



ARVA

Transforming the World of Software Development

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This white paper is for information only and does not constitute an offer or any kind of investment advice. Any element of this white paper may undergo significant changes as the project further develops.

Questions?

Hans van den Akker (CEO of ARVA) is happy to answer!

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Abstract

More than five years ago, Marc Andreessen made his famous statement “Software is eating the world”. Since then, there has been a dramatic increase in the amount of time and resources that companies must invest in order to digitize their businesses. Not to mention that many good ideas for technical applications perish because the entrepreneur lacks knowledge and/or cannot afford software development. Demand for talented role players in software development is high and supply is low. There is no tech company to date that has completely replaced the Adobe Flash product suite, which was one of the more complete digital production platforms before the mobile phone revolution took place. Tech companies have built technologies and tools in a fragmented way, that has increasingly complicated the development process (see reference “How it feels to learn javascript in 2016”). However, ARVA aims to cater all aspects of the problem.

We are building a tool that facilitates the entire process from early concept to a developed digital product. It’s a studio to create applications using a powerful yet simple interface, coupled to an “app store” equivalent for UI components, powered by a community. It allows products to be cross platform, responsive by nature, powered by real-time data, perform smoothly (“native feel”), no/low-code development but exports well-structured code for further development. It provides full component reusability and facilitates exporting components into other hybrid development frameworks (such as React, Angular, Ember, Vue, etc).

ARVA unifies the software production process by seamlessly integrating the design and programming phases of software development, not only opening the doors of the digital world to the creativity of anyone but also streamlining the development process for existing vendors too. This one-of-a-kind technology is currently already in production, but the final product is planned for vast capability improvements.

With the funding from this ICO endeavor, ARVA’s development will be accelerated and its technology will be released in five designated stages, every stage delivering an incremental value of the total product suite itself. The details of the ICO are explained below. There will be several stages of funding to match development, community and marketing which will start with a private (angel) round and end with a public sale, lasting one month.

ARVA’s vision is software development of the future. Join us and take part in cutting edge software tooling technology.



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1 Problem

Digital productions are growing worldwide. The possibilities in this developing market should only be limited by the creative potential of entrepreneurs. However, across the market there's a lack of talented software designers, analysts and developers. This is an impeding growth, where innovation always is a slow process, restricting creative potential where some ideas never come to life. Consider these examples:

- A startup lacks the resources needed to transform its innovative idea into a reality.
- A small- or medium-sized business cannot gain exposure due to insufficient funds for developing their website.
- Even corporate entities struggle in maintaining the selection of consumer products and the tedious process of customizing internal software systems.

These scenarios are a reality. It is a natural consequence of the rapidly expanding digital software industry. Although the number of individuals training for a role in software development is increasing, it is not growing nearly as quickly to match the demand.



2 Market

2.1 General

Between 2020 and 2025, we might very well see an increase of 2x more people using digital products in their personal communications. Currently, more than 3 trillion dollars are spent on digital product development every year according to Gartner, with more than 1 billion dollars of annual revenue in low-code platforms like Mendix and Outsystems and growing fast. With different markets currently in transition to become a fully enabled digital economy, ARVA has a seat at the futures table.

2.2 Competitors

The software tooling market is tremendously crowded. There are more than 10.000 software tooling companies in the market. However, we offer an overarching software platform which innovates in all of the following areas.

- Low-Code development platforms (Mendix, Outsystems, etc.)
- Design systems (Adobe, Sketch, etc.)
- Collaborative development and integration systems (JIRA, Wercker, etc.)
- Coding frameworks for cross platform targeting (Angular, React, etc.)

A solution that includes the combination of these features opens up for a full creative potential. ARVA surpasses all of the current tooling companies available because it effectively enables anyone to build appealing software for any platform easily, and quickly.

It is important to note that we embrace existing design and developer tools instead of competing with them. We see them as complementary tools for more specific tasks. Consider using Sketch to create a complicated illustration which you then use in ARVA. Or use an IntelliJ IDE for enhancing the functionality of an exported ARVA application.

2.3 Target audience (horizontal)

A product developed with ARVA is intended to be implementable by anyone in any software development project. To understand our market in general we have classified general groups of organisations and analysed their growth potential.



- **Startups**

Between 2000-2017 the amount of startups has boomed. Only looking at the success of Web Summit, Slush and TechCrunch Disrupt startups are definitely here to change the pace of transformation. ARVA enables entrepreneurs to implement their idea for themselves or with small amounts of extra resources. Giving startups this power improves founders chances of letting their startups grow. Already, ARVA has helped various startups succeed at having their products being built by it. This volatile environment ensures ARVA is being used frequently to address product-market fit experiments.

- **Accelerators and Investors**

These roles will be able to use ARVA to provide their startups with key resources in the developmental phase in order to increase the success rates. The rapid growth of startups made Accelerators and Investors flourish as well. E.g. Africa now has 58+ known startup accelerator programs active. Accelerators bring 10 to 15 new startups in 3 month acceleration programs and ARVA is a great opportunity for accelerators to boost startup performance.

- **Software vendors**

Vendors using ARVA can spend more time and money on attracting clients rather than hiring more developers, designers, and analysts; ARVA only requires a fifth of the traditional development cost, increasing chances for vendors to improve products and become competitive.

- **Small and mid-sized businesses**

Rather than risking the high costs / low chance of success of outsourcing a tech project to a third party, SMBs will be able to design their own software (app, website, internal software) with a low-threshold product.

- **Corporations**

These entities can cut expenses in their tech department as Arva reduces their workload. Great to work with in the early stages of ARVA's roadmap, relatively less important when time evolves.

2.4 Target audience (vertical)

Although we've seen through all divided markets the need for ARVA's product, achieving significant market share is more feasible when digging into specific market problems one at a time. For instance, providing ARVA for the purpose of creating interactive advertisements on platforms like Google and Facebook could significantly boost user base in this area before we focus on other verticals. In reality though, bringing ARVA to a vertical like retail advertising implies competing in a market of 900 billion spent annually (25-30% of the total market cap of 3,47 trillion) implies high risk of failure.



Table 1: Known industries in transit of digital transformation

FinTech	Volatile	80 Billion (+20% annually)
HealthTech	Steady	100 Billion (+5% annually)
MarTech	Volatile	200 Billion (+30% annually)
AgriTech	Slow	1 Trillion (potential)

These numbers are estimates based on news and analytics of companies such as TechCrunch, Gartner and Forrester.

We will continuously use adoption metrics collected from our Development Community to determine which horizontal/vertical market combinations align best with the ARVA product suite and plan accordingly to reach revenue goals (see Finance chapter).



3 Product

ARVA is a feature rich platform that closes the gap between design and coding, effectively optimizing the development velocity of the ever-growing digital landscape and enabling anyone to build an appealing custom application.

In order to build a platform where Developers, Analysts, Designers, DevOps and Digital Teams can experience the full scope of simplicity and freedom, we designed multiple sub systems to facilitate the correct separation of involved user roles in digital productions. ARVA consists of the following parts:

- **ARVA Foundation:** an open source coding framework for developers
- **ARVA UI Kit:** a library of UI components, icons, typefaces and complete views
- **ARVA IDE:** a simplified specification language editor to kick-start your projects
- **ARVA Studio:** a tool to create and export cross-platform applications
- **ARVA Hub:** a marketplace for UI components, complete views and entire apps

3.1 ARVA Foundation

MILESTONE 1 - ACHIEVED

We are proud that ARVA has proved its value in more than 15 applications with over 100.000 users. ARVA Foundation is the open source coding framework for developers that powers this achievement. In addition, every application created in ARVA Studio will run on ARVA Foundation's open-source library. As this is a fundamental component of the ARVA platform, we ensure a broad network supports the foundation, innovating and optimizing these open-source libraries. This is why ARVA Foundation is completely free to use under an MIT license.

ARVA Foundation can be found on: <https://github.com/ARVA/arva-js>

This achieved milestone enables us to create ARVA Studio; the cross-platform application creation tool and code generation studio that can only be realized by having full control of the underlying coding framework.

The ARVA Foundation network

- Backed, maintained and used by software company Bizboard to optimize usability and stability.
- International partnerships with university researchers from Copenhagen and Amsterdam has given insights in algorithm optimization.



ARVA is tailored to aid powerful yet simple animation. Giving visual clues to the audience improves the user experience by a subconscious understanding of how to interact with the product. This is why visual transitions are becoming quintessential to the success of any application. Defining animations in just about any other technology is usually complex and surrounded with a certain element of trial and error. ARVA Foundation solves this problem by:

- A concise yet powerful API for defining visual layouts and animations
- Automatic animation behaviour following modern trends and paradigms
- High performance drawing techniques on screen resulting in user delight (For more information, see the technology section)

We like calling the development with ARVA Foundation *Animation Driven Development*, instead of the typical *Content Driven Development* approach. ARVA Foundation makes front-end development easier and has proved to enable customers to multiply their development efficiency by 5x for tasks like visual layout, pixel perfect behaviour, or making compelling visual animations. Compared to Angular 2 and React, developers can expect a similar dialect to have a low barrier of onboarding.

We know developers from an inside perspective, so aside from the core unique selling points of ARVA Foundation, we went the extra mile:

- Web/Hybrid development has become overly complex in the last decade. This is a well-recognized phenomenon for every developer in the industry. We've made many complex techniques like JSX or LESS redundant, therefore enabling ease of use and optimal effectivity in the process of building modern applications.
- We follow the latest standards of EcmaScript (directed by a standardisation board for programming languages).
- No product developed in this decade would really be future-proof without the consideration for VR and AR. The Foundation framework utilises a 3D rendering engine, making ARVA applications prepared for compatibility in VR technologies. This means that building your Hybrid VR project (partially web tech, partially VR tech) can be done with ARVA.

