

Introduction

MembranLive is an open-source foundation protocol built on blockchain technology that allows users to create, authenticate, track, and distribute tickets for live events. This project enables the event creator to simultaneously control price and transferability of the tickets, and is designed to solve the problems of secondary market "scalpers," fraud, and identity verification, which currently plague the live event industry.

In addition to the base platform, MembranLive includes customized user-interface software solutions for each stakeholder (e.g. event creator, ticket seller, event attendee) to seamlessly buy, sell, and transfer tickets within an open, transparent, and secure ecosystem. Due to its open-source nature, the platform allows additional stakeholders (e.g. performers, industry associations, collection societies) to extract analytics and relevant data for each event.

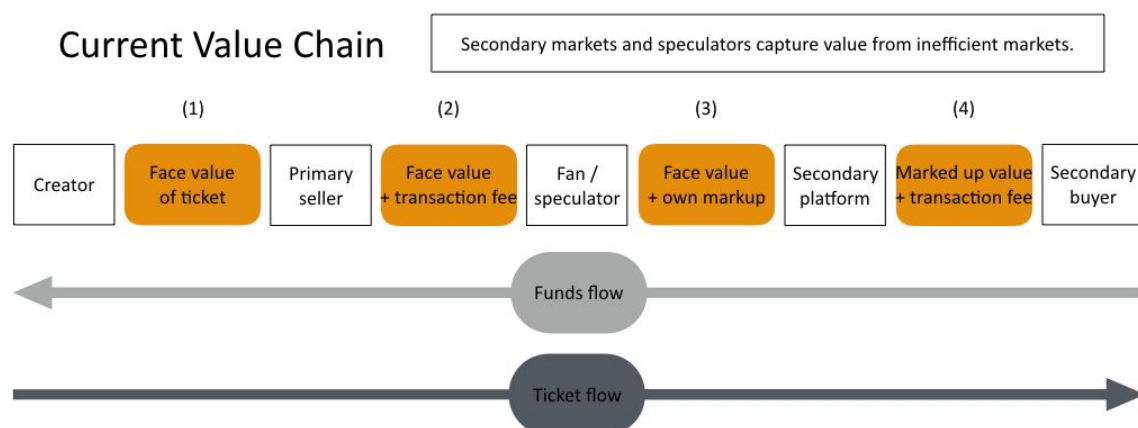
Problem Overview

Industry Analysis

In 2015, revenue from global ticket sales was estimated at \$16.38 USD billion, and is predicted to exceed \$19 USD billion by 2020. The top 100 live music tours alone sold over 42 million tickets in 2015, up 10% from the previous year, and at an average price of \$74.25 USD. Ticket sales from the live music industry are large in absolute value, and the volume of transactions is immense and growing.

There are four important stages in the ticket value chain; (1) creators derive the face value of the ticket from primary ticket sellers, (2) primary ticket sellers charge a processing fee to ticket buyers (fans and speculators), (3) some ticket holders resell their tickets on secondary market platforms and derive a profit by marking up the face value of tickets, and (4) the secondary platforms also charge a transaction fee to secondary buyers.

These stages are shown in the following diagram:



The sale of tickets in the secondary market has a worldwide value estimated at \$8 USD billion, of which more than \$2 USD billion is thought to consist of markup fees over the face value of the ticket. Furthermore, up to 60% of the most desired tickets are allegedly bought by bots rather than humans. This is pure market failure brought from rent-seeking speculators taking advantage of inefficiency in order to create artificial scarcity and inflate secondary market pricing.

Tickets sold on secondary ticket platforms such as eBay and StubHub also charge transaction fees to the buyer. An analysis from Music Business Worldwide suggests that these transaction fees are commonly close to 30% of ticket prices, or higher. These topics are a concern for event creators, performers whose fans are not able to purchase tickets at face value, and for government agents that are coping with complaints from all stakeholders.

Breakdown of Problem

Ticket sales information in the live events industry is currently stored and managed across disparate systems, proprietary standards, and individually centralized databases. A small number of large competitors dominate the primary market, including Ticketmaster and Eventbrite. Fraud and artificially distorted markets plague the industry, resulting in inefficient market economics, rent-seeking, and an overall frustrated user experience.

Solution

Current Solutions

Some are trying to take action, but each solution thus far has significant drawbacks. We acknowledge that there are other blockchain-based ticket startups in existence. However, we believe they are approaching the problem in a way that directly competes with giants of industry, such as Live Nation and Ticketmaster. These current blockchain-based ticket startups do not provide a foundation service where industry leaders can improve their offering. MembranLive, on the other hand, acts as the gears on which that chain can more efficiently operate, rather than being a “part” of the value chain itself, and fosters greater coordination and accessibility of data throughout the whole ticket industry.

