

**Codecacao LTD.**

Project Name ( working title )	<b>Matchday</b> ( <a href="#">inspiration</a> )
Project short description	Blockchain-enabled football card collecting trading game
Date	23. April 2020
Validity	23. May 2020

# PROJECT ESTIMATE

# One-pager

## Introduction

We are a group of independent software development studios with extensive experience in software development, with a focus on mobile app development. Some of our references are <https://www.paperkarma.com/> and <https://www.recolor.com/> both were featured by apple and google. Our team has experience in blockchain development and in a past created a platform for collecting art based on the bitcoin blockchain.

## About the game

MatchDay is an online card collectible game platform where users collect player cards and use collected cards to play matches against other users in PvP mode. The game platform is blockchain-enabled, which provides a layer for smart contract execution, in-game economics, and value systems. The Game is similar to Hearthstone but with simplified game mechanics and interface.

Matchday provides the best of both worlds, soccer simulation and football manager game. By allowing players to create and manage the squad, while providing a non-simulation PvP game environment. Players are encouraged to collect the best possible players' cards to win matches since they can play for real money. Additionally, players that collect rare cards will be able to trade them in the secondary market place, where we will use blockchain to track and increase the value of each card.

## Business model

3 major revenue streams for the app and we will need more data to make assumptions. Revenue streams include card sales, transaction fee and advertising. The game will provide enough free packs for players for seamless free-to-play experience.

## The Project Cost and delivery

Our current estimate of project value is 375k Usd with multiple team members working on a project expected delivery is 5 months from project start. Delivery would be a fully functional product. THE post V1.0 phase includes adding additional features and optimizations based on the user experience and feedback, additionally, our team can set up and manage back-office part of an application for its smooth execution in the commercial launch.

# Project outline

## Introduction

In the following pages, we will summarize the project scope, V1.0 especially, together with identifying high-level items that will be put in the plan after V1.0.

Together with this document, you will receive our roadmap with high-level milestones. The more detailed roadmap would be delivered after the product definition phase, together with updated estimates.

As mentioned in our Methodology document, each project phase will result in specific outputs. The essential initial phases are Project and Product definition phases. Once they are finished, you will have clear platform architecture, technical and product specifications, and wireframes.

The focus of this document and accompanying Roadmap was V1.0. Still, we aimed to provide at least a high-level overview of potential future phases. Estimates are still preliminary and will be updated after Project definition, and product definition phases will be finished.

## Project overview

- Card collecting (soccer players,)
- Creating a new team / or choosing an existing league club
- Choosing a game system based on user available cards
- Gameplay
- Market
- Game economy
- Advanced features - V2

The goal is to create an online card collectible platform where users collect player cards and use collected cards to play matches against other users on the platform. The platform is a blockchain-enabled, which provides a layer for game economics and value system.

The platform should be a multi-tenant system on a flexible architecture i.e., a system that can support multiple clients on one installation. The option is that clients (different leagues) themselves should, at no point, be aware of one another, thus allowing easy backend content management, expandability, and Whitelabel flexibility in the future.

Besides scalability, one of the challenges will be to create a robust platform that will allow easy integration with various external services. For this reason, the backend will be written by keeping API extensibility and reusability in mind.

## Inputs

Initial request:

- Development and launch a card collectible game that is lightweight so users with low-end devices and slower internet connections can have good user experience
- A web platform that can integrate in clients existing product portfolio
- A mobile app that can wrap product features and offer good user experience / if not played through web interface
- Expansion to build APIs

#### Outlined High-level V1.0 functionality

- Player user account management and personalisation
- Card purchasing and activation
- Squad creation
- Player selection of game system (team formation based on player cards)
- Lobby meeting point
- Training against the system with multiple difficulty level
- Game
- Marketplace
- Special cards
- Tournaments
- In-game currency

#### Reference material:

- Panini Adrenalyn XL card collecting game
- Epics.gg
- Hatrick.org

# Product features

## Player user account management and personalization

Players can customize their club badge and shape when creating a user account. Playing the game players can improve their rank. Improving the rank users unlock more options and features. We are considering an ELO system that allows that ELO levels are reset so we create a game loop where players are encouraged to play the game on regularly to achieve top rank.

## Card purchasing and activation

Players on the platform can claim free packs that consist of free players' cards. Additionally, players can purchase player card packs to collect better player cards. Rewards and bonus system is considered to motivate players to return to the game through notification system.