For more: <http://arva.io/arva-js/manual/overview/tutorial.html>



3.2 ARVA UI Kit

MILESTONE 2 - ACHIEVED

ARVA UI Kit is an extensive and customizable library of User Interface components, icons, typefaces and complete views. Both designers and developers can accelerate their work with ARVA UI Kit by focusing on unique value without reinventing the wheel for the basics of every project.

This milestone was achieved in 2016, and is in use by all ARVA applications on the market since its first appearance. ARVA kit is not open source but development rights can be purchased for a small fee. The UI Kit is also included in the designer payment plan for 5 USD a month.

The ARVA UI Kit contains:

- **Essentials:** buttons, floating buttons, sliders, checkboxes, switches, radio buttons, text fields, dropdowns, date pickers
- **UI Bars:** titles, tabs, icon buttons, text buttons, search fields and message fields
- **Overlays:** dialogs, modal views, in-app notifications
- **Placeholders:** image placeholder, profile placeholder, loading spinner
- **Extensive icon set** with choice in thin/bold and square/rounded styles
- **Typography:** Several customizable typefaces for both UI and Articles
- **Complete views:** Article, list, grid, cards, photo gallery, chat and contact views
- **Global options:** shadow styles, icon styles, branding colors, backgrounds

Figure 1: Examples of UI Kit components

Showing a few frequently used components. Note that all components have several options to customize their looks and behaviors.

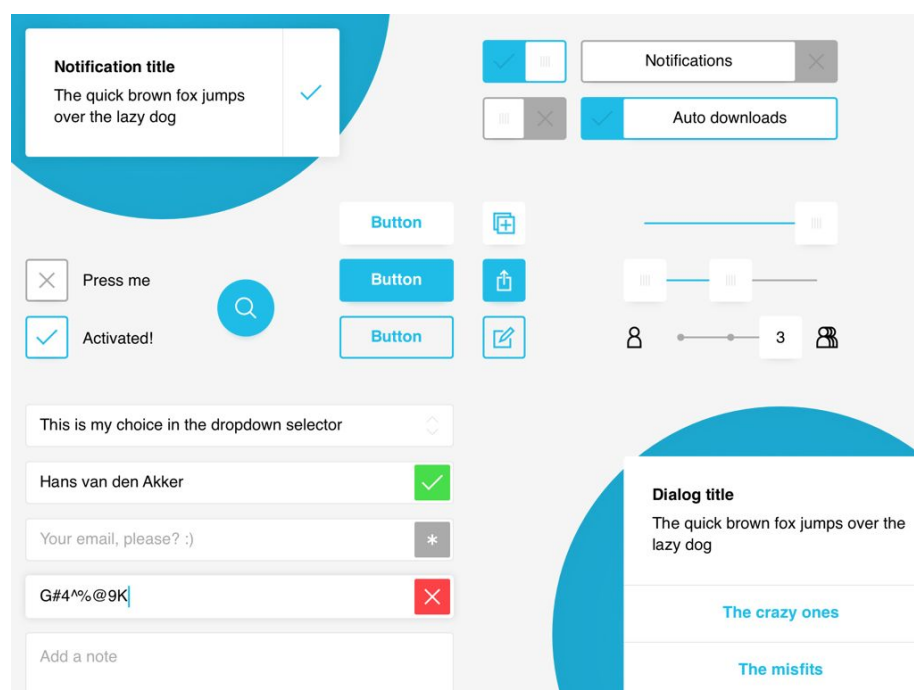


Figure 2: Examples of icons

The part of the icon set displayed shows both square or rounded variants in their thin versions. All icons also have a bold version.

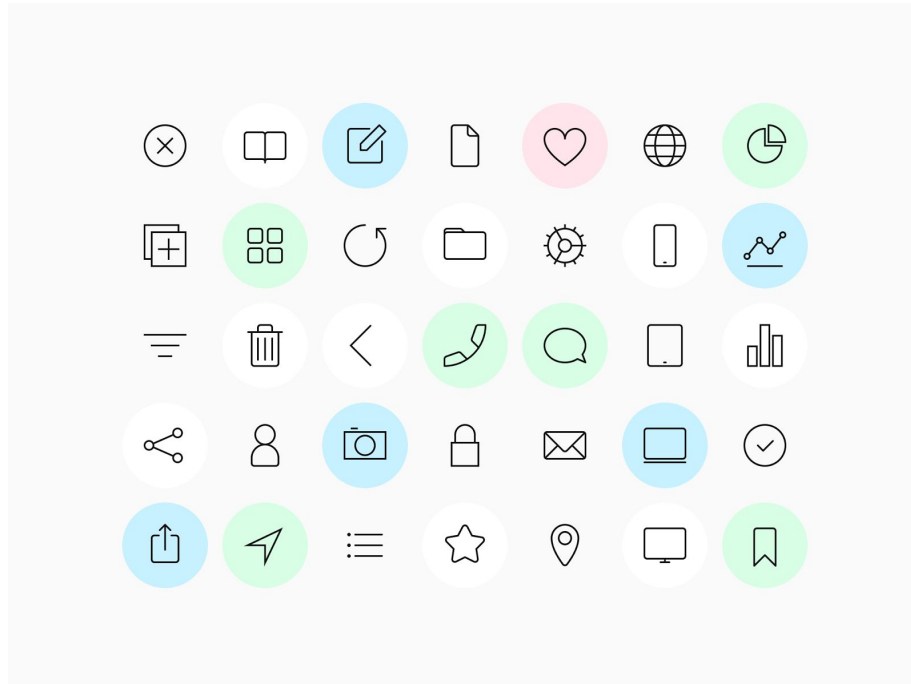


Figure 3: Examples of typefaces

This example is entirely built out of ready-to-use typefaces intended for articles. There is also a set of typefaces for UI components. The typeface styles are independent of the fonts you use.

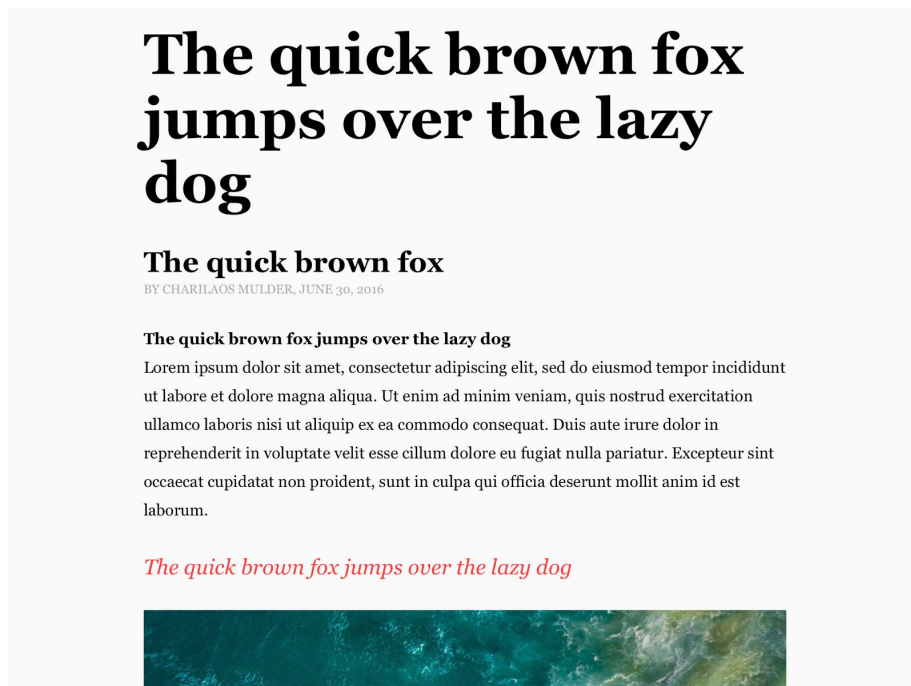
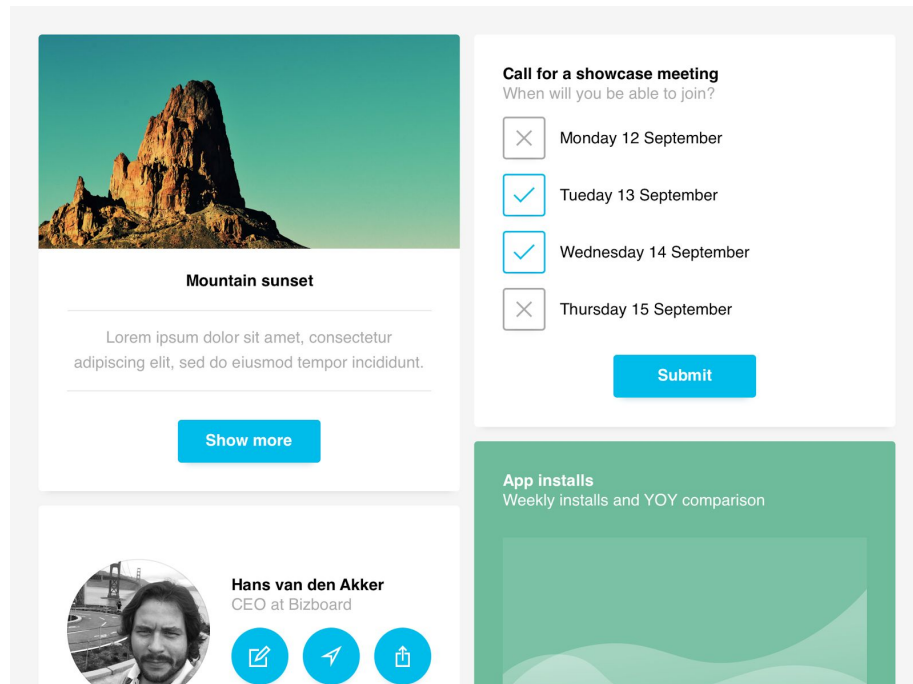


Figure 4: Example of a view

ARVA UI Kit Views kick-start the creation of views by doing the heavy lifting on the lay-out and functionality of components. This is an example of a Content Cards view.