Existing primary and secondary market competitors: Ticketmaster, Eventbrite, SeatGeek, StubHub

Non blockchain-based solutions: Songkick, Twickets

Blockchain-based solutions: Aventus, Blocktix, LAVA, HelloSugoi

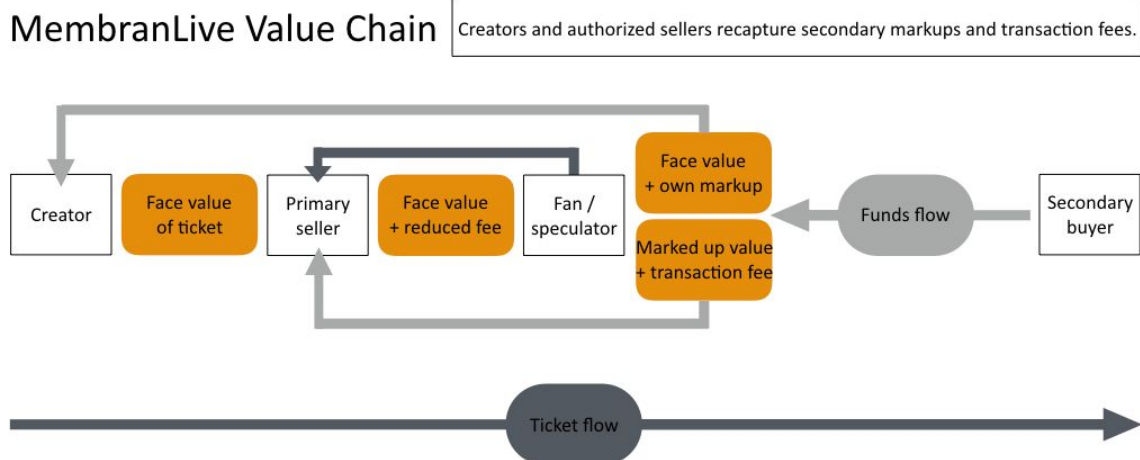
Our key opposition is secondary ticket sellers whose business we are directly eroding. In some cases, primary ticket sellers have purchased secondary platforms in an attempt to protect and capture previously lost value. Here, too, we erode the secondary platform's

business, but only insofar as this value is redirected and more immediately captured by the parent.

Our major barrier to entry is the size and scope of the existing systems in place. It is essential to communicate to large stakeholders the significance of the value we are adding if we hope for them to change their current entrenched behavior. By providing easily adopted minor integrations to existing data feeds that deliver valuable analytics to the creators, we can offer modular software alternatives that will be gradually adopted to replace existing infrastructure.

MembranLive

MembranLive allows for ticket and fan authentication, so that fans are not defrauded, and for easy ticket transfer among users or back into the primary market. It places supply chain and transfer pricing control back into the hands of creators and primary ticket sellers, allowing them to mitigate secondary market influences.



The initial goal is to work with three key stakeholders:

1. Promoters (herein “Creators”) who create events, and coordinate with venues, performers, and ticket sellers. Creators set the face value and ticket categories.
2. Primary ticket sellers who operate the platforms through which fans purchase their ticket and process payment.
3. Fans who spend the money to attend the event and interact with ticket sellers.

Later development stages allow expansion to add additional value for:

- Venues and Performers who may require analytics or reporting related to an event.
- Bundlers who are authorized resellers and create packaged event experiences.
- Collection Societies who collect license fees from venues for the public performance of creative works and distribute such funds to the owners of copyrights and/or publishers, and who require knowledge of events, attendance, and performances.

- Publishers who would benefit from transparent and accurate performance/attendance event data.
- Other stakeholders who could use analytics data such as event tracklists and attendance.