Player Cards have three main attributes common, rare, and epic, so players are encouraged to buy and collect best playing cards for their club. Additional characteristics for each player card are:

- Player team

- Player

- Player position (Goalkeeper, Defender, Midfielder or Forward)

- Attack

- Defense

- Overall rating

Card attributes determine a position in which the user can place the cards on the pitch, and different characteristics determine a game outcome when playing against opponents.

## Squad creation

Before starting, the game users are required to create their squad from player cards they own. User is required to have 14 player cards from which 11 are for the first team, and others are substitutes. Users create the strongest team with their available player cards. Users can manage the team and play style to create a winning game plan. Additional features to consider are virtual trainer to help users to create their squad until they master the game.

## Player selection of game system (team formation based on player cards)

Users are required to decide on the formation (3-5-2 or 4-4-2), where they choose the best system for playing cards they own. For example, if a user owns a lot of good attack player cards, it's better to use a more attacking system and so on.

## Lobby meeting point

Users in the lobby can challenge other available users within a similar user rank. Basic social features are considered a friend system that allows players to play friendly matches. Training against the system with multiple difficulty levels. Playing friendly matches against AI allows players to play matches at any time with multiple difficulties level. This feature allows players to train and improve their deck without an economic impact on their deck. Games against real opponents will have an economic impact, thus allowing users to earn real money for wins.

## The Game

The player chosen by the computer to start the match selects one of their cards and decides whether to attack or to defend, or chooses the control value of their card. In turn, their opponent selects one of their cards and uses it in defence, midfield (control) or attack. If the first player attacks, their opponent has to defend themselves, or vice versa.

If you play a control rating, the opposing player must also call out their control rating. The players compare the chosen values of the selected cards. The card with the highest value scores a goal and begins the next battle. Cards chosen for this challenge cannot be selected again during the match and are placed outside the lobby. If both numbers are the same, it goes to a tiebreaker between the total value (adding attack, control and defence) of each card.

If the total value ends in a draw too, the two cards are ignored and no player wins the match. If the whole match ends in a draw, the team with less card sum wins. Just like in a real match, substitutes can snatch a win for you in the last moments, but you have to use them effectively! You have to choose your substitutes when you have the ball possession before selecting a card. The card which is replaced is discarded.

## Marketplace

The marketplace players can trade buy and sell cards. With player card attributes and card rarity, we aim to have a value system attached to each player card, thus creating a transfer marketplace where users decide on card value. Player cards are traded for real money in background converted to cryptocurrency value. Unique cards will give users a better chance of winning matches and the opportunity to earn money. To users, a blockchain component is invisible and does not require additional learning.

## Tournaments

The feature should allow players to play against more than one team and climb the leaderboard like in real competitions. The feature will allow having an additional component of competition, rewards, and excitement.

## In-game currency

Ingame currency is a way for the user to earn or lose money adding real excitement to the matches. Players earn in-game currency from:

Win matches

Trading cards  
Uploading funds to their user account  
Receiving bonuses

# Game structure

## Rounds

Each game consists of 10 Rounds. The winner is the user who scored the most goals during the game. Per Round, the users each perform a turn one after the other.

## Beginning of the Game

Both users get 4 random cards from their Deck.

They can decide to exchange each of the initial cards once with a different random card from their remaining Deck.

A coin-flip determines the starting user. The second user gets an additional special hand-card that is not part of the user's Deck.

## Play a turn

First, the Energy amount for the active user is set to the current Round number - up to a maximum of 5

All Field-Players of the active user loses their "warm-up" and "exhausted" states.

The active user draws one card.

Afterward, the user can perform different actions in no specific order and as many as desired and the remaining Energy amount allows:

Place Player-Cards on the field

Play Action-Cards

Use Field-Players to attack the opponent's Goalkeeper or Field-Players

It is also allowed to end the turn after drawing a card without any additional action

## Placing Player-Cards on field

Each user can have up to 5 Player-Cards on the field, in addition to the Goalkeeper that has a fixed position. If the user has enough Energy left and less than 5 players on field, a Player-Card can be played.

When a Player-Card is placed on the field it automatically either becomes a Shield-Player (if the card's DEF value is larger or equal to it's ATT value) or an Offense-Player (if the card's ATT value is larger than it's DEF value). If a Player-Card has Effects, they are immediately executed when playing the card.

When a Player-Card is used to add a Field-Player, the Field-Player is in a "warm-up" state. This means that the Field-Player can not immediately be used to attack an opponent's Field-Player or Goalkeeper. In the next turn, the "warm-up" state will be removed from the Field-Player.

## Playing Action-Cards

A user can play as many Action-Cards per turn as the remaining Energy amount allows. The Effects take place immediately, afterwards, the Action-Card is discarded.



## Attacking an opponent's player

If a user's Field-Player is neither in "warm-up" nor in "exhausted"-state it can be used to attack an opponent's Field-Player or Goalkeeper. The Goalkeeper can only be attacked if there are no more Shield-Players on the opponent's field. The opponent's Goalkeeper can not be attacked by own Shield-Players, only by Offense-Players. Opponent's Field-Players that are "exhausted" or in "warm-up" can also be attacked.

For an attack the ATT and DEF values of the two participating Field-Players are compared:

The opponent's Field-Player's DEF value is decreased by the attacker's ATT value

The attacker's ATT value is decreased by the opponent's Field-Player's DEF value

If one of the Field-Players has any value reduced to 0, it is removed from the field. If both Field-Players reach 0, they are both removed.

The attacking Field-Player is set to "exhausted" and can not perform another attack during this turn.

## Scoring a Goal

A goal is scored when the opponent's Goalkeeper has its DEF value reduced to 0. Afterwards the Goalkeeper's DEF value is reset to the initial value.

The opponent's Goalkeeper can only be attacked if the opponent has no Shield-Players on field.

A user can not attack the Goalkeeper with a Shield-Player but only with an Offense-Player.

## Halftime

After 5 Rounds it is Halftime!

Each user draws 4 additional cards from his deck..

Then the next Round starts with the same player starting as before.

## End of Game

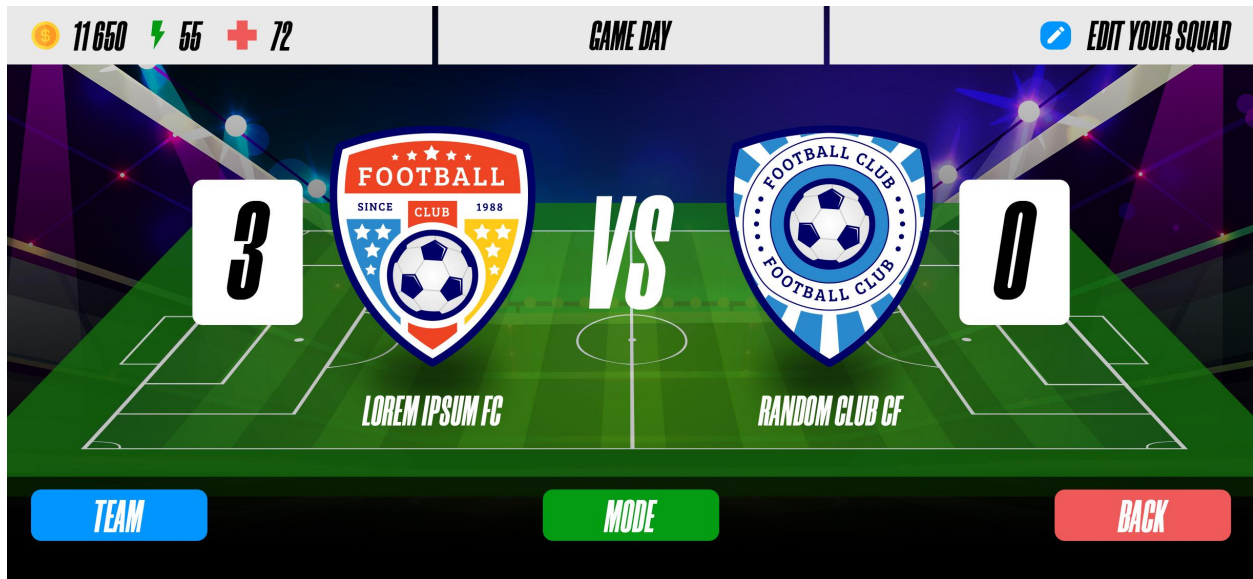
The game ends after 10 Rounds (unless an Effect changes the total number of Rounds). After the last Round the user with the most goals wins.