3.3 ARVA IDE

MILESTONE 3

ARVA IDE is an editor that uses a simplified specification language to generate the ARVA Foundation code you need to kick-start your project. This will help build an early adoption community by adding value to ARVA Foundation and ARVA UI Kit. Additionally, it provides the fundamental layer of structured code generation for ARVA Studio. The specification language supported by this IDE will be used internally by ARVA Studio to export the end product.

The logical constructs¹ of ARVA Foundation are carefully considered to closely match between the ARVA Studio project and the exported code. Thereby we assure maintainability of the exported code and provide a degree of freedom for the user to choose a balance between designing the application in ARVA Studio or code it with ARVA Foundation. This is important for implementation of business logic that has a more straightforward representation in code than in design.

¹ <http://www.yourdictionary.com/logical-construct>



3.4 ARVA Studio

MILESTONES 4, 5, 6

With ARVA Studio we're removing the coding barriers imposing financial and technical limitations, and we unleash the power of designers and entrepreneurs envisioning the horizon. Like Nelson Mandela once said, *It always seems impossible until it's done*.

Instead of ending up with a close-to-the-real-thing prototype that has to be rebuilt from scratch by the engineers, ARVA Studio projects are built for production and handed over to programmers so they can solely focus on implementing unique features. To illustrate this effect, consider the difference between the conventional workflow and the workflow enabled by ARVA Studio:

Figure 5: Conventional workflow

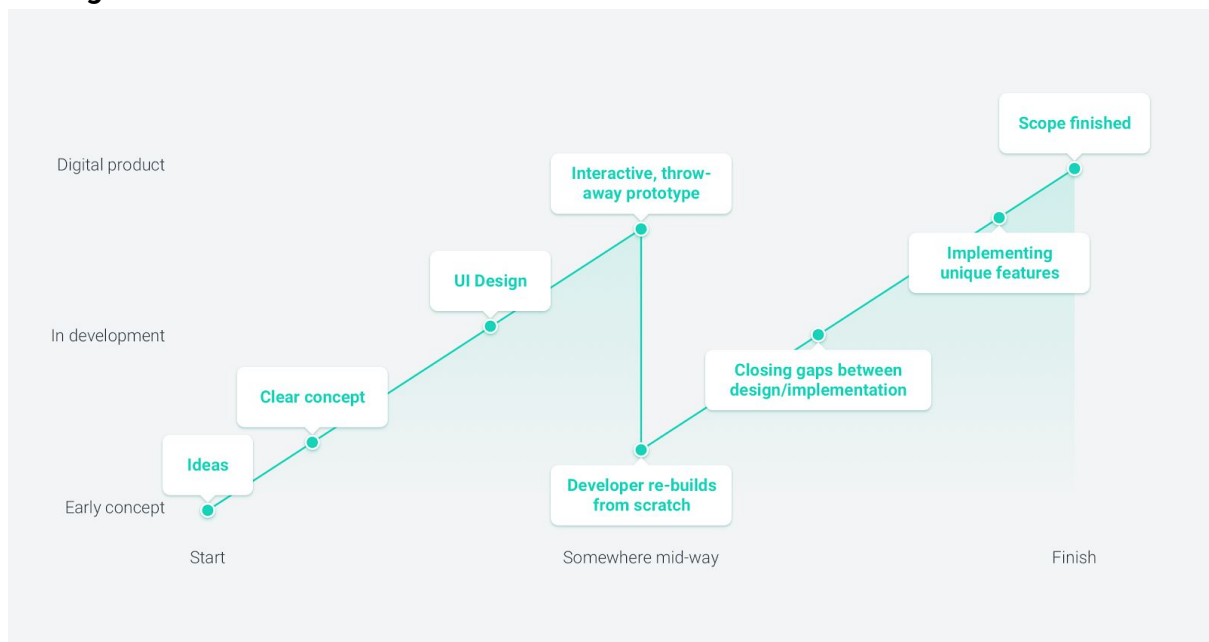
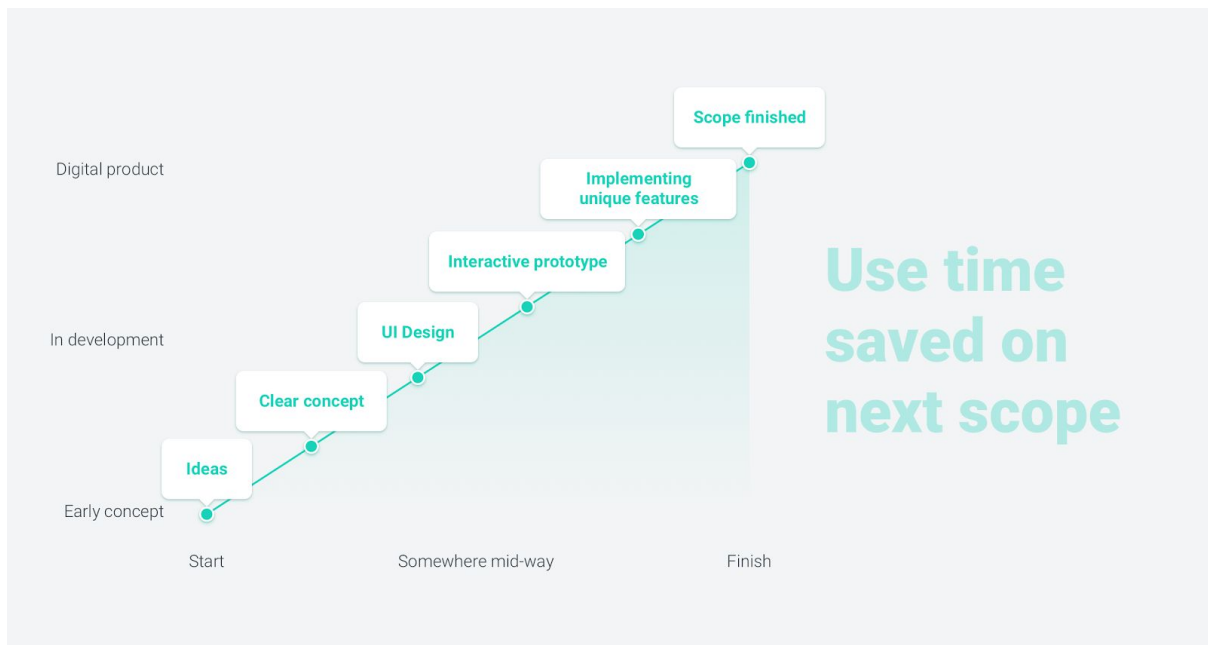


Figure 6: Workflow enabled by ARVA Studio

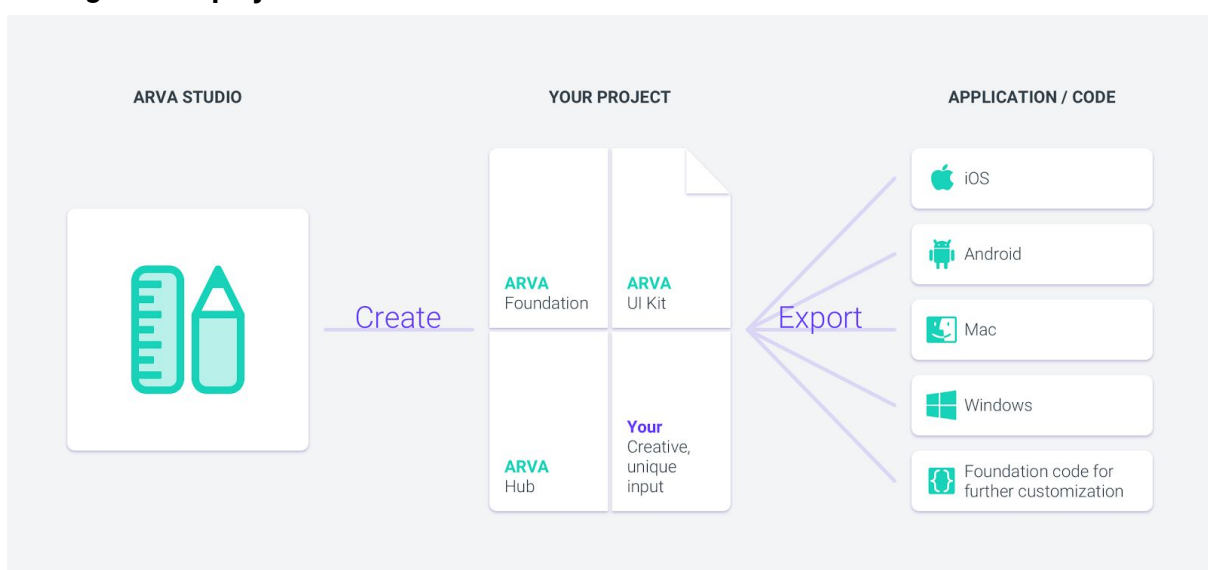


We make sure projects can be exported to either full applications or autonomous components. The ability of ARVA Studio to export autonomous components adds value to productions built on different technologies (e.g. React).

Did you know

To avoid a lock-in of our toolset we provide full source code export (this applies to all payment plans!). Complete open-source will enable developers to expand, optimize and/or customize if needed.

Figure 7: A project file in ARVA Studio

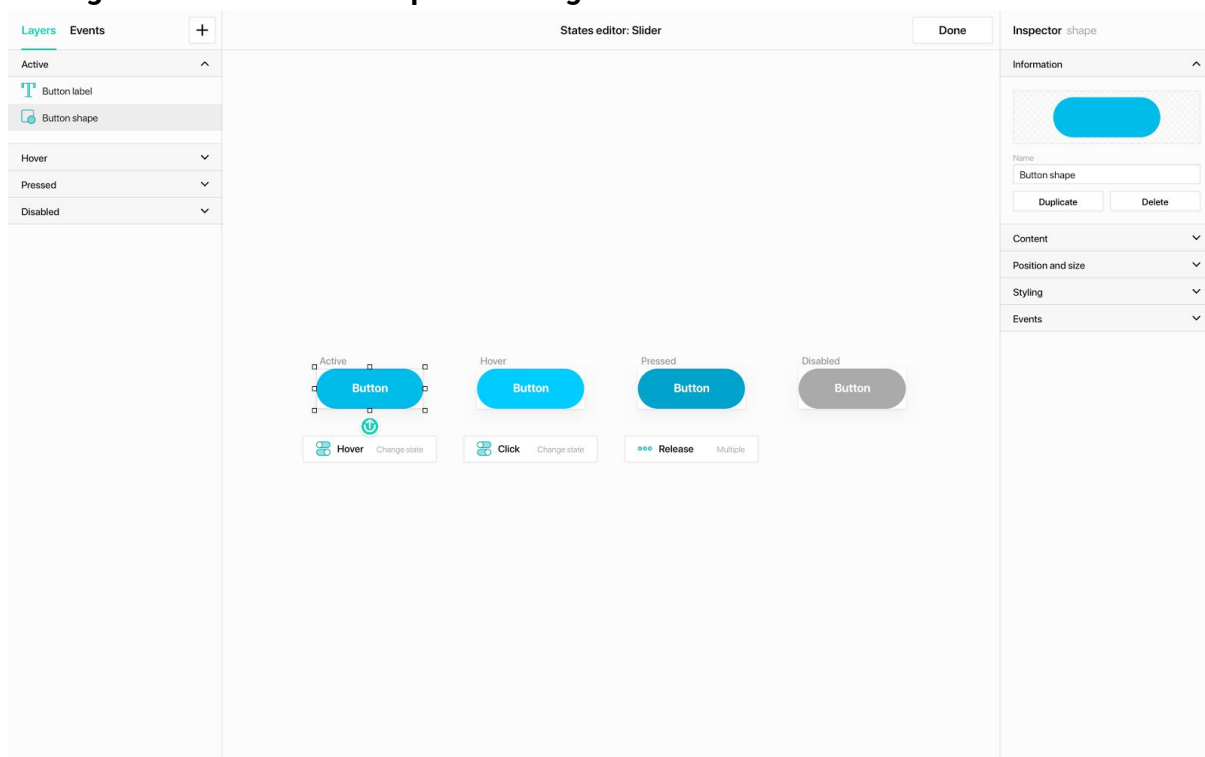


3.4.1 Component Creator

MILESTONE 4

The component creator is the tool creating the isolated components that can be used in any project. It scales from simple to complex components with state-based design². Transitions between component states can be animated. Software testing will be dramatically reduced, because the component states are created by one person (the designer) instead of the designers intention being communicated to a developer. For more information on the possibilities of the Component Creator, we refer to the appendix *ARVA Studio Features*.

Figure 8: State-based component design



² state-based design approach is based on designing different versions of a component and use animation logic to describe how a component or screen transforms from one state to another.

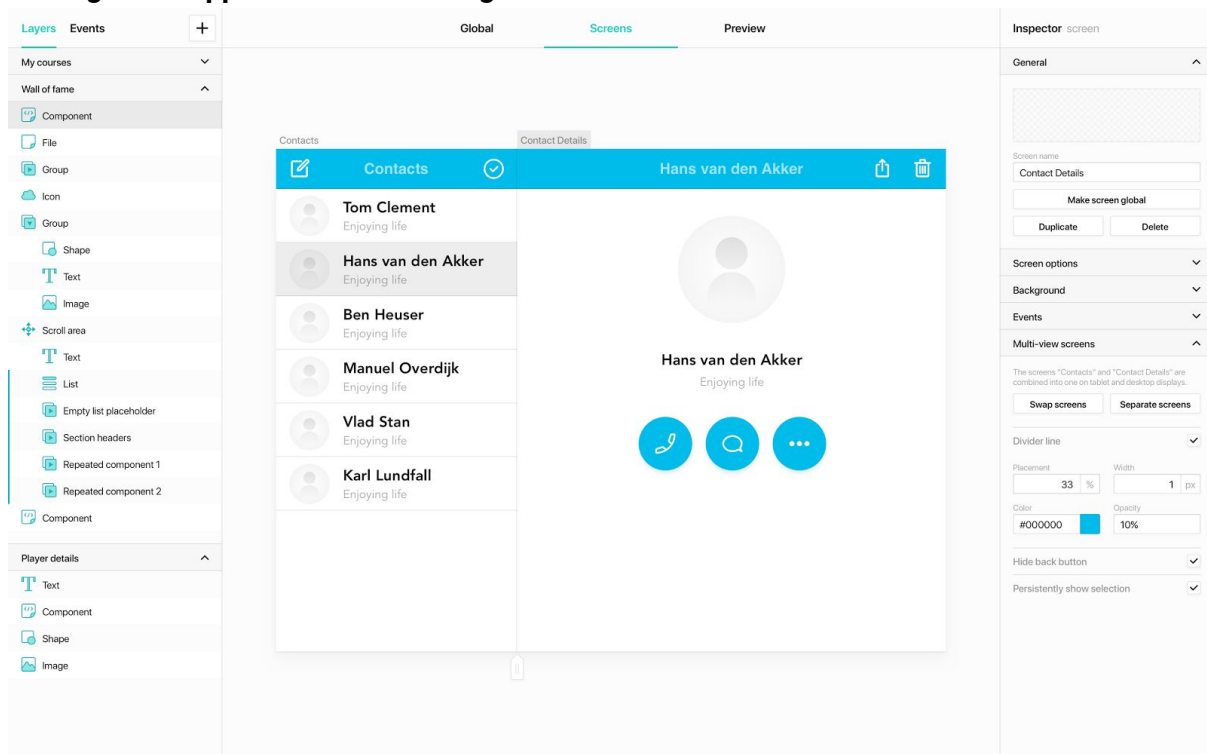


3.4.2 Application Assembler

MEILESTONE 5

The Application Assembler orchestrates the components made in the Component Creator. We think cross-platform, small and big screens, touch and pointer driven interfaces. You choose which display sizes and operating systems you want to target. We've designed the Application Assembler in a way that helps the customer make responsive components and screens adapt to different devices. Again: you only need a simple ruler³ and some snapping of components to make a difference.

Figure 9: Application assembling on a tablet screen



³ rulers as used in word processing software to align tab indentation.

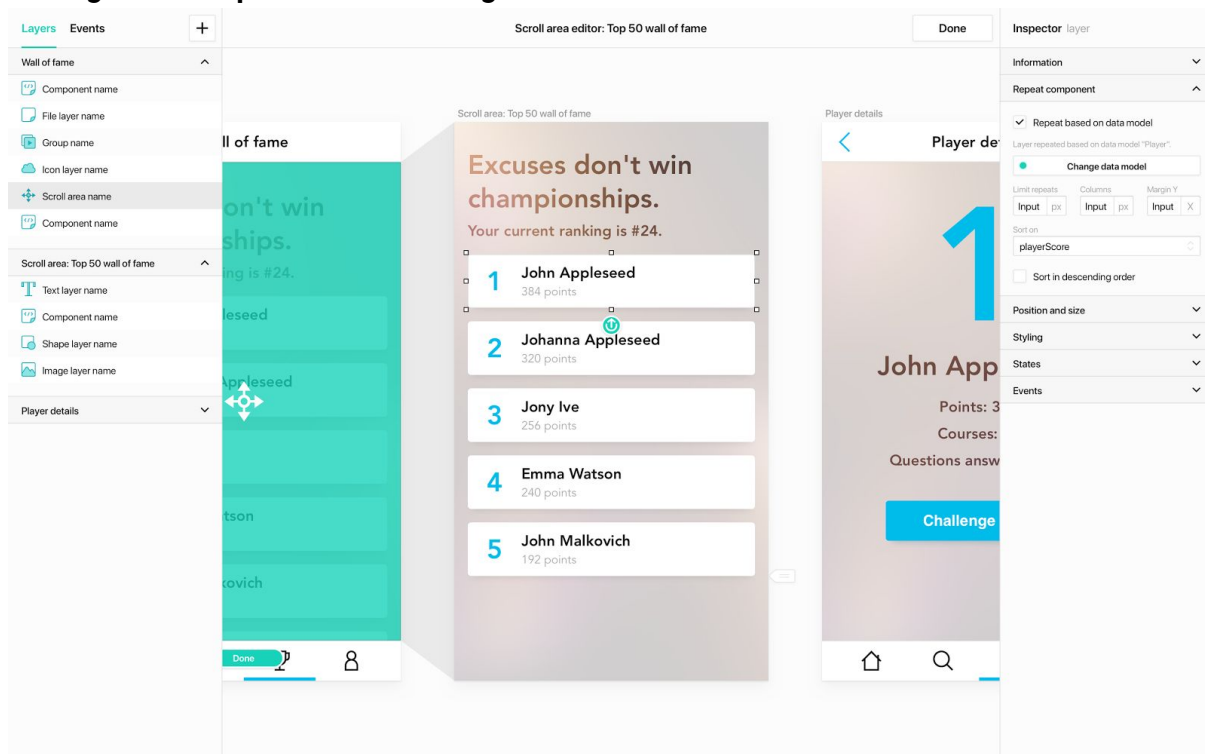


3.4.3 Data Integrator

MEILESTONE 6

We think designers shouldn't have to care about the underlying database structures. Instead, they should be purely focused on designing the front-end of an application. Because of this vision, we designed ARVA Studio so that every component created implicitly inherits a data model⁴ based on its visual state. This makes a number of tasks easier: exporting the data model, integrating other data and - above all - creating a GAP analysis overview for analysts of the application components that lack data models.

