

WHITE PAPER



EMPIREHOTELS

EMPIREHOTELS
Reinventing Hospitality

empirehotels.io



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ABSTRACT

Despite the proliferation of technology in the hospitality sector, the industry continues to face a lot of problems like high cost for booking hotels services, double booking of hotel rooms and data mismanagement. The majority of these pain points are due to the involvement of third parties between the hotelier and the guests.

Empire Hotels is a booking platform built on blockchain technology, and it will be able to solve the major problems faced in the hospitality industry and provide the best user experience to guests and the service provider. This whitepaper explains the following aspects.

- Problems faced in the hospitality sector.
- Causes of the problems.
- How the Empire Hotels platform can solve these problems.
- Architecture of Blockchain based booking platform.
- How the tokenized architecture can facilitate better experience to the guests and hoteliers.

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INTRODUCTION

The foundation of the hospitality industry is customer service. Delivering better customer experience means more profit to the business. The user expectations in hospitality industry skyrocketed with the advent of online service booking platforms and improving customer experience came at an increase of 15-25% in the hotel booking expenses for the guests.

Even though there are several booking platforms available in the market, none of those offer users the capability to book and pay for rooms using both fiat and crypto assets and where the hotel can choose how to receive payment. Major booking platforms make money by charging hotels for selling their inventory. As OTA giants (over-the-air), these booking platforms have millions of travellers who visit their sites to find hotels. When someone finds a suitable hotel and reserves rooms through their site, only then is a profit made. These booking services do not charge guests directly. Instead, they take a percentage from the sellers and hotels. The problem is that hoteliers increase their service fee to cope with the expenses for the booking platforms.

Empire Hotels, a revolutionary booking platform, intends to solve this pain point faced in hospitality industry by cutting out commissions for third parties and leveraging the blockchain technology to facilitate better data management and transactions system for hotels. Empire Hotels aims to offer a currency to be used in the hospitality industry, thereby creating an easy-to-use platform for the public, and an API for integration with other systems.



PROBLEM STATEMENT

The emergence of online portals for hotel booking has allowed the hospitality industry to attain tremendous growth in recent years. However, the industry still faces many pain points as elaborated below.

Double-Booking

A nightmare scenario for any hotel manager, the double-booked room or mishandled reservation is an unavoidable issue. Well-trained staff can prevent booking errors, but every now and then, a few might slip through.

To proactively prevent these types of administrative errors, many hotels invest in a robust Property Management System (PMS). However, if the damage is already done, a common practice is: the staff member apologises and somehow finds a room for the guest. Many times, they end up giving these guests better suites than what they had booked. In case the hotel is full, they offer to book a room in a sister hotel or arrange for an accommodation nearby and arrange transportation to bring them there.

Incorrect Data

Incorrect data can put a great amount of stress on both the customer and the front desk agent or manager. For example, a guest could be incorrectly assigned to a non-smoking room when they asked for smoking, or a guest with allergies gets a room on a pet-friendly floor.

To handle these mistakes, the managers and staff would be well-trained in conflict resolution. No matter what the complaint is, a hotel staff member should always listen, apologise and thank the guest for sharing feedback. But polite exchanges like this is not always the case and those negative customer experiences can harm the brand reputation.



Expensive booking portals

Majority of the hotel bookings happen through online booking portals. The portal charges usually sum up to 15-25% fees on the booking cost. A part of this amount is discreetly paid by the guest and another part paid by the host. These charges can be broken down using many parameters.

Platform maintenance

In order to maintain an Over-The-Air service up and running, companies spend resources on infrastructure, software and hardware maintenance. Also, the OTA usually maintains offices all around the world for support and partnerships, and there is considerable investment made in that regard.

Financial and transaction fees

The financial institutions between the customer and the hotel will charge a fee to process transactions. This fee is relatively small (around 1%), but it is considered when a room is priced in booking services.

Foreign transaction fees

When someone is booking in an international hotel, a fee of approximately 3% is discreetly charged from the guest to process the transaction.

Currency conversion fees

When someone pays with foreign currency to book a room, the rates applied on the currency conversion are generally higher than what the rates actually are at the moment of booking.



OUR SOLUTION - EMPIRE HOTELS

Empire Hotels intends to solve the above mentioned problems faced in hospitality industry. By eliminating any third parties and leveraging the blockchain technology to facilitate a better data management and transactions system for hotels, this platform can revolutionise the way the industry runs. Empire Hotels offers a currency to be used in the hospitality industry. This would create an easy-to-use platform for the public and facilitate an API for integration with other systems. The unique architecture of Empire Hotels platform enables the hotel bookings to be executed as crypto transactions. Every transaction is executed and stored in a decentralised P2P network so that the platform can provide improved data management and reduce costs for transactions as compared to other platforms available in the market. The main advantages of the platform is as follows:

Cheaper booking

Using cryptocurrency for hotel bookings can drastically reduce the transaction fees and rule out international payment charges and currency conversion fees. By adopting this strategy, it is possible for the hotel to increase its profit margins while offering to the users the opportunity to book a hotel at a much cheaper price.

Secure and reliable

By using blockchain to process transactions, transparency and security are preserved more than ever. Unauthorised parties will not be able to access confidential user data. Every transaction will have an ID associated with the user if required. All non-sensitive data exchanged during the booking process will be encrypted and saved in the transaction details, protecting both user and hotel against fraud.

Accurate Reservation

Blockchain is a non-centralised solution for the double-booking problem, a classic problem that could not be solved without a trusted entity mediating the transaction. The bookings are executed as crypto transactions in Empire Hotels platform and before confirmation, the timetable for the room is verified on blockchain and this virtually eliminates the possibility of double-booking.



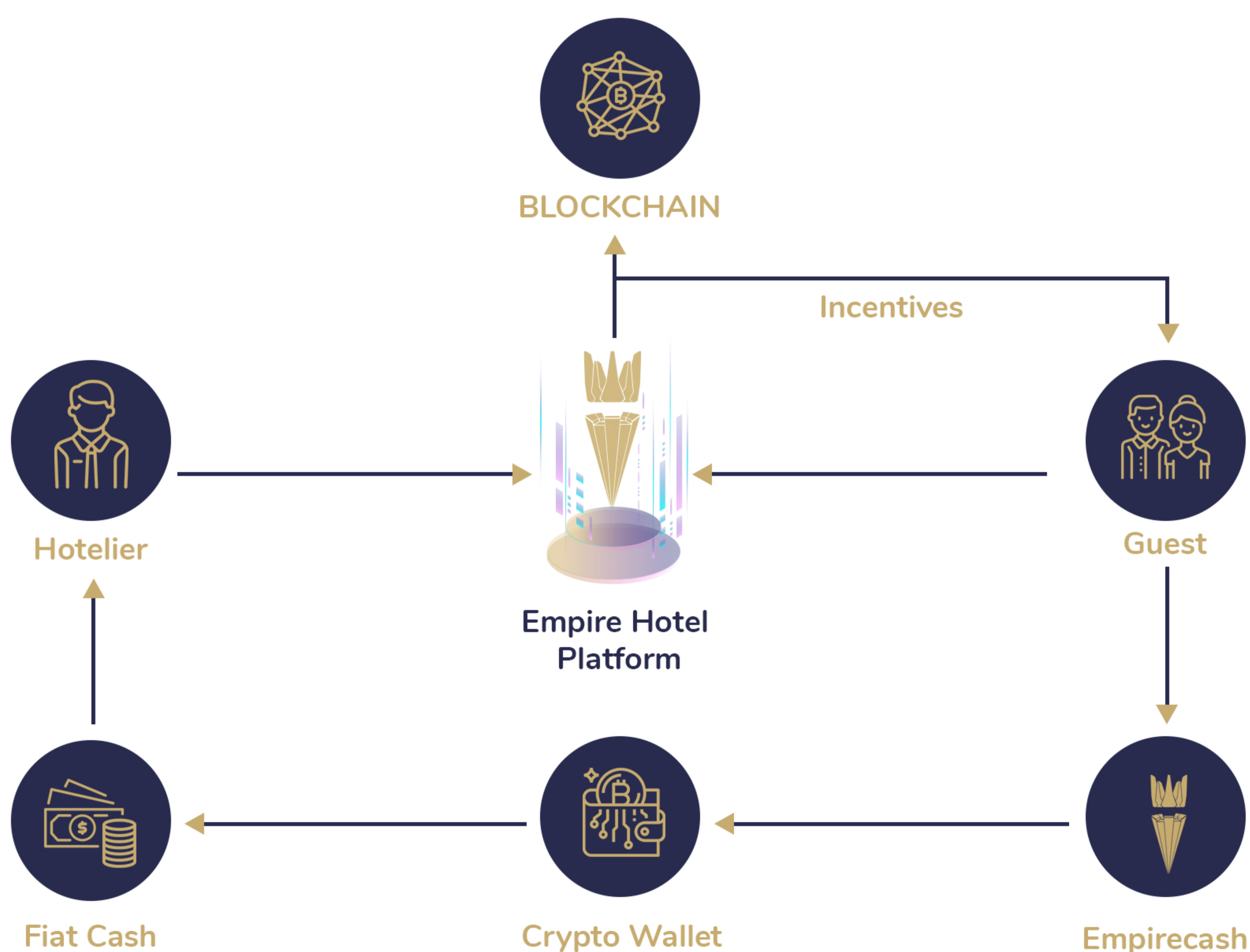
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HOW IT WORKS

The Empire Hotels cross-platform applications interfaces between hoteliers and guests. It works just like any other booking platform; hoteliers can list their hotels on the platform for free and guests can browse through the listed hotels.

In the Empire Hotels platform, all booking transactions and inventory management data are stored in the blockchain network for effective data management. Through the platform, guests can make payment using cryptocurrency - EMPC tokens (it is the utility token powering the platform), which will be converted to fiat and paid to hoteliers by the platform. Guests are rewarded with added services when they use the platform more frequently. The incentive model of the platform is designed to encourage guests to use the platform frequently and to hold the EMPC tokens with them longer to get more benefits.

The diagram below depicts how the platform interfaces between the hoteliers and guests.



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The platform is designed with three major modules to provide the best experience to all the users of the system.

Payments Module

The payments module of the platform allow for the booking transactions to be completed with cryptocurrency as well as fiat currency. Guests can book hotel rooms with cryptocurrencies such as Ethereum or by using EMPC tokens. Using EMPC tokens to pay for services earns extra benefits to the user like discounts, incentives and value added services.

Ratings Module

Some of the existing platforms allow changing the ratings. Hotels can pay extra to the platform to get manipulate its ratings and gain more visibility on the platform to attract guests.

Empire Hotels platform records every user rating in blockchain network. The transparency afforded to the platform by blockchain ensures that posted reviews and ratings cannot be altered. The authentic rating provided by the platform enables the guests to find the right hotels and the hotels to be aware of the guests' needs. The platform can establish a fair, win-win situation for both guests and hoteliers with this authentic rating system.

Every user registration will require identity check (via an accredited third-party company) to ensure that frauds and banned users are not allowed to make transactions. Every time a transaction is initiated, the protocol checks the user ratings and status to determine if the user is eligible and genuine.