When both users have the same number of goals, the game ends as a draw, unless it is a tournament match.

When the game ends draw after a tournament match, for each user the ATT and DEF values of all remaining Field-Players are summed up. The user with the highest sum wins. If the sum is still the same, the winner will be picked by random.

# Product mockups

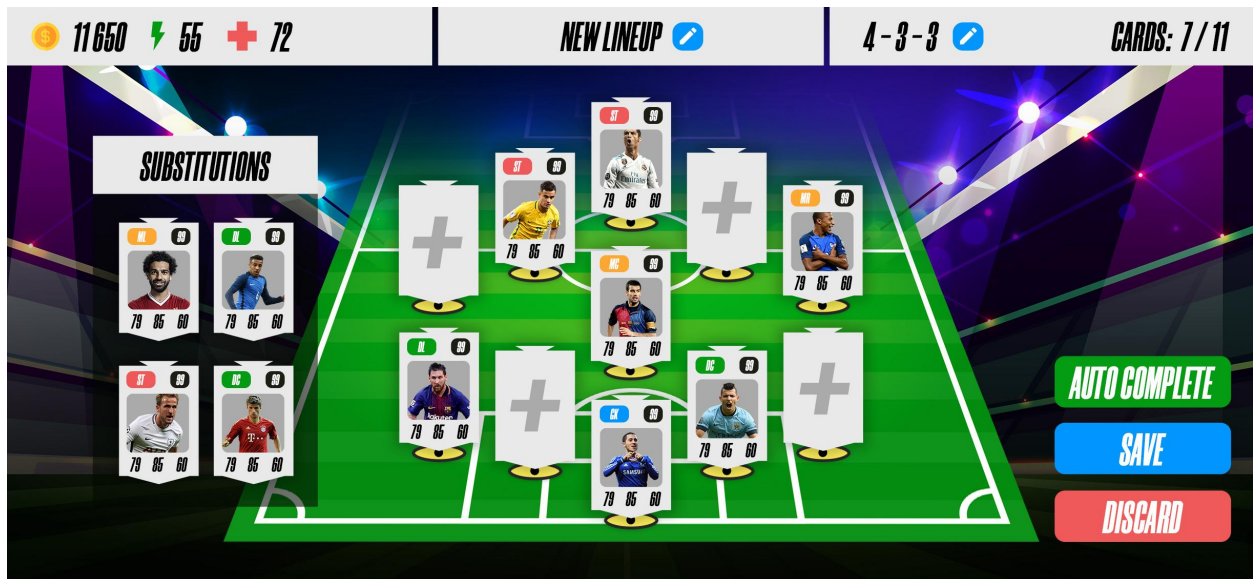
## Team selection



## Team tactics and player selection



## Match screen



# Project approach

## Our methodology

The success of each project depends on various aspects and multiple small but well-coordinated and executed steps. Thus, we use Agile software development principles to support the Partner-Provider relationship in the most efficient way to satisfy 3 main goals:

- You as our partner to always feel in control of the project progress, costs, and deliverables
- Have enough flexibility to adapt the project flow and demands to change the industry and/or business-related trends and goals while keeping in mind the target project outcome and deliverables
- Provide all information always transparently and ON-TIME

Using Atlassian ([www.atlassian.com](http://www.atlassian.com)) project collaboration and documentation management tools, we can always be on top of required actions and understand change requirements. We are not big fans of documentation, but a healthy level of documentation is necessary to deliver a project successfully.

**Our base process includes the following items:**

- 1. Understand project requirements to define services scope and deliver accurately project estimates**
- 2. Outline the product concept (wireframes and design)**
- 3. Create product documentation using our own set of documentation templates??**
- 4. Develop and iterate as necessary, with iterations and change requests reflected in documentation and project management tools**

Flexibility is ensured by organizing work in weekly sprints. When planning the next sprints with a partner, the project manager provides to discuss any updates to requests that are to be put in the plan. There is no longterm “freeze requirements” plans since your business priorities, and requirements might change. Development and product evolve through weekly sprints.

## Project management and collaboration

For the successful delivery of our projects, we are using Atlassian collaboration tools (<https://www.atlassian.com/project-management-software>). They are built for software project management, and we have customized the tools to support our processes and ensure maximum transparency and client involvement.