Figure 10: Implicit data modeling



⁴ A data model is a representation of a real world object. For instance, a data model of a **person** can contain a **date of birth** and a **name**.



3.4 ARVA Hub

MILESTONE 7

ARVA Hub is a marketplace for sharing and selling functional UI components, complete views or even entire apps. Think of it as a community driven 'App Store' full of useful components that are directly applicable in your project. ARVA Hub can be utilized by different roles: sales people, developers, designers and analysts can all participate in the sharing or consuming of different components distributed by the community.

We believe in an open ecosystem where digital teams worldwide should be able to sell their digital creations. In addition to utilizing current components, ARVA Hub will enable digital teams to:

- Co-create
- Monetize

Co-create

To enable worldwide co-creation we designed a workflow in which ARVA Hub collaborates with major Git repository hosting services such as GitHub, Bitbucket and GitLab. We do not intend to reinvent the wheel when it comes to collaborative and continuous deployment tooling, but rather innovate by optimizing the creation workflow with strong technologies that exist today.

Due to the nature of the Component Creator in ARVA Studio we have the unique opportunity to enable a simplified Publisher Workflow. This means that teams can freely work on the same application while at the same time their own workflow gets locked to prevent merge conflicts. No need to be a Git expert and most errors are prevented in the process. By enabling a collaborative workflow while maintaining full freedom of what can be build, we change the way people design applications.

Example: 2 Designers are creating components for a new social application: Joe is working on the posts for the newsfeed, and Sam is doing the search and filter components. Joe just finished a user story about the visual representation of the posts and publishes his changes. Sam is notified that the project has new updates and decides to receive them. Sam doesn't have to worry about anything being broken.

Monetize

We intend to provide digital creatives and teams a new way of making a living from creating and delivering digital content for customers worldwide. By providing a hybrid model that allows the monetization of components, services and entire projects, we bring flexibility to the business model of digital creatives.



3.5 Roadmap

Milestone	Description
1.Foundation 2015-2017 ACHIEVED	<ul style="list-style-type: none"> - 2015: MVC Framework - 2016: Animation-driven design - 2017: Reactive
2. Core UI Kit 2016 ACHIEVED	<ul style="list-style-type: none"> - General purpose UI controls with advanced transitions to increase User Experience - Make Core UI Kit Design and Code files available in product package which allows usage in Facebook React, Google Angular and Vue.js - 2018: Plan and release more UI Kits
3. ARVA IDE Q1 2018	<p>The first milestone release of ARVA Studio reflects an optimized development environment for ARVA projects. Features:</p> <ul style="list-style-type: none"> - Spec driven development (instructions to code generation) - Coding workflow automation - On-the-fly Preview (hot refreshing) - IPA, APK package exports - Cross-framework compatible exports (such as Web Components)
4. Component Creator Q2 2018	<p>The second milestone release of ARVA Studio where we provide a Sketch-like designer studio which enables designers to produce the first digital components for websites and applications. Examples of features:</p> <ul style="list-style-type: none"> - visual state designer - animation designer - arithmetic designer
5. Application Assembler Q3 2018	<p>Have product owners or analysts assemble application scenarios from existing and newly created components.</p> <ul style="list-style-type: none"> - device specific optimization - flexible export options
6. Data Integrator Q4 2018	<p>Have DevOps and Developers performing technical tasks like data source configuration and data transport coding to close the gap between an application and its operating environment</p> <ul style="list-style-type: none"> - Oracle connector - SAP connector - SharePoint connector - IOT connectors



7. ARVA Hub Q1 2019

With the ARVA Hub we intend to facilitate a commercial market place where Digital Creation Team can create their projects, monetize their components and manage their product delivery workflow with Global contributors in mind.

- Component App Store
- Collaborative Project space
- Integrated Developer workflows
- Continuous Deployment workflows

You can find more information on the software architecture behind the milestones in the appendix Architecture Overview of the ARVA stack.



4 Revenue model

The ARVA platform brings developer workflow and freedom of creation to the market with a simplified revenue model. We like to think in terms of Virtual Persona's adding value to your developer workflow. This way you can choose what to add and what to leave unused. As if you were adding virtual members to your digital creation team.

4.1 Core pricing per role

Every role in a digital team uses tooling to achieve its goals. The following roles are distinct in the ARVA platform to provide specific value to the respected team roles.

Table 2: pricing per role

	price/user/month	Features
Student	free	- Everything
Designer	\$5,00	- Component Creator - Community support - UI Kit
Developer	\$8,00	- Spec-driven development - Community support
DevOps	\$3,00	- Data Integrator - Identity Management
Analyst	\$10,00	- Application Assembler
Product Owner	\$100,00	- Team
Expert	\$499,00	- Premium support
Seller	\$9,00	- Hub Component Store - Hub Service Store - Hub Project Store



4.2 Package pricing per team

Customers can decide to create a custom plan by choosing different quantities of the available roles.

Table 3: pricing per team

	Student	Startup	SMB	Enterprise
Team (1 of each role)	Student	Designer, Developer, DevOps, Seller	Designer, Developer, DevOps, Analyst, Product Owner, Seller	Designer, Developer, DevOps, Analyst, Product Owner, Expert, Seller
Price/Team/Month	FREE	25,00	135,00	634,00
Price/Team/Year	n/a	300,00	1.500,00	7.368,00

4.3 ARVA Hub listings and sales

Digital creatives can create store listings to sell their products and services in an integrated manner. ARVA Hub will provide the freedom and the ability to monetize components (from ARVA Studio), services regarding the components or even complete projects. This model enables teams to act like experts providing product/market value to any customers across the globe.

Table 4: Revenue from ARVA Hub sales

	One Time	Consumable	Subscription
Component	20%	20%	20%
Service	15%	15%	15%
Project	10%	10%	10%



5 Finance

You're still here, great! Now that we've shown you our vision, product, roadmap and roles, it's time to dive into the financials. And of course, we'll explain how we will get you a big return on your investment. In this chapter, we'll first tell you more about the investments we've done already. After that, you'll read how we are going to spend your money in the upcoming months. When the unpleasant stuff is out of the way, we'll get to the exciting part; Our revenue and your return. Let's start!

5.1 Investments

Building a platform that allows creatives and analysts to build fully functional applications for a wide range of devices costs a lot of blood, sweat and tears. In this chapter we'll explain what we've invested so far, what we need to complete milestones 1 through 7 and how we will be spending any over-funding when it comes to that.

5.1.1 Investments to date

As discussed previously, we started developing ARVA in early 2015. Almost three years later, we've completed ARVA Foundation, tested it with our SMB- and Large Corporate customers and enabled developers around the world to benefit from this in the same way we do. We were able to do this because of three reasons:

1. Friends & family

The development of ARVA was kickstarted with a friends and family round in 2015, initiated by CEO Hans van den Akker. We would like to take this opportunity to thank our earliest supporters once more. We can never thank you enough for your love.

2. Revenue from services Bizboard offers

Sister-company Bizboard offers bespoke application development & digital product design to a wide variety of customers. Using ARVA enables Bizboard to develop cross-platform software products quickly, while maintaining the "native feeling". A portion of the revenues Bizboard obtained by doing so are invested into ARVA.

3. Innovation subsidy

The Dutch government offers financial incentives for innovative companies / investments. Since ARVA qualifies as such, we were lucky enough to be able to use this fund to expand ARVA.



Did you know?

Bizboard was credited with a 45th place in the Dutch Chamber of Commerces "Top 100 most innovative SMBs of 2017" for her involvement in the development of ARVA. [Click here to read the article \(Dutch\)](#).