Decentralised Arbitration Module

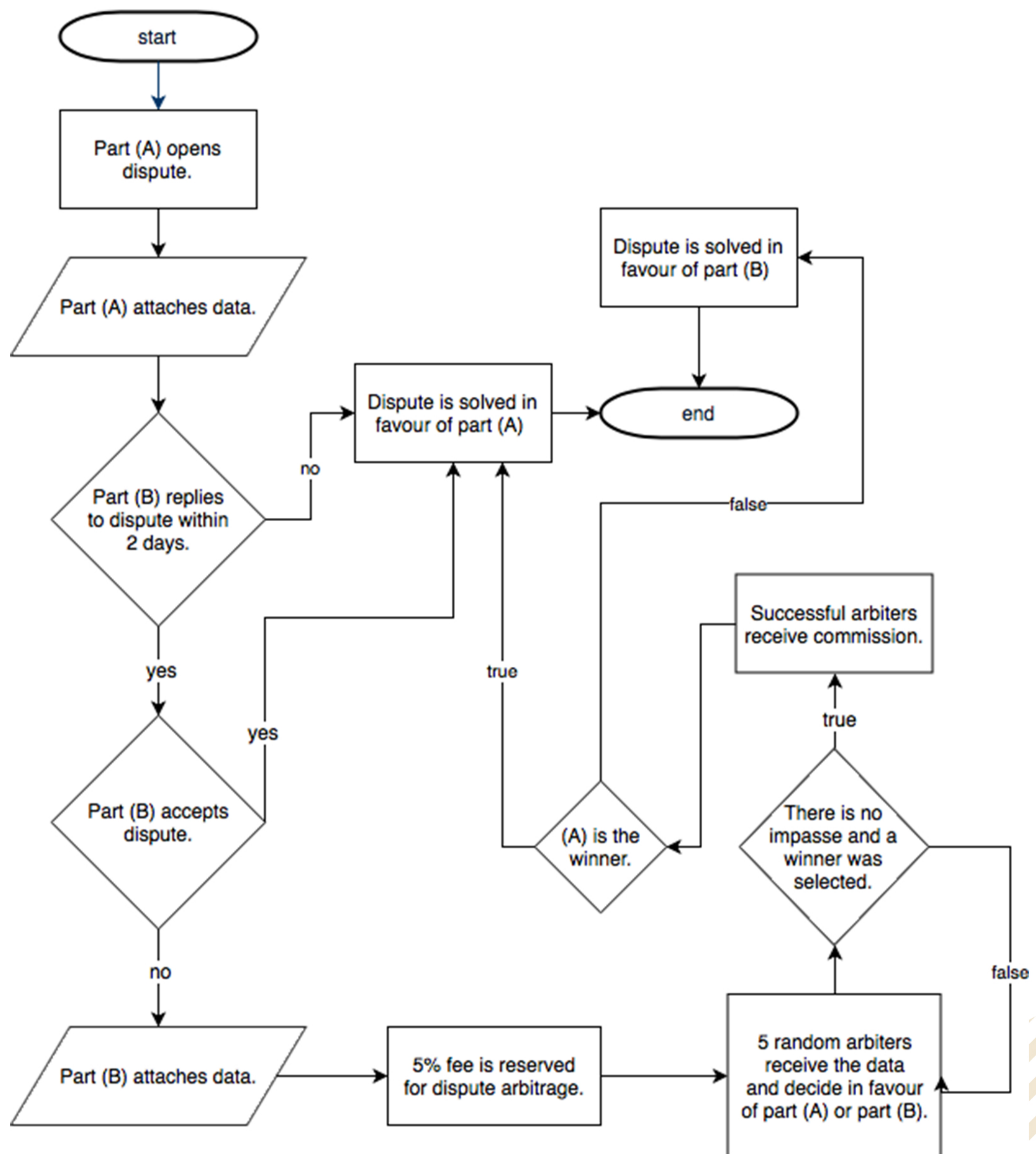
In case of disputes or claims, the platform presents a decentralised and democratic support from the Empire Hotels community by counting on random and impartial arbitrators, which adds considerable credibility to the process.

The arbitration process works as follows:

- The guest or hotel owner starts the Dispute by sending all the information they have to justify their complaint and the refund required (full or partial).
- The counterpart has two days to accept the Dispute or present their counter arguments with all the necessary data.
- If the counterpart decides to keep the Dispute, 5% of the transaction is reserved as an arbitrary fee, then five random arbitrators are selected from the community and they receive the following information:
 - Information provided by both sides.
 - Ratings and dispute-winning-rate for both sides, if applicable.
- The arbitrators will have two days, to choose from 0% to 100% – in 20% increments, to determine if the Dispute is fair or not. In case of an impasse, new arbitrators are selected.
- If the Dispute is determined to be notfair by majority of arbitrators, the complainer is marked as dispute winner and the counterpart is marked as dispute loser. Otherwise the counterpart is refunded and the status is marked accordingly.
- If an arbitrator (a) suggests a percentage below the average of all the other arbitrators (b), the arbitrator (a) will not be counted in the arbitration fee splitting and the fee will be split among the others.



Flowchart diagram for the arbitration process.





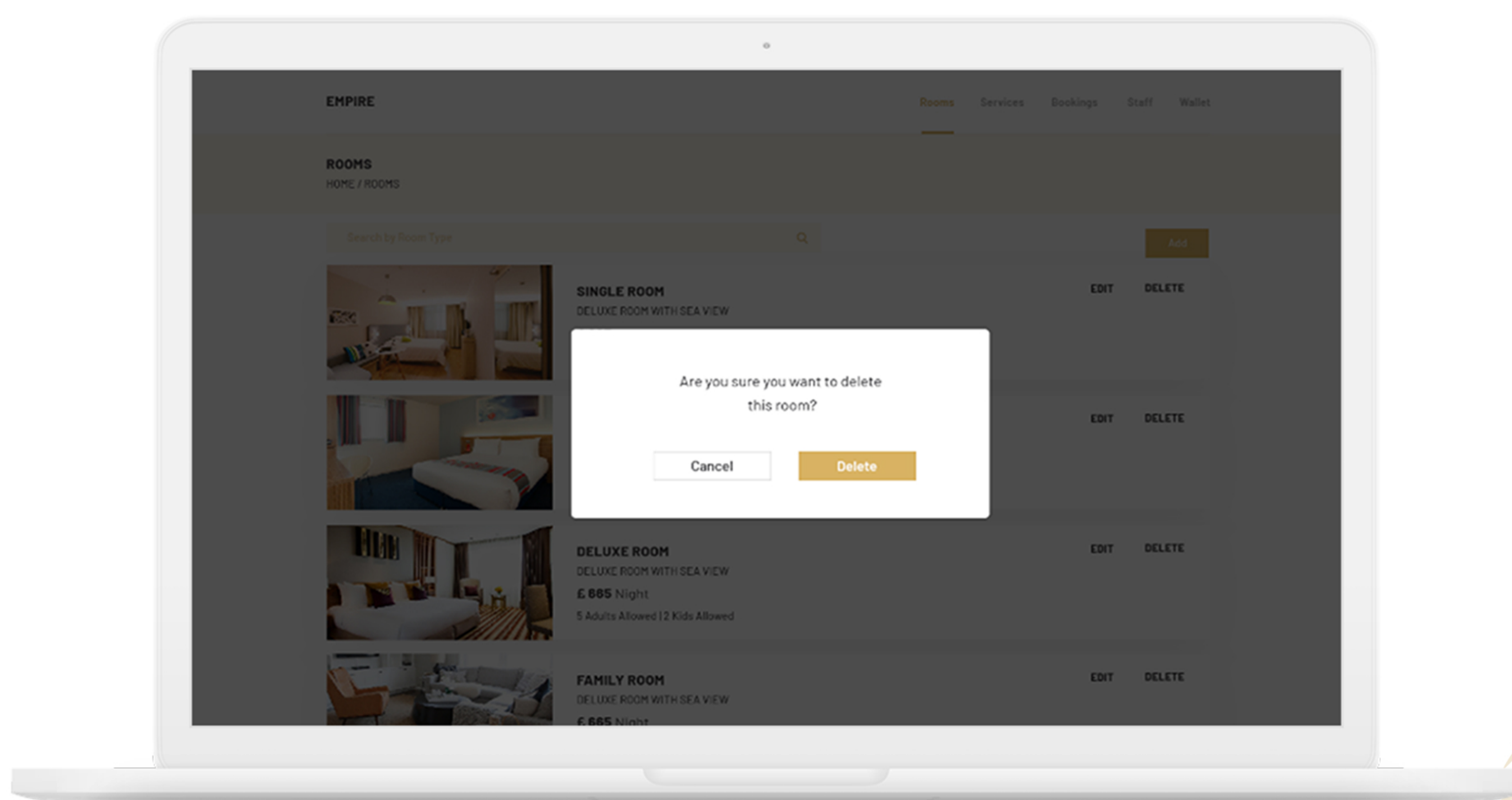
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EMPIRE HOTELS APPLICATION

The development of a Minimum Viable Product (MVP) of the platform is already completed. It is built with all required features. This includes the application APIs, the host module and the guest module. All the modules are integrated with easy-to-use and fully functional crypto wallet.

The Host Module

In the MVP application, the host can create an account or log in using an existing one. Once they have logged in, they can create and manage their properties, rooms, amenities, bookings and other entities in the process.

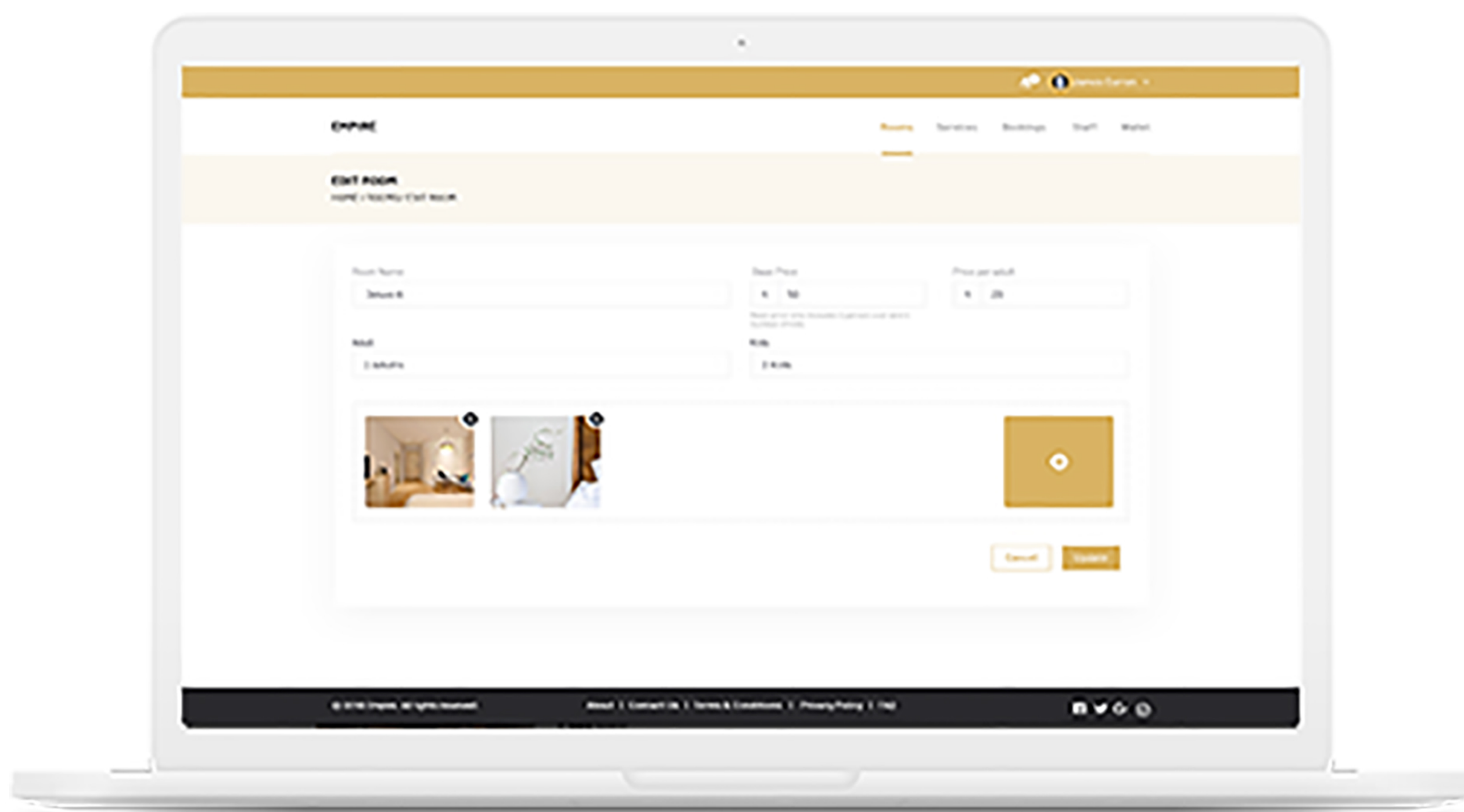


Room management screen for hotel managers.

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Screen for hotel room editing.

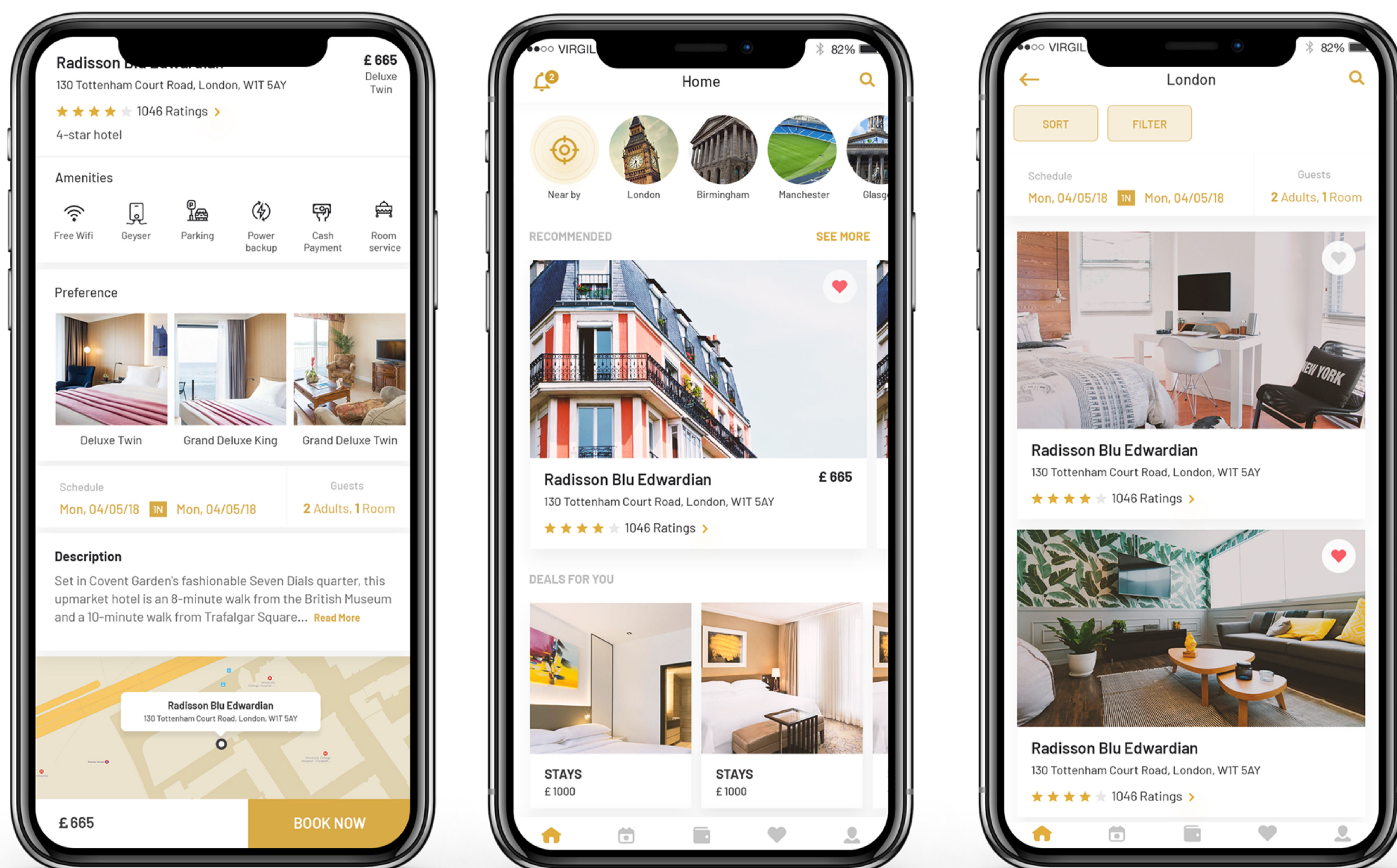
The Guest Module

The iOS and Android users will have access to a fully functional app where they can create an account, navigate the properties, create bookings, manage their wallets and access other details. To start using the platform, they will have to go through an easy yet secure ID check process and they will have to validate their phone number also.