# Standard Project Milestones

Each project has its definition, design, and/or development and launch phase. Time to complete each stage can vary depending on project scope and type. In this section, you can find an overview of the stages that any project goes through.

## Project definition

### **Deliverables: Project Overview Document**

Initial week(s) are always spent on the project definition to ensure that we align with your vision and current needs, as well as your future goals and growth potential. The time needed to complete this step depends on the project complexity, but moreover, on the responsiveness of the client's team and decision-makers. Make sure to plan intensive communication with project and product managers in this phase. After it, you choose the level of involvement you feel comfortable with.

## Product definition

### **Deliverables: Wireframes**

We use <https://balsamiq.com> and <http://www.invisionapp.com> to deliver a clickable preview of the product with its functionalities, clear platform architecture, and interaction between the elements and pages. In the following phases, these will serve as a basis for the design and development team(s).

## Visual Design

Once the Wireframes are ready, designers can start working on UI Design. They use Wireframes as a guideline to understand functionalities required and interaction between different pages and elements on the website.

- **Deliverables: Clickable preview of the final website designs and PSDs**
- Same as with Wireframes, we use <http://www.invisionapp.com> to deliver the final results to you

## Development

Among other items, in this phase, we cover:

- Server setup
- Development environment setup
- Backend Development
- Frontend development
- Project management
- Team collaboration
- Testing and quality assurance

## Iterations, alignment and re-planning

They take place continuously in parallel with other items to ensure enough flexibility and long term engagement to deliver results to clients consistently. We understand that your business goals and priorities sometimes change, and thus, your requirements from the platform also do. With continuous communication and account management, we ensure flexibility, cost-savings, and timely reactions.

## Project Overview & Estimate

### Project Overview

The following project overview focuses on V1.0 of Blockchain-enabled football card collecting trading game. The platform is logically organized into backend applications that provide core business logic and frontend UIs that are divided by roles.

Additional application UI should also be prepared to offer the possibility to Super Administrator to administer the system, thus allowing balancing of game and in-game economy. V1.0 release includes a multi-tenant system, with all core functionalities that are required for operating a platform. The overall system should be designed to be scalable and redundant to ensure uninterrupted service to all users. In detail, an overview per module is available under the Project Estimate section.

### Project estimate

<b>V1.0 Project Phases</b>	<b>Estimate MD</b>
Project definition	<b>8</b>
Product definition	<b>30</b>
Design	<b>45</b>
Development	<b>355</b>
Blockchain and wallet implementation	<b>60</b>

Quality assurance	<b>45</b>
Project finalisation	<b>20</b>
<b>TOTAL MD</b>	<b>563</b>

Total estimated MD (man-days) include:

- Project definition
- Backend Development
- Frontend Development
- Design and visual identity
- Basic SEO optimization
- Project Management and Team Collaboration Automated tests preparation
- QA and support
- Education and launch support

Estimates will be updated one more time when Project and Product Definitions will be finalized i.e., requirements outlined and specified according to delivered inputs. Accuracy of the estimates will depend a lot on your responsiveness and timely provision of information. If communication, requirements, and goals are clear, items are expected to be on estimates.

## Project Deliverables

Estimates below include one-off activities and do not include regular maintenance that is subject of separate contract.

### Project Definition

Upon its finalization, you will have clear project milestones, team and responsibilities, deadlines, architecture, and initial scope.

#	Task/Activity/Section	Description	MD
1	Project overview	Document general project overview and scope, define project roles and responsibilities and define expected roadmap and timeline. Outline system (product) architecture, prepare initial estimation.	8
		<b>TOTAL</b>	<b>8</b>

### Product Definition

Upon its finalization, you will have platform wireframes, outlined technical and customer requirements specification, project activities, and plan. All materials will be available in our

Atlassian project collaboration software. Additionally, you will get updated estimation and budget so you can manage your costs timely.

#	Task/Activity/	Description	MD
1	Specifications	Preparation of all wireframes that outline the general set of platform pages, interaction between elements and information architecture. Define product requirements, architectural solution, tasks and technical specification based on received inputs and communication, integration requirements, targeted daily visits,	21
2	Wireframes	Preparation of website and admin UI wireframes	6
3	Estimation and budget update and approval	Based on previous items do detailed estimations with the development team and update initial estimates delivered in this document.	3
		<b>TOTAL MD</b>	<b>30</b>

## Design

It includes elements for visual identity together with UI design, apps, and admin area estimates.