Figure 11: Investment to date + upcoming minimum required investment



Figure 12: Investment to date, breakdown by year

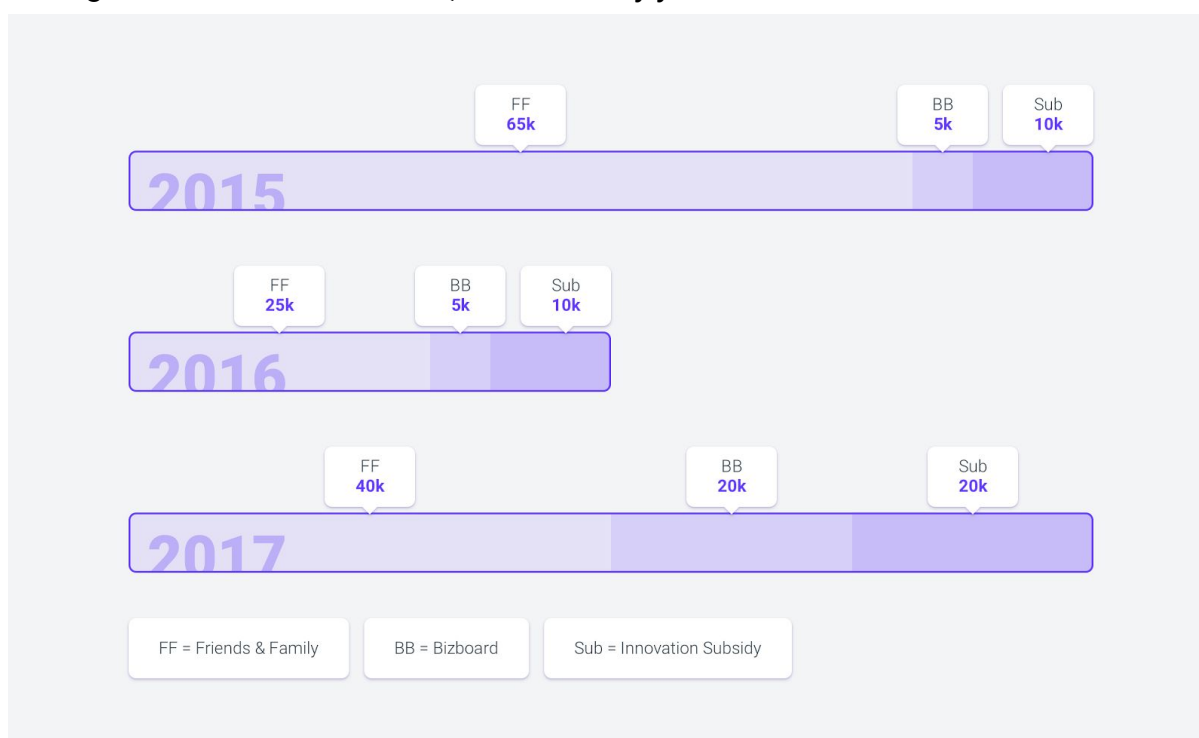


Figure 13: Investment to date, breakdown by investment source



5.1.2 Upcoming investments

In Chapter 3 we defined our development roadmap for the upcoming years. Although the roadmap mostly caters to the technical requirements of the end product, we've made sure to set up the milestones in a way that allows us to start generating cash flow in an early stage. One would expect us to have done that to lower the minimum required investment, but that's not the case. We've chosen to do so in order to create the perfect product-market-fit in a fast moving market. Building our product lean and iteratively ensures that we get as much feedback as possible during the product development stage. One could interpret this as a distraction, but decades of experience in software development have taught us the vital importance of customer feedback. This does, however, add some overhead cost in the short run. In figures 14 and 15 below you'll find our complete budget breakdown for the raw development costs of the product milestones. The raw development costs amount for around 25% of the minimum required investment of 500k for 2018, 750k for both 2019 and 2020 (as seen in figure 11). Apart from development costs, the minimum required investment includes marketing, community building, customer education and unforeseen overhead costs.

Spoiler alert

Generating cash flow as soon as possible has an awesome side effect for you as an investor. Keep reading!

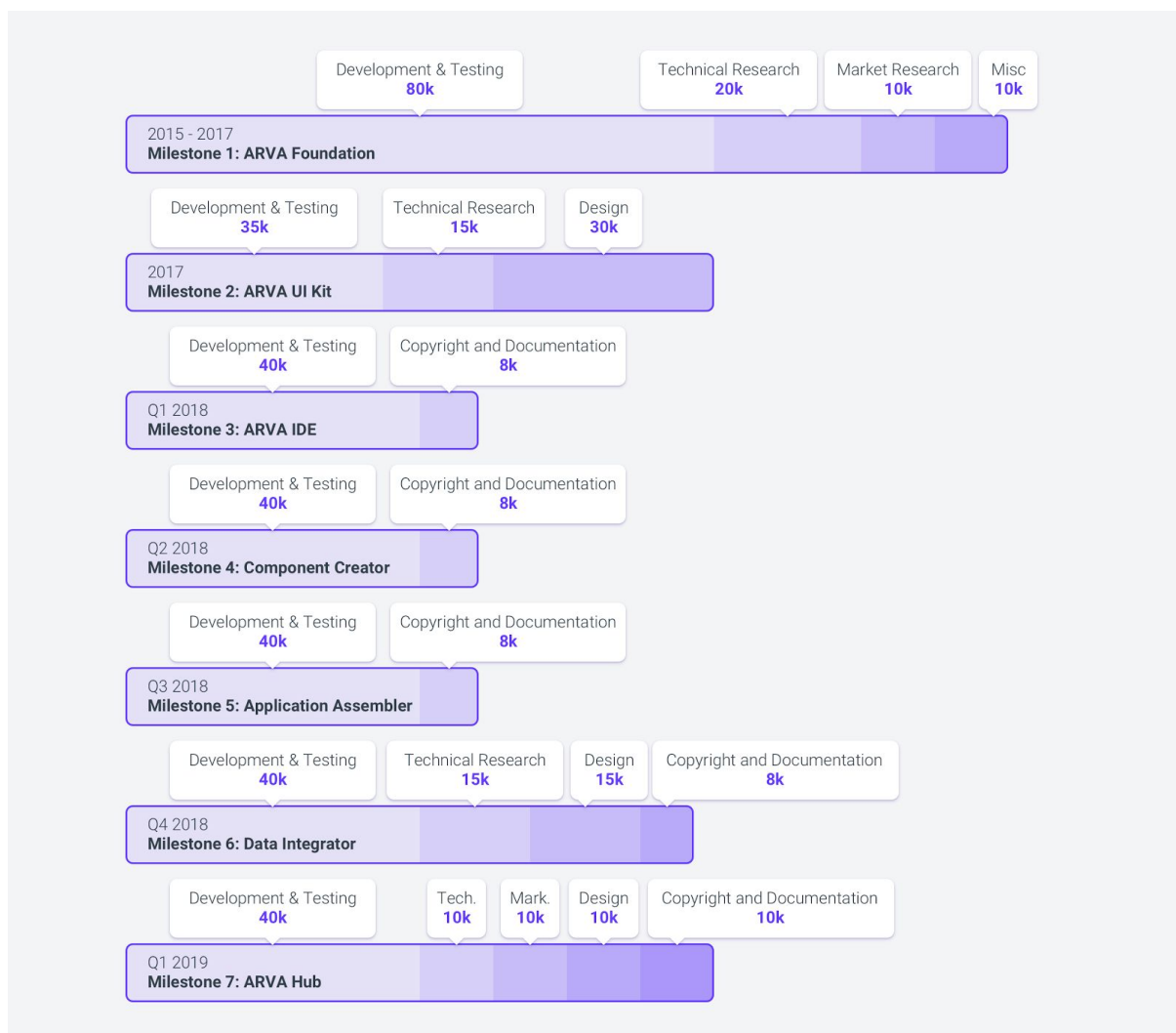


Figure 14: Timeline with budgets per milestone



Figure 15: Breakdown of costs per milestone





5.1.3 Overfunding

Now that you've got a clear picture of our minimum required investment, you must be wondering why we didn't cap our ICO at this amount. Decades of hands-on experience made these graphs, right? While that is true, we do have some awesome ideas that will speed up development and make the end product even more useful. In this section we'll therefore shed light on how overfunding will help us get you a better return on investment in a shorter amount of time.

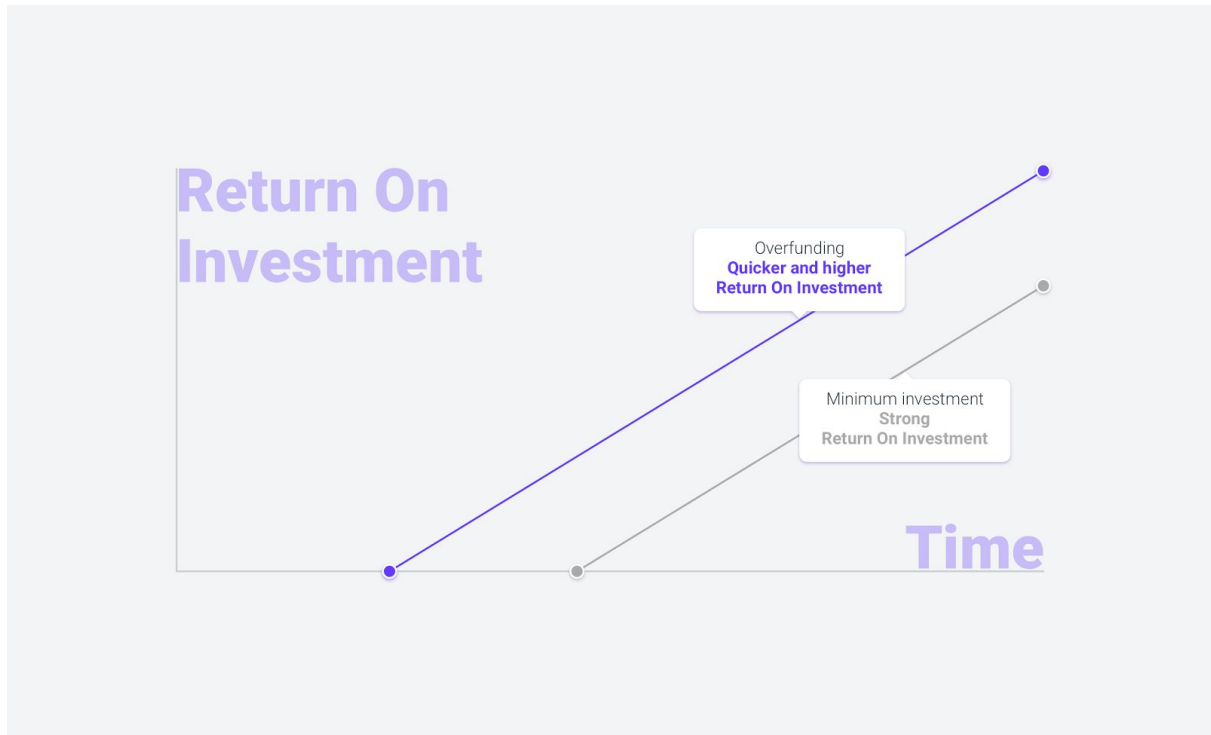
1. Additional components and other content for ARVA Hub

As explained in chapter 3, ARVA Hub will become the treasure chest of every digital creator. By purchasing additional components from ARVA Hub, creating digital diamonds will become even easier. In the long run, ARVA Hub will be fully stocked with useful creations from all over the world. But in the short run, part of the overfunding will be used by the ARVA team to contribute more initial content (in addition to ARVA UI Kit!). The sooner these efficiency boosters are available to the public, the sooner we expect to enter our growth stage. Since this is the stage your investment is going to flourish, we expect overfunding



spent in ARVA Hub to improve the yield on your investment, as illustrated in Figure 16. We'll therefore allocate 5% of all overfunding for creating sellable content for the ARVA Hub (capped at 100k).

