Program Management & MVP

The Burcham IoT eBike Fleet in trial

Three months to deliver a complete IoT system for an eBike fleet from scratch. How to manage an MVP and make it happen.

When starting a business, there are a million things to think about and get done. It's easy to get bogged down in the details and lose sight of the bigger picture. A key aspect of Program Management is keeping track of everything that needs to be done, setting priorities, and ensuring everyone is on the same page. It's a crucial role in any organization, but it's essential in a Startup.

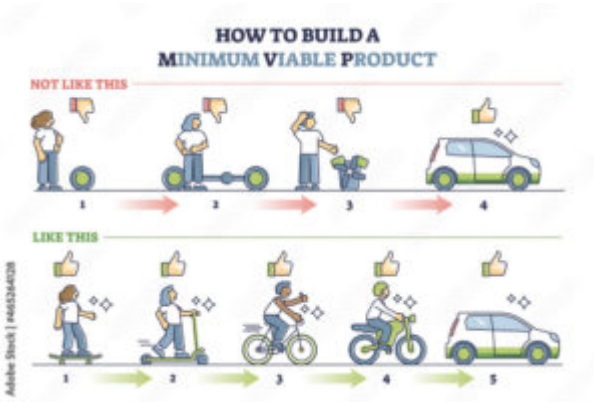
The other important thing to remember in a Startup is that you must get your product out there as soon as possible. A great tool in the Program Managers' toolkit is the framework of an MVP. This is where the MVP (Minimum Viable Product) comes in. The MVP is the simplest version of your product that you can put out there to get feedback from users. Regarding product development, there is always the question of how much should be done before release. For a Startup, especially, there can be a lot of pressure to get products and services out quickly to gain market share and secure funding. However, rushing a product to market can often lead to subpar quality, leading to customer churn and a reputation for being an unreliable company.

This is where the concept of a minimum viable product, or MVP, comes in. An MVP is "the smallest thing that can be built to learn from customers and validate assumptions about the product's desirability, feasibility, and viability." In other words, it is the bare-bones version of a product that can be released to get users' feedback and ensure that what is being built is what they want.

There are many benefits to taking an MVP approach to product development.

First, it validates ideas quickly and cheaply. They can gather feedback from real users early on and make changes accordingly, rather than spending months or even years building something that may not be what people want.

Second, MVPs help to focus a company's resources on the most important features of a product, by only building the essentials. A Startup can avoid wasteful spending on features that may not be used, or that could be added later.



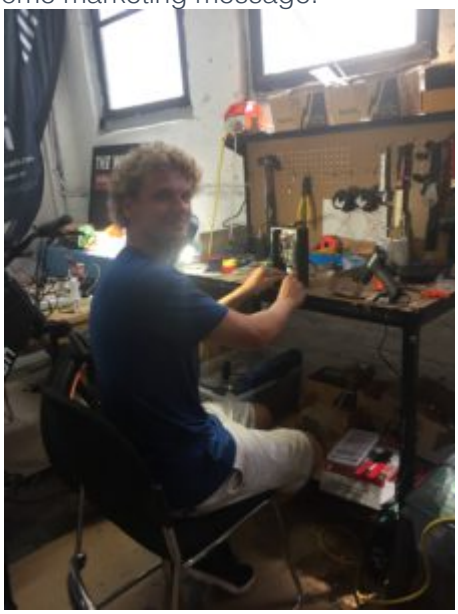
Third, MVPs can help a Startup move quickly and adapt to market changes. By only building the essential features, a Startup can ship their products sooner and add new features later as needed. This agility can be a significant advantage in today's fast-paced business environment.

There are, of course, some risks associated with MVPs. The most obvious is that a Startup may release a product that is not fully developed and does not meet all customer needs. This can lead to customer frustration and poor reviews. Additionally, MVPs can sometimes be seen as "half-baked" products, hurting a Startup's reputation.

However, these risks can be mitigated by carefully planning an MVP strategy and ensuring the product is well-designed and user-friendly. Additionally, it is essential to set realistic expectations with customers and investors from the start – make it clear that the product is an MVP and that additional features will be added over time.

In 2017 Skillion was approached by a property developer in Sydney that wanted to boost the appeal of their single-bedroom "smart" apartments that were struggling to sell as they had no car parking. Offering a free Skillion Smart eBike as part of the sale and encouraging the use of an eBike and public transport this would attract the right clients. And they were tying that into his Smart home marketing message.

The eBike was ready to go and very appealing but needed the addition of some vital Smart features. These included GPS tracking, remote power off, remote siren, and remote video streaming, all controlled by a phone App.



We visited The Burcham Smart Apartments with our eBike (yes, we rode it there). The facility was in construction but looked very promising. It was modern with a swimming pool, rooftop garden, sundeck, a fully equipped gym, and even a cinema. Each apartment was to be fitted with smart technology allowing the owner to control various aspects of the home from a smartphone or tablet. Including the lights, adjusting the temperature, unlock the door—a perfect partner for us.