#	Task/Activity/	Description	MD
1	Design Elements	It includes elements for branding, visual identity together with UI design, apps, and admin area estimates.	45
		<b>TOTAL MD</b>	<b>45</b>

## Development

Backend development will be based on Spring (Java) framework, with NodeJS and Angular for Frontend. Scalability and modularity will be considered at each development phase. To ensure smooth project development and quality assurance process, we'll use Jenkins CI to automate backend application builds and deployment to test and staging environment, in conjunction with Selenium tests for Functional testing.

#	Task/Activity/	Description	MD
		<b>Repository Installation / Environment setup</b>	



1	Tech stack setup	Repository creation Initial repository code structure Setting up GitLab CI pipeline Set up local development environment	4
2	Start up and provision staging instance	Install software dependencies Set up web server Secure with LetsEncrypt SSL cert Database provisioning Implement GitLab CI pipeline	3
3	Database design	Database structure definition	4
4	REST endpoints mockups	Creating mockups for REST API endpoints for prototyping, testing and documentation	5
<b>Backend Development</b>			
1	Authentication and ACL module	Login/logout methods Role based ACL lists JWT-based authentication Admin UI	24
2	Authentication and authorization module	Email or social network login Support for 2 social networks login (TBD) User profile and customization (name, profile image, cover image, billing) REST API endpoints Admin UI	4
3	Multitenancy support	Database models for defining and configuring tenant settings Custom tenant url support - for hosting on whitelabel domains Tenant-based userbase and authentication REST API endpoints Admin UI	5
4	Collectibles support	Card database models Card categorization (eg team, player, event, other) Card packs for grouping cards into user defined packages Card collections - tenant-level definition of collectibles and milestones Player defined collections REST API endpoints Admin UI	22
5	Quests	Quest database models Support for admin-defined quest goals Quest timeframe configuration (hourly/daily/weekly/...) REST API endpoints Admin UI	16
6	Achievements	Achievements database models Configurable achievement criteria	12

7	Store	Store database models Configurable items for sale (cards, packs) Sale transactions and invoicing logic Blockchain tokens as a payment method, signing transactions with a token In-app FIAT purchases integration REST API endpoints Admin UI	13
8	Player Trading	Support for PvP card trading REST API endpoints Admin UI	14
9	Push Notifications	Event based user notifications (eg trade, new card released, other tbd) Global - admin defined notifications REST API endpoints Admin UI	6
10	Prize wheel	Prize database models Admin defined prize pools and dynamics (hourly/daily/weekly prize pools) Support for free prize and paid prize pools Prize wheel payable with in-store currency Admin UI	5
11	Web Hooks	System-wide webhooks for 3rd party integrations (cryptocurrencies, other)	4
12	Game	Game Logic Player interactions Special Features	22
<b>Front-end development</b>			
1	Authentication and authorization module	Login/logout methods Role based ACL lists JWT-based authentication	2
2	Localization	Multi language system UI	2
3	Notification Module	System notifications and messages	3
4	Player user account management and personalisation	Name, personal data, social network connections, avatar	3
5	Home Screen	Current player status (balance, owned cards and packs, daily quests, prize wheel, trades)	5
6	Card purchasing and collectibles	Player collectibles screens (owned cards, organized and filterable by categories Player-defined collections	5
7	Quests	Quest screens (daily, weekly)	4

8	Achievements	Achievements screens (available, achieved)	5
9	Store	Store screens (available for purchase, single card view, list of sellers and prices, card buy dialog) Blockchain tokens purchasing integration <del>Blockchain Fiat purchasing integration</del>	16
10	Marketplace	List of all PvP trades, create direct trade by searching the user, specify cards for trade	6
11	Prize wheel	Prize wheel screen and animation implementation, card and pack opening screen	6
12	Squad creation	Adding player cards to the squad	4
13	Player selection of game system (team formation based on <del>player cards</del> )	Selecting formation	4
14	Lobby meeting point	Friends requests Match requests	5
15	Tournaments	Selecting tournaments Track tournament progressions	6
16	In-game currency	Economics window	10
<b>Code affirmation</b>			
1	Code revision	Code revisions done by lead developer during weekly sprints to ensure all quality standards	27
2	Functional tests	Development of functional test for automated and fast testing of frontend UX (Selenium)	27
3	Sprint release cycle	Sprint or milestone based release cycle - Application deployment on staging instances for <del>testing</del>	12
<b>Project coordination and meetings</b>			
1	Resources management	Resources allocation and synchronization, alignment meetings and supporting activities	10
	Client meetings	Meetings with client for prioritization, project updates, change requests, reports and other <del>needs</del>	10
	Weekly project overviews	Weekly sprint updates and reports, follow up calls, planning	10
	End sprint meetings and other meetings	Depending on project size/type, end sprint meetings can be partially substituted by daily standup meetings and/or ad hoc meetings	10
		<b>TOTAL MD</b>	<b>355</b>