In the checkout, the user can select to pay for the booking in both fiat or EmpireCash. If they select the EmpireCash option, a discount will be applied to the transaction. By doing this, we can foment the user of the currency, therefore increasing its value.



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phone number validation via one-time password.

APIs

The API (Application Programming Interface) will provide an easy access interface to the hotels, so they can initiate transactions and query platform data without the needing any human action. The API documentation and functionality will be available from the day one. This way we can encourage hotel chains to start using this platform, as most of their processes are automated.



MARKET OPPORTUNITY

The hospitality industry in many respects thrives on the disposable income spent during travel or dining out. It is the fastest growing, global industry, and it adds a new job every 2.5 seconds. With a growth rate of 4.3 percent per year versus 3.0 percent for the total global economy, the hospitality industry contributes US\$ 7 trillion annually to total world domestic gross product. The industry employs approximately 266 million people, which represents 9.1 percent of all jobs worldwide and according to Howard Roth, a leader in global real estate, the industry is predicted to create another 75 million jobs in the next decade. Moreover, the tourist population has doubled in the last 20 years and is predicted to double again in the next 20 years to nearly 1.8 billion people up from 528 million in 1995.

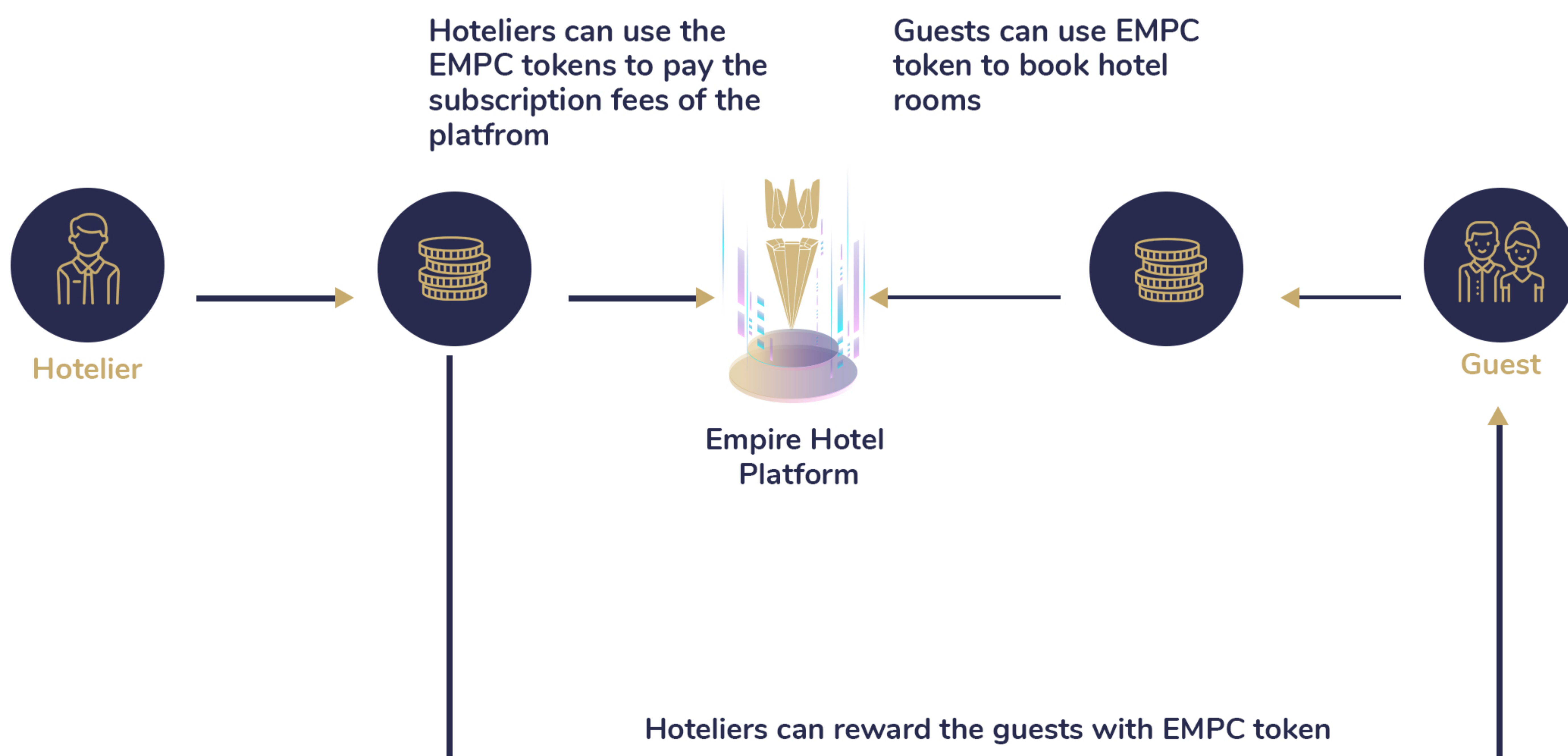
BUSINESS MODEL

EmpireHotels will charge hoteliers for every booking made through the platform. The transaction cost is 2.99%, if the booking is made using other cryptocurrencies and 7.99%, if the booking is made with fiat currency transaction. The transaction will be NO FEE at all when using EMPC.