Ed and I signed the contract in April 2017 with the promise of five "Smart eBikes" ready to go in June. Great, we had a customer!! The pressure was on; we didn't have any of the Smart features ready to go. We had a fundamental IoT web portal and a basic Raspberry PI.

Quickly we realized we may have over-promised ourselves. We had to be ruthless and cut back the features as much as possible. More importantly, how would we develop a complete hardware solution and software solution on the hardware? We needed a computer, GPS module, GPS antenna, Cellular module, backup battery, charging circuit, and camera, tied together with software – and a phone App.

We approached this using the MVP framework. We had to focus all our attention on the absolute minimum number of features and find creative ways to build the product quickly and cheaply without disappointing the customer. Also, could we give ourselves more time?

We worked and reworked the plans until we found a solution that would allow us to access the Raspberry PI directly with off-the-shelf modules and to mount the devices with a simple "daughter board." Then rather than develop the App, we would adapt the Web portal to be responsive and have the user create an icon that opens the browser. Finally, we negotiated with the client that each new client would come directly to use for training and to pick up the ebike. This gave us more time as we could modify each eBike in time for that client, and we could negotiate an opportunity to set up their phone with the Web portal link.

However, this plan introduced another risk that the Raspberry Pi would fit within the frame of the eBike. We had to accept this risk and go forward, but we would mitigate it by carefully designing the daughter board

and other components so they would fit carefully installed.

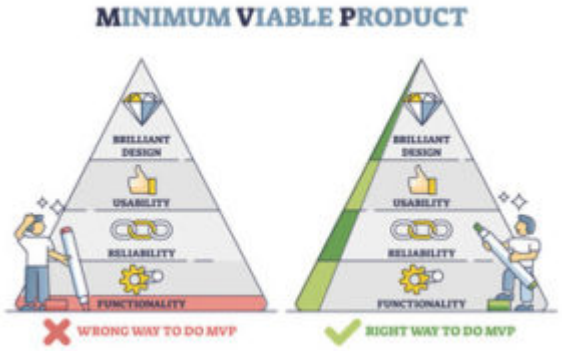
We were excited when we installed the first completed system into the first eBike in June 2017, which was on time. But we had a few challenges installing the electronics into the frame. It was very fiddly and required two people and all day. Then we still had to complete testing and debug the system and then install the remaining four eBikes. <photo of the IoT system>

Our first Smart eBike rolled out of the workshop in July to our first happy customer. But right away, we noticed that everyone loved the eBike, and that was all the focus. When we began training on the Smart features, they seemed less interested and even said things like, “Oh, I can come back for that later,” For us, this was a significant disappointment. All this time and effort, and so little interest from our end customer.

One issue did arise with the product in the field. If the battery went flat on the eBike and the IoT battery also went flat, the user could not access the eBike until the IoT battery was charged. This could be 30mins or more. The customer would think the eBike was faulty when it was behaving as we’d designed it to offer theft protection by locking the eBike if the rider could not unlock it.

How did we get this wrong and let it slip through the cracks of our diligence? With a close look and the product’s value, we could determine that we had missed the critical issue of reliability.

As it turned out, there was an engineering solution, simply allowing the rider to override the security system with a manual key. It was a simple fix but undermined the notion of being an intelligent eBike, controlled by the push of a remote button.



This is an excellent example of managing toward VP and getting the product with real customers quickly rather than designing a perfect solution. We could make the fix on the fly and get the eBikes in customers’ hands and our satisfied customers. Who even offered us a recommendation letter for our efforts.

Skillion wrapped up the project in September 2017, but we continued our customer support.

Managing an MVP is a crucial tool for all businesses, especially for StartUps. CEOs and Program Managers should integrate this approach into any new product program. Valuable.

(*) The numbers in the Case Study are illustrative only and not intended to be accurate.

Pete Cooper is a CEO Program Manager with 20+ years of diverse experience. He has worked in Aviation, Hi-Tech, Telehealth, Semiconductors, IoT, App development, and more. He has been a design engineer, an executive, and many parts, including customer-facing. He is a Start-Up CEO, not to mention the many Program Manager roles.

Pete is a thought leader in applying Program Management methodology as a CEO and has been awarded for his skills in managing complex programs in diverse fields. He holds an Engineering Degree, MBA, an Airline Pilot's Licence, and multiple Program Management Certifications, including FAIPM.

At Skillion, where Pete is the CEO, we pride ourselves on our ability to implement and educate Program Management woven into our customer projects. If you need more than just a technical solution but need it managed end to end, don't hesitate to get in touch with us today to learn more.

info@skillion.tech

Download PDF

Pete Cooper