## Blockchain development

#	Task/Activity/ Definition	Description	MD
1	Smart Contracts		15
2	Micropayments		15
3	Cryptocurrency platform integration		15
4	User wallet implementation		15
		<b>TOTAL MD</b>	<b>60</b>

## Quality assurance

Tests performed by our quality assurance teams. Selenium (automated) tests are implemented at the early stage of the project to ensure the highest quality of service and automated tests of the overall platform in the future.

#	Task/Activity/ Definition	Description	MD
1	Project overview	Selenium test scripts, Document general project overview and scope, define project roles and responsibilities and define expected roadmap and timeline. Outline system (product) architecture, prepare initial estimation.	45
		<b>TOTAL MD</b>	<b>45</b>

## Project finalization

These items include system deployments to live servers, post-launch support, and educations of your team for the use of the system independently.

#	Task/Activity/ Definition	Description	MD
---	------------------------------	-------------	----

1	Project overview	Document general project overview and scope changes, confirm project roles and responsibilities and define expected roadmap and timeline. Outline system (product) architecture, prepare initial estimation.	20
2		<b>TOTAL MD</b>	<b>20</b>

## Technology

Recommended core technology stack includes following.

#	Name	Description	Vendor
1	Apache Tomcat	Open source software implementation of Java Servlet and JavaServer pages	Apache Software Foundation
2	MyBatis ORM	java persistence frameworks that couples objects with stored procedures or SQL statements using an XML descriptor or annotation.	Apache Software Foundation
3	Spring 4 framework	Comprehensive programming and configuration model for modern Java-based enterprise applications.	Pivotal
4	NodeJS	Javascript for easy building of fast, scalable network applications	Joynet
5	PostgreSQL	Powerful, open source object-relational database system.	PostgreSQL
6	Redis	Open source, advanced key-value cache and store.	Redis
7	BSV	Bitcoin Satoshi Vision blockchain platform	BSV

## Other

### Rate and Agency Terms

Each partner is subject to two base fees:

- **Account management fee: 1000USD/month**
  - Includes projects alignment and planning
  - Up to 5 user accesses to our Atlassian instance
  - Reporting and meetings on company/account level

- Development servers for each of developers participating on project Research and support (non-project related)

#### Hourly rates:

- Project costs are calculated using applicable hourly rates
- Our standard hourly rate for development is 80 USD/h (640USD/MD)
- Project costs are estimated in advance using agreed hourly rates

## Billing dynamic estimate

## Other Agency Terms

For mutually satisfactory cooperation, we aim to be transparent and clearly emphasize the following Agency terms:

- Advance payment of 30% of the estimation is required to start the project
- The account management fee is invoiced monthly, first Tuesday in a month
- Costs are invoiced weekly with precise work specification appended to each invoice
- Resources assigned to the project can be revoked in case of 2 (or more) invoices due
- Weekly project reports will be delivered to partner
- Estimated project costs can change depending on changes in required delivery items
- Expected milestone duration and fees are subject to change depending on the client's wish to prolong or speed-up the plan (adding/removing resources/scope)
- Project start dates are agreed on time with a partner and confirmed when the advance payment is received to book the resources, if not agreed differently with the partner
- Upon V1.0 product launch, SLA and maintenance terms will be defined with partner

## Budget and timeline

According to project estimates and prices, the following table provides an overview of the budget per high-level V1.0 Milestones.