Figure 16: Illustrating the effect of overfunding



2. Community Building, Customer Education Grants & Marketing

Building a community is time intensive and will be done using different programs:

- **Monthly meetups**
Informing the local communities of the abilities of the ARVA platform and bringing value to thrive developer adoption.
- **Sponsored hackathons**
Working with the local communities on creative projects to have an increase of ARVA based digital products and proof of principle.
- **Early Adoption programs**
Working with Digital Studio's within SMBs, Accelerators and Corporate environments to create digital products (MVPs).

3. Parallel development

Last but not least, overfunding will shorten the time to market of ARVA Hub by hiring extra developers to work in parallel. Secondly, we will have more developers involved in the serial milestones before ARVA Hub, which shortens our release schedule of the entire ARVA platform even more. Faster time-to-market will result in faster revenue growth.

5.2 Revenue Prognosis

We're ready to get started on the fun part of this white paper; Revenue & Return on Investment! Let's kick it off by plotting the ARVA revenue prognosis over our development roadmap. When we've pinpointed the moment your investment is going to start increasing in value, we'll share our short term revenue expectations. While these might not blow anyone's mind, they get interesting by growing at a manageable pace that safeguards your investment. And with the long run returns we have in store for you thereafter, we think you won't mind a slow and steady start.

5.2.1 Time-to-revenue

As discussed before, the ARVA roadmap has been designed to facilitate both a relatively short time to market and the opportunity to improve our product-market-fit as soon as possible. We therefore introduced ARVA IDE - the first upcoming milestone - to be marketable. Within 6 months after the ICO, we'll be able to bring the ARVA IDE to beta, launching it to the general public about 2 months later. At this time our own currency, ARVA Coin, will become the official preferred method of payment on the ARVA platform, allowing users to purchase services at a 20% discount (more on that later). Therefore, this is the time you'll be able to capitalize on your investment. But more on that later.



Did you know?

All ICO participants who register themselves officially on [ARVA.io](https://arva.io) will get a special early bird invitation for ALL beta releases financed by the ICO. 100% free, of course.

5.2.2 Short term revenue

Alright, we're passed the ARVA IDE milestone. Money, and more importantly, real-life customer feedback are coming in. Now it's time to expand the platform with ARVA Studio and add our most groundbreaking features to the ARVA platform; The Component Creator, the Application Assembler and the Data Integrator. These allow creators to build virtually anything they imagine without using a single line of code. Mobile apps, websites, advertisements, entire SaaS solutions; you name it. This is where major business challenges arise; With the eyes of the world looking at us, we need to scale up, educate large groups of eager customers, intensify customer support efforts, hire sales engineers and (much) more. Not a time to get arrogant, but a time to lay a solid foundation for the future. This means we will limit the amount of users adopting the platform and introduce our strategy for controlled growth. This gives us the chance to treat our customers with the service they deserve, launch ARVA Hub to add tremendous value, optimise our product and get ready for the final stage of our plan; Securing our position in the global digital production market.

Figure 17: User adoption (projected totals by year)

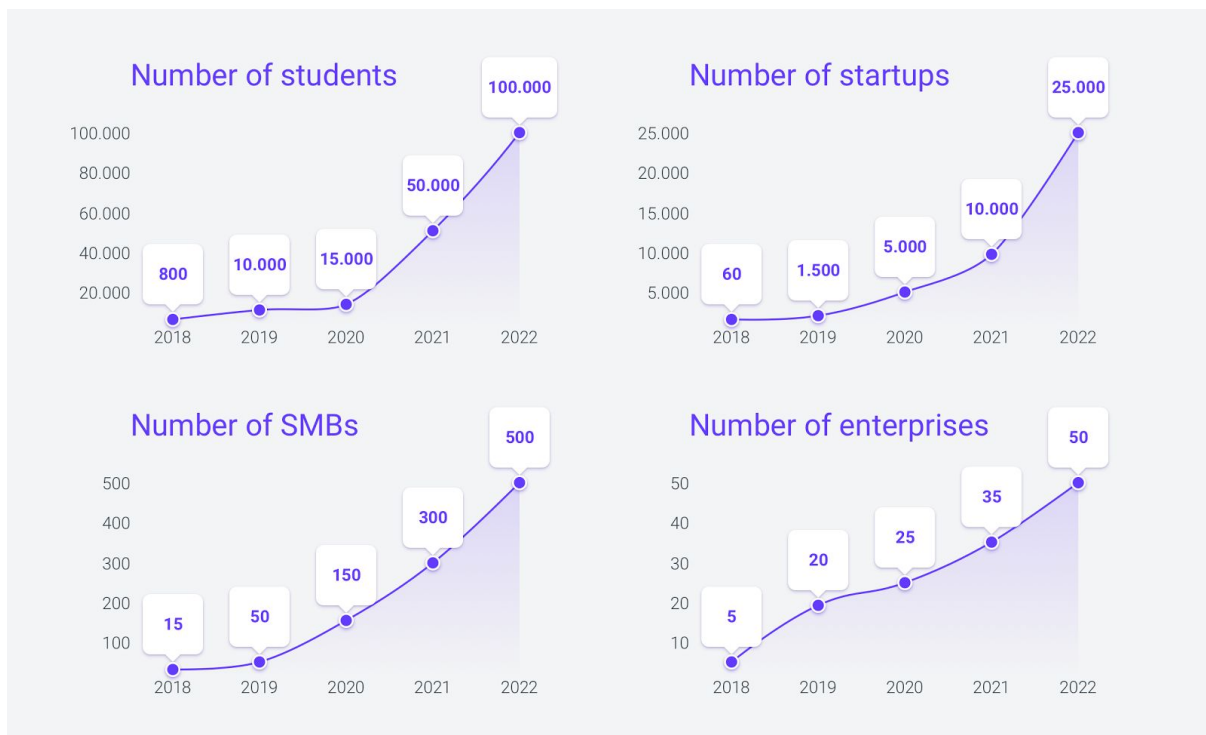
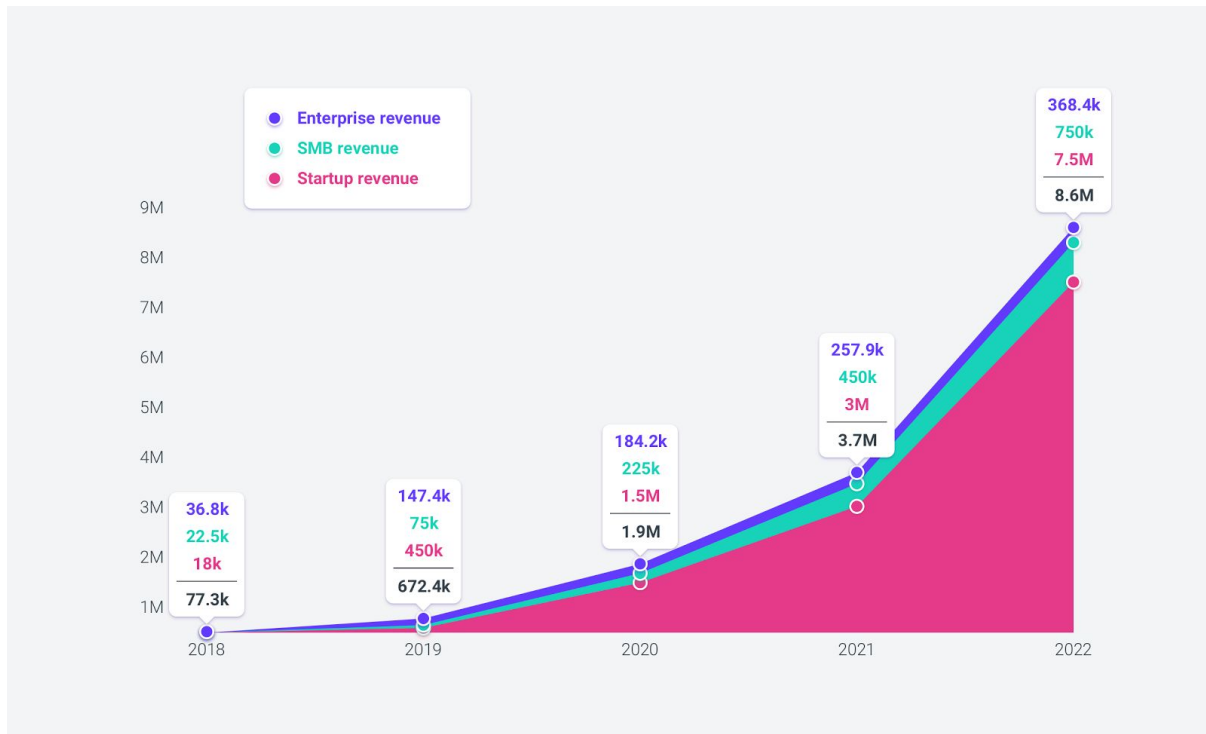


Figure 18: Revenue growth based on user adoption





5.2.3 Long term revenue

This is the final stage of our strategy; The stage where the magic happens, we'd say. We've got our product optimized based on real-life use, an ecosystem of users able to develop digital products without using code, a mountain of content in ARVA Hub to make life even easier and a strong organisation ready to scale towards market domination. Since the ARVA platform is basically structured like a SaaS solution, the fully optimized version we have up and running at this point is able to facilitate large amounts of additional users at a relatively low cost. This allows us to scale rapidly with ease, given that there is enough demand. Since demand is notoriously hard to predict for products like Arva, let's first have a look at Gartner's latest estimates with regard to global IT spending.