TOKEN MODEL

The Empire Hotels platform will issue Empire Cash tokens (EMPC tokens) to fuel the transactions and incentive models of the platform. Initial issuance of the EMPC tokens to the public will be conducted via an Initial Coin Offering (ICO) scheduled on Q4 of 2018. With the ICO, the public will have an opportunity to purchase the EMPC tokens at a discounted rate. EMPC tokens serves the token holders in different ways and that is briefly explained below:





TOKEN USES AND BENEFITS

Hotel Managers

Hoteliers can use the EMPC tokens to pay the subscription fees of the platform as defined in the business model section. Moreover, hoteliers can reward the guests with EMPC tokens so that guests can use the tokens to avail extra services of their choice from the hotel.

Guests

Guests can use EMPC tokens to book hotel rooms and services at a discounted rate.

Arbitrators

Any user can be an arbitrator in the platform. If the user chooses to be an arbitrator they may receive arbitration jobs and, by offering support, they can earn EMPC tokens which can be used to book hotel rooms or services in any listed hotel in the platform.



TOKENOMICS

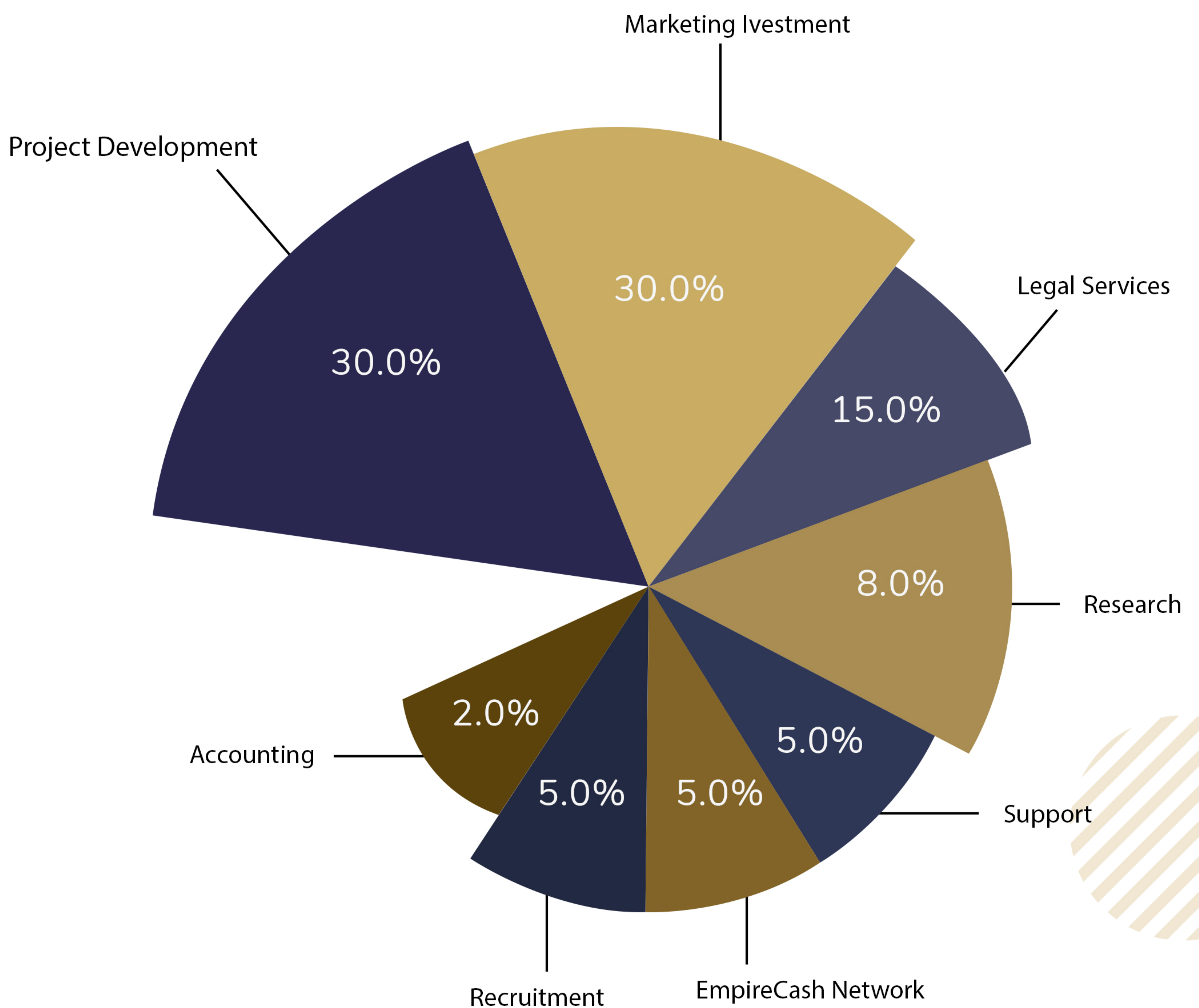
The total supply will be 1,350,000,000 EMPCs. The Initial Coin Offering intends to raise \$36,000,000 through its various phases as shown in the table below.

Total Supply of Token	1,350,000,000
Total Token for Sale	900,000,000
Token Base Price	\$0.1
Total Token Sale Reserve	250,000,000
Token for Team, Advisors	200,000,000



USAGE OF FUNDS

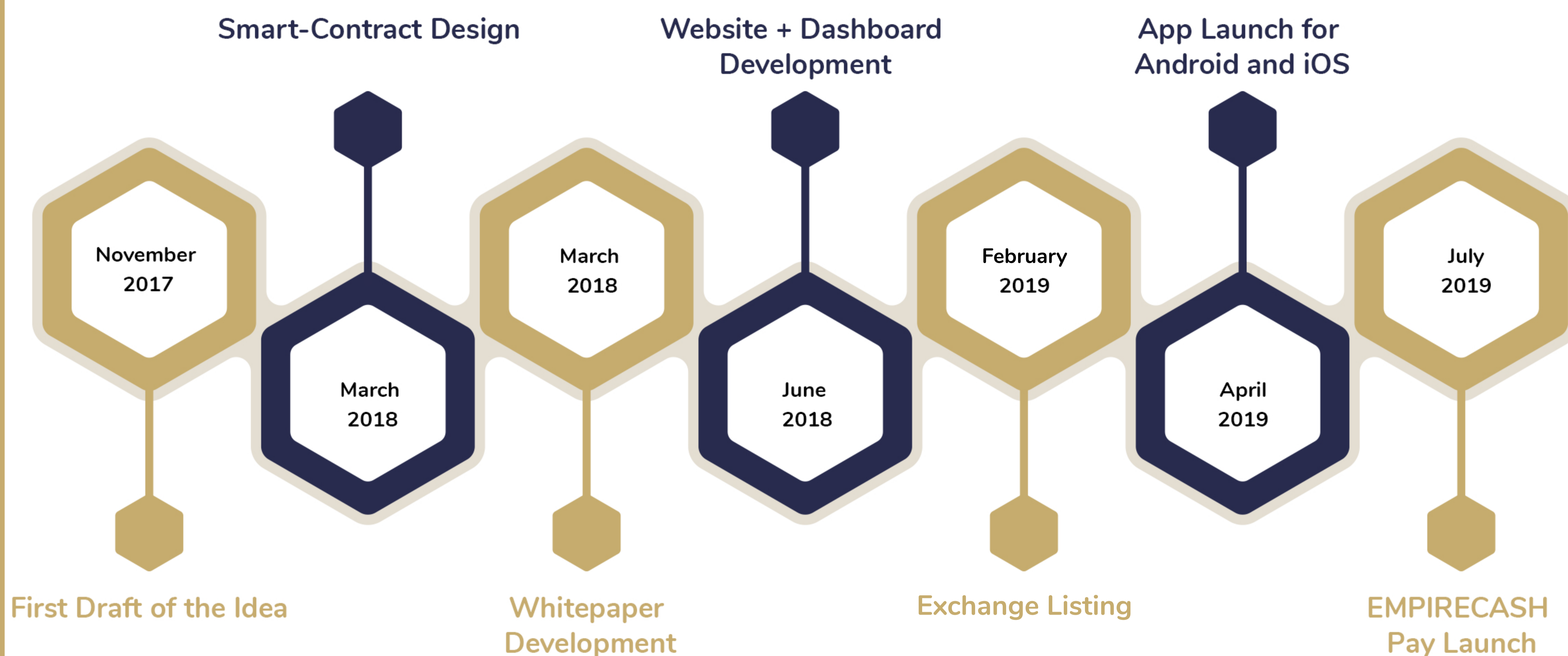
To stand out among other OTAs, we will need to invest in development, by creating more customer conversion mechanisms and marketing. A huge amount of money is spent on marketing (PPC, pay-per-click) by the competitors, so the first set of marketing investments will need to be very significant. Over time, as soon as the company is profitable, more funds will be used to invest in marketing.





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ROADMAP



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EMPIRECASH BUG BOUNTY PROGRAM

Software security researchers are increasingly engaging with Internet companies to hunt down vulnerabilities. EmpireCash works with security experts across the globe to stay up-to-date on the latest security techniques. If you discover a security issue that you believe we should know about, we'd love to work with you. Our bug bounty program provides a monetary rewards for these efforts.

The EmpireCash Bug Bounty Program applies to security vulnerabilities found within EmpireCash's public-facing online environment. This includes, but is not limited to, EmpireCash websites, exposed APIs, mobile applications, and devices. For the protection of our customers, we do not disclose, discuss or confirm security matters until comprehensively investigating, diagnosing and fixing any known issues.

How to Participate?

Highly skilled security researchers can participate in EmpireCash Private Bug Bounty Program. Send us your information to it@empirecash.org, and we will answer you with an authorisation ID. Include the authorisation ID when communicating with our team. EmpireCash reserves the right to refuse participants' requests without additional information.

Bounty Eligibility

- You must agree and adhere to the Program Rules and Legal terms as stated in this policy.
- You must be the first to report the issue to be eligible for bounty.
- You must be available to supply additional information, as needed by our team, to reproduce and triage the issue.
- EmpireCash partners are not eligible for participation in this program.



Program Rules

- Do not intentionally harm the experience or usefulness of the service to others, including degradation of services and denial of service attacks.
- Do not attempt to view, modify, or damage data belonging to others.
- Do not disclose the reported vulnerability to others until we have had reasonable time to address it.
- Do not attempt to gain access to another user's account or data.
- Do not use scanners or automated tools to find vulnerabilities. They are noisy and we may ban your IP address.
- Do not attempt non-technical attacks like social engineering, phishing, or physical attacks against our team, users, or infrastructure.