MILESTONES	MD	MD COST	Estimated Budget
Project Definition	8	640\$	5,120\$
Product definition	30	640\$	19,200\$
Design	45	640\$	28,800\$
Development	355	640\$	227,200\$
Blockchain implementation	60	640\$	38,400\$
Quality assurance	45	640\$	28,800\$
Finalisation v1.0	20	640\$	12,800\$
<b>Estimated Budget</b>	<b>563</b>		<b>360,320 \$</b>

MILESTONES V1	JUN	JUL	AUG	SEP	OCT
Project Definition					
Product definition					
Design					
Development					
Blockchain implementation					
Quality assurance					
Finalisation					

## Post V1 launch and budget

After the initial project stabilization and user testing, we will propose the development of additional features to enrich the player's experience. The application back-office team will have to update the application and create new playing campaigns to keep the app relevant based on feedback. We propose a development team to be engaged full-time to enable continuous updates and feature improvements to the application, with the reduced rate / or full inhouse team to reduce monthly operational cost.

<b>COST ESTIMATES Yearly Budget</b>	<b>Monthly est.</b>	<b>Q4</b>	<b>Q1</b>	<b>Q2</b>	<b>Q3</b>
<b>PERSONEL</b>		<b>\$76,000</b>	<b>\$76,000</b>	<b>\$76,000</b>	<b>\$76,000</b>
C-Level	\$7,500	\$30,000	\$30,000	\$30,000	\$30,000
Senior Developer	\$4,500	\$18,000	\$18,000	\$18,000	\$18,000
Business Development	\$4,500	\$18,000	\$18,000	\$18,000	\$18,000
App back office	\$2,500	\$10,000	\$10,000	\$10,000	\$10,000
<b>OFFICE</b>		<b>\$7,000</b>	<b>\$7,000</b>	<b>\$7,000</b>	<b>\$7,000</b>
Rental	\$500	\$2,000	\$2,000	\$2,000	\$2,000
Equipment	\$1,000	\$4,000	\$4,000	\$4,000	\$4,000
Communication	\$250	\$1,000	\$1,000	\$1,000	\$1,000
<b>OPERATIONS</b>		<b>\$4,000</b>	<b>\$4,000</b>	<b>\$4,000</b>	<b>\$4,000</b>
Accountant	\$500	\$2,000	\$2,000	\$2,000	\$2,000
Legal	\$500	\$2,000	\$2,000	\$2,000	\$2,000
<b>INFRASTRUCTURE</b>		<b>\$24,000</b>	<b>\$24,000</b>	<b>\$24,000</b>	<b>\$24,000</b>
Hosting	\$500	\$2,000	\$2,000	\$2,000	\$2,000
Ext DEvelopment	\$5,000	\$20,000	\$20,000	\$20,000	\$20,000
License	\$500	\$2,000	\$2,000	\$2,000	\$2,000
<b>MARKETING &amp; BD</b>		<b>\$16,000</b>	<b>\$16,000</b>	<b>\$16,000</b>	<b>\$16,000</b>
PR	\$500	\$2,000	\$2,000	\$2,000	\$2,000
Campaigns	\$1,500	\$6,000	\$6,000	\$6,000	\$6,000
Travel	\$1,000	\$4,000	\$4,000	\$4,000	\$4,000
Other	\$1,000	\$4,000	\$4,000	\$4,000	\$4,000
<b>Total Quarterly cost of operations</b>	<b>\$31,750</b>	<b>\$127,000</b>	<b>\$127,000</b>	<b>\$127,000</b>	<b>\$127,000</b>

## Advanced features - post-launch

In future versions, we envision the implementation of unique features cards where players can have additional dimensions when creating a deck and playing the game. For example, playing two combo cards together gives their attack or defense scores an extra boost. The BONUS CARDS, LUCKY CARDS, and PENALTY CARDS also give the game an extra dimension. The



aim is that players don't need to have the strongest team to win a match; we want to focus on the strategy and best use of in-game currency to activate special cards and enhance line-up.

#### NOTES:

**These are not the final estimates. Once Project and Product definition phases are finalized, you will receive updated and final estimates.**

Our projects tend to be within +/-15% of the final estimates, and we invoice you according to real-time invested. Excellent communication and clear requests ensure that we optimize resources and save budget.

**Team of multiple engineers will be allocated to this project**

4x backend and 2x frontend developer, 1x blockchain developer, and together with one project manager , designer and quality assurance developer will be allocated to this project.

**This scope of V1.0 can be delivered within 5 months upon project approval.**