2016: \$ 3,43 trillion USD

2017: \$ 3,55 trillion USD

2018: \$ 3,7 trillion USD

The ARVA platform adds value in the field of digital creation, optimization and maintenance. Since we cover these from start to finish, we expect to be able to at least offer a competitive alternative to 50% of all IT expenses. This puts our market cap at 1.85 trillion USD, conservatively accounting for 0% future growth in this market.

Let's assume that only 1% of these expenses (18,5 billion USD) are made in the most efficient way - the ARVA way of course - and plot our strategy's goals towards this product market cap.



Table 5: Long term revenue prognosis based on product market cap

Year	Product market cap	Revenue goal
2018	18,5 bln USD	100k USD
2019	18,5 bln USD	700k USD
2020	18,5 bln USD	2m USD
2021	18,5 bln USD	5m USD
2022	18,5 bln USD	10m USD
2023	18,5 bln USD	500m USD
2024	18,5 bln USD	4b USD
2025	18,5 bln USD	10b USD

5.3 ARVA Coins & Return on Investment

Now that we're about halfway into the financials, let's recap for a second. In the previous sections of this chapter we've seen that we need a minimum of 2 million USD to develop and optimize our product, build a strong team and educate the world in the opportunities the ARVA platform has to offer. Subsequently, we pinpointed the time when you as an investor in ARVA Coins can first capitalize on your investment. Lastly, we talked about the short & long term revenue prognosis of the ARVA platform. What hasn't been explained so far though, is how our projected revenue helps you as an investor. Now, it's time to connect the dots and take a dive into the ARVA Coin system itself. Let's get started.

5.3.1 Not your typical ICO

Reading the foregoing part of this white paper, you probably noticed that this is not your typical ICO. ARVA is not a blockchain product. So how do your ARVA Coins increase in value when the product becomes more popular? To explain that, we'll be looking at the way we will structure payments to the ARVA platform, as well as some fairly basic economic principles and, most importantly, the commitment we make to you as an investor in ARVA.

5.3.2 ARVA Coins as preferred method of payment

The ARVA platform offers a broad range of products, services and digital content. All of these have their own purpose, target audience and revenue model. Together they offer a suite that covers the entire lifecycle of more or less any digital product, whether it be an advertisement or an a fully automated SaaS solution. As shown section 7.2, we predict that this approach will enable us to gain a small share of the huge global digital production



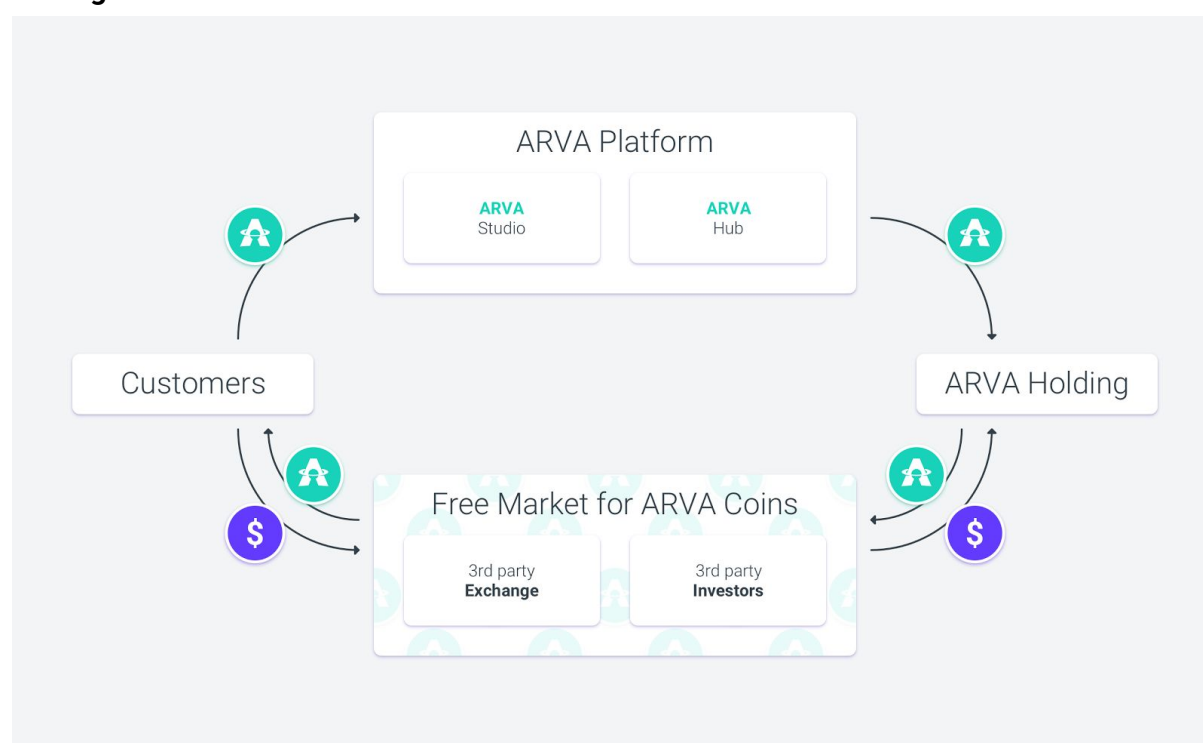
market. This is where it gets interesting for you, because we aim to receive as much of that revenue as possible through payments in ARVA Coins. Let's get into the "Why" and "How" behind that decision.

Why would you want to receive payment in ARVA Coin instead of normal currency?

The answer to this question is twofold. The most important reason is you; You will enable us to build our platform, our company and our legacy. You should therefore get a handsome reward for the trust you give us. Funneling billions of dollars a year through the currency you now own (ARVA Coin), should be a good start (see figure 19).

Secondly, there's the matter of transaction costs. Since the ARVA platform will require a lot of transactions to be executed, minimising the cost per transaction will save us a lot of money. We believe ARVA Coins will help us do so.

Figure 19: The flow of ARVA Coin



How will you make sure customers pay with ARVA Coin instead of normal currency?

This one is simple: By offering a 20% discount on all purchases in the ARVA platform. Since the most common purchases will surpass 100 USD, customers can make \$20+ for less than 5 minutes of work. Without risk.

No risk for the customer? ARVA Coins are a tradeable commodity, right?

Yes and yes. ARVA Coins function just like ordinary tokens and can be traded without interference from ARVA. This sounds like customers would be at risk when purchasing ARVA Coins first to make a purchase on the ARVA Platform second. We solve this problem by allowing customers to 'reserve' the product or service they'd like to purchase with a



maximum cost in ARVA Coins for 10 minutes. This allows them to purchase ARVA Coins without downside risk, but with upside potential if the value of ARVA Coin is going up.

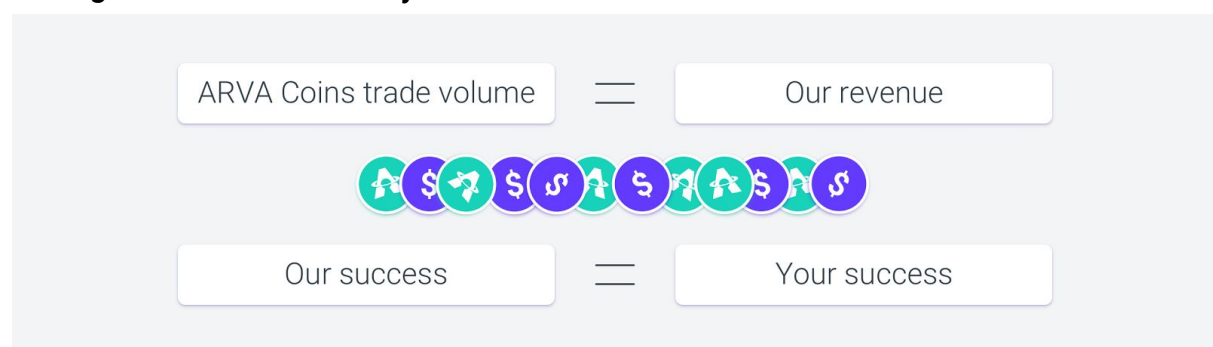
Isn't that a threat to ARVA?

On paper; Yes. In practice? No. We've factored in these elements of risk in our strategy and will do the same in our payment system. By bringing ARVA Coins back into circulation in a fairly inventive way that is connected to the system for 'reserving' purchases, we're able to control the downside risk while retaining market stability and upside potential in terms of ARVA Coin value.

Do third party vendors lose 20% of their revenue when customers pay with ARVA Coins?

No, all commitments with regard to the ARVA Coin system are made by us and should therefore be paid for by us. We therefore take the 20% discount out of our commission on third party sales.

Figure 20: Our success = your success



6 Conclusion

Software is eating the world. Companies are shelling out billions of dollars on software development because the supply of talented software developers is scarce. ARVA expands the talent pool by effectively improving the development velocity and enabling anyone to create software across all platforms.



7 References

Listing all evidence with regards to the Product and Market perspective.

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Rendering optimization of ARVA's engine	https://loozesl.github.io/ARVA-HC/
Optimal DOM allocation algorithms in high performance animated web applications	https://drive.google.com/file/d/0B5dQWcXN8KN eY2wtRGhQallyNXM/view?usp=sharing
Google aims to train 2 million app developers in India	https://www.pcworld.com/article/3093790/google-aims-to-train-2-million-app-developers-in-india.html
Gartner about UXP	https://www.gartner.com/it-glossary/user-experience-platforms-uxp
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8 Appendices

ARVA Studio Features

https://docs.google.com/document/d/1-rZGnUD5nGJ929mVUJksM56_70qJ72ButsfTAhiXuu8/edit#

ARVA Architecture Overview

https://docs.google.com/a/bizboard.nl/document/d/1AhDmTRL4oabuHZXnsGNEsg_Dd3XMcfDP_Xmfjl4GfIU/edit?usp=sharing

