of the sources from which the material for this module was taken. Thank you.