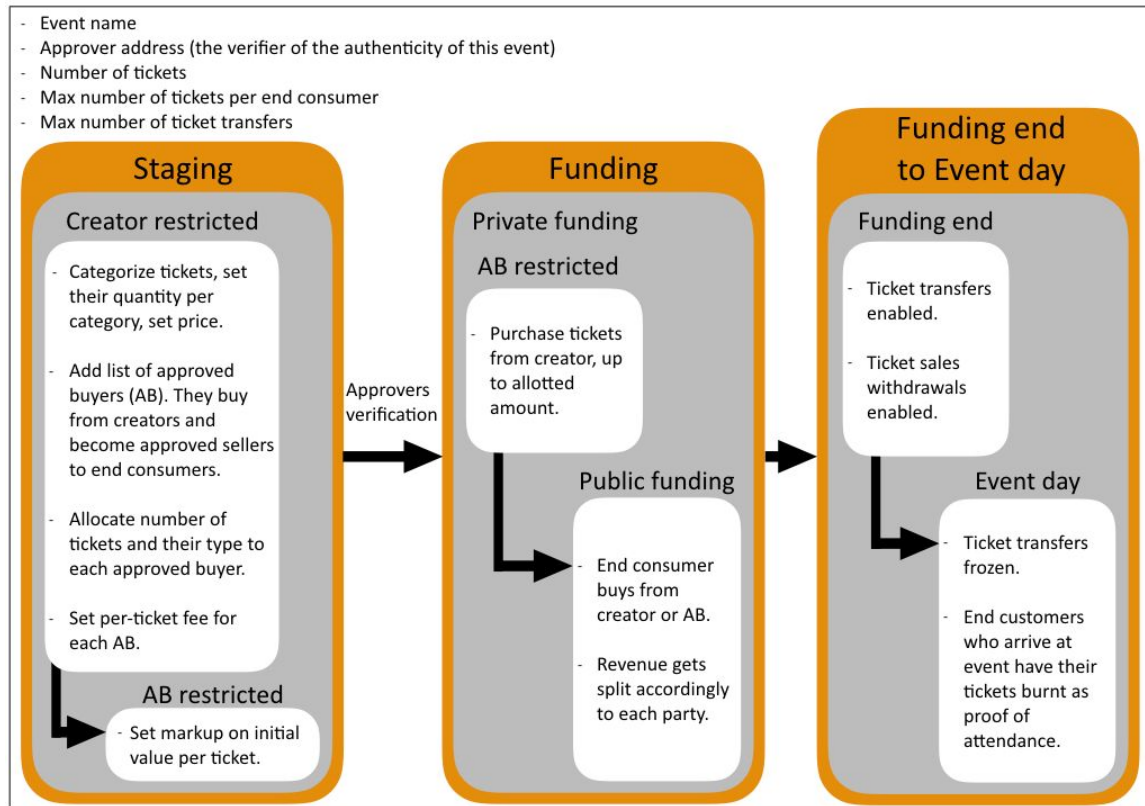
Any transaction between two or more “official” parties (i.e. not including scalpers) that is based on the volume or value of tickets sold for an event can benefit from the MembranLive platform by having better and faster data, and by knowing they are minimizing potential losses to rent-seekers and fraudsters. However, we are initially targeting the aforementioned three key stakeholders, as they will likely be the most interested in analytics, security, and secondary market protection that the MembranLive platform affords.

Later, we plan to develop solutions integrated to the transaction ledger, which will increase efficiency with regards to accounting, transaction data and analytics, and venue or collection society reporting. Fans will benefit from fraud protection and convenient ticket authentication, and will also be able to effortlessly transfer their ticket to another user or reissue their ticket to the primary market. Transacting parties will also be able to see a transaction almost immediately, and can trust in their purchase or sale, as it is impossible for double-spend or other fraudulent transactions to take place between two parties on the network.

MembranLive provides a platform to consolidate ticket transactions to a single shared distributed ledger. Dashboards for creators and sellers allow for the creation, tracking, and distribution of tickets. Similarly, performers, venues, and other stakeholders interface with the platform in order to have reports, statements, and other analytics at their fingertips.

The following diagram illustrates how Membran Live works:

Event Smart Contract

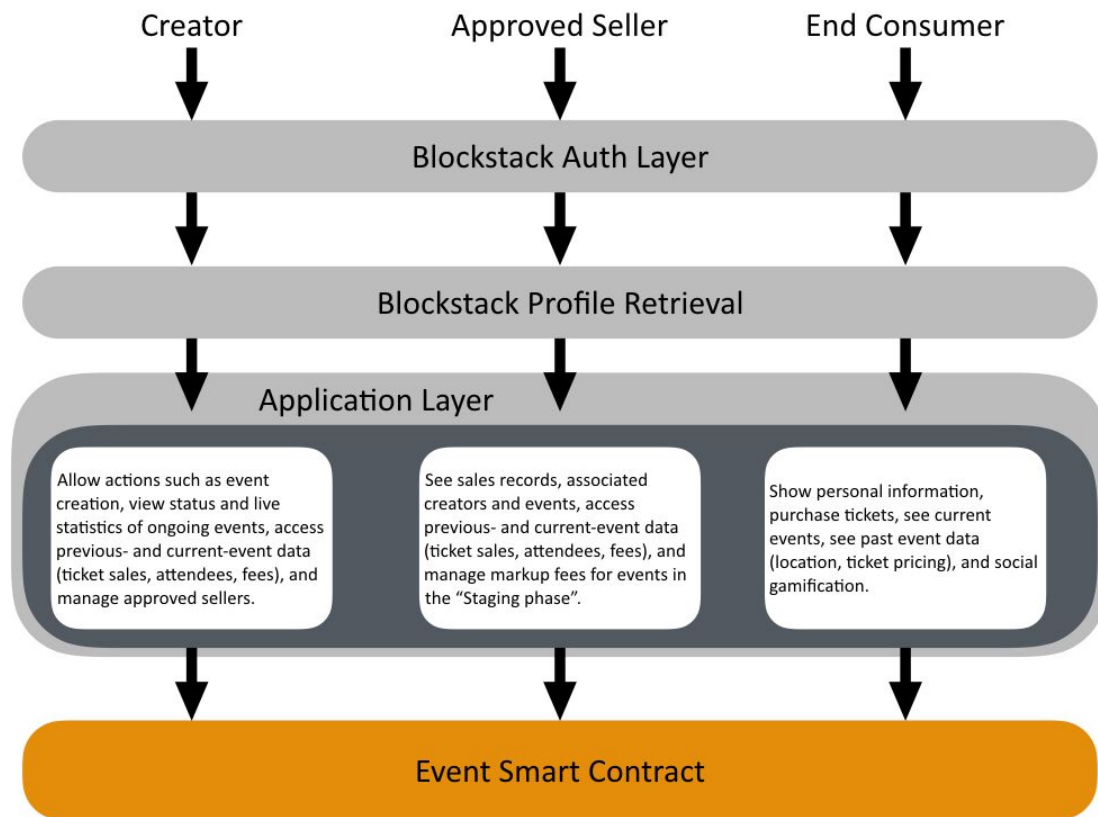


An event creator needs to include primary information related to the event itself, such as date, venue, and performer. Within the event, there could be multiple ticket types and volumes. Each ticket also carries its own set of metadata including value and a unique ID. Optionally, the creator could also include rules about resale or transfer of the ticket.

All of this information is published to the blockchain. Sellers can either be authorized in advance by the creator, or can request, and thereafter authorized to distribute tickets. All users are also able to see which are authorized sellers and/or where tickets are available. Authorized sellers are allocated a bundle of tickets, and can also attach a transaction fee to the ticket. Upon purchase by a fan, the unique ticket is allocated to their unique account. The fan also knows whether the ticket allows for transfer or resale, and under what conditions. Assuming transferability, they can transfer the ticket to another user account at face value or at any value within the bounds allowed by the creator. Or, the fan can show the ticket as being available to the market, where it would be in a kind of escrow with the primary seller. If in any case the ticket is sold, the value and ticket are transferred between fans, with the transaction fee remaining with the primary seller.

Using a transparent ledger of transactions, together with secure ticket and buyer/seller authentication, we are able to minimize threat of unauthorized secondary markets by decreasing complexity for most users, while increasing complexity for scalpers. This complexity is derived from increasing the lower bound of trust needed to transfer

ownership between two parties in the secondhand market. We do not presuppose that the MembranLive platform will make scalping impossible, but rather introduce economic disincentives for speculating parties by making their activities significantly less feasible.



By leveraging Blockstack.js's authentication/authorization methods with an associated profile, the user's profile is able to store and keep track of things such as past events, money paid, 'wish-lists' of events they want to go to; without storing this data in any centralized place, while making it simple for the user to sign in and retrieve this information with human readable credentials. This is yet another way second-hand profiting can be reduced via the method of social gamification. Similarly, the application can differentiate between creators, approved sellers, and other parties involved using Blockstack.js in the same way described above.

Conclusion

By (a) allowing creators to control pricing throughout the supply chain, (b) recapturing secondary market rent, (c) enabling fans to easily transfer or resell their tickets, and (d) ensuring transactions are safe and authenticated, MembranLive significantly increases profitability for creators and improves the overall fan experience. MembranLive solves a critical need for more accessible and transparent transfer of data across the industry, and has significant scalability potential beyond entertainment.

Works Cited

Contact Information