MetaCaniX

Description of the service

MetaCaniX are mechanics for the metas of games. The meta of a game can be understood as an acronym: Most Effective Tactics Available. All sorts of games have metas, from choosing a car in a racing video game, to making decisions in a board game, and even to choosing whether to shoot for a point or go in for a goal in games of GAA. The meta of a game is the set of in-game tactics that are viable from a competitive perspective. The health and aging of a game following release are largely determined by what sort of meta there is; it is perhaps the single greatest factor that determines how long a game that is popular will remain popular. A healthy meta is one that allows players, and teams of players, to define themselves by their playstyle, whereas an unhealty one requires players who want to be competitive to conform to playing the game in a restrictive way. Players being able to define themselves within a game is not only crucial to players, but to growing market of e-sports fans. Many games—even the most popular—have metas with health issues. As such, many patchwork solutions have arisen, such as newly released in-game content being made overly competitive so as to ensure players engage with it upon release.

The existing work that is done to balance games has a strong artisan approach, but falls short when it comes to a statistical approach. MetaCaniX would offer a myriad of solutions, all of which being based on statistical analysis. The game data observed would be both that of human players as well as that of AI trained to play segments of the game (these select segments of the game are known as 'episodes'). The analysis would be specific to the game at hand, and basic services would orientate around analysing basic player decisions within that game. For example, a very basic analytical modal would look at a multiplayer map for a shooter game, and create a heatmap of player movement. These heatmaps, as well as the scripts to generate them, could be passed on to level designers, and the level designers could tweak their map until a heatmap is generated that they think reflects healthy player interaction with the map.

What our service would involve would entail a number of step:

Installing the means to gather the relevant data from a game, as well as creating the structures to store it.

Processing this data to produce meta-information.

Creating visualisations of meta-information, of multi-varied analysis, and of the changes in behaviour that would be incurred from different adjustments being made within the game, and presenting these to the studio's level designers and game designers.

The above three steps would be repeated in an agile cycle, whereby the parameters being measured, the deductions being made, and the visualisation generated are evolving alongside the development or maintenance of a game.

Details of the market

The estimated value of the global video game industry is 138 billion U.S. dollars. Tradionally the greatest portion of the playtime in these games were single player experiences. In recent decades the value of the industry has shifted heavily towards multiplayer experiences. Many games are becoming non-temperal, as many major video game franchises are no longer modaled as a series of games, but as one game that continually-updates. Some games are evolving towards a hybrid of these approaches, by increasing the intended shelf life of their games. For example, Microsoft's newest Halo game, Halo Infinite, which they are soon to release, will be the newest Halo game for the 10 years following its release. Another new phenomenon that can be observed through Microsoft's Halo series is reviving the old games of a series and bundling them together. Both of these new video games modals demand an increased emphaises on meta health, as the type of meta that suffices for games with 1 year shelf-lifes does not suffice for these newer modals.

Perhaps the most drastic shift in the industry is in the source of revenue: traditionally the purchasing of a game had been the primary source, although in-game purchases and subscriptions have seen great growth as a portion of the industry's revenue. I believe that many of today's and tomorrow's video games titans will have a grave interest in the longterm health of their game's multiplayer experience. I believe that they will be keen on investing in avante guarde approaches to addressing this matter, such as what MetaCaniX has to offer.

The relevant competition

The use of analytical approaches to multiplayer optimisation is mostly limited to tailoring matchmaking. The competition with regards to in-episode/in-game balancing are the client's in-house development team. Some development teams have developed primative analytical approaches to optimising their multiplayer experience. Although the techniques employed by these teams to address balance are at times well developed—such as in the case of Bungie—they have not yet availed of newer technological developments, and as such are focused on data collected on player usage alone. Many issues can be discovered through analysing player behaviour. When Bungie employed analytical approaches to player behaviour in Halo (which they were the developer of at the time), many great adjustments were made. For example, mapping player deaths in a multiplayer map called Valhalla brought to light that the side of the map one of the two teams started on had an advantage over the other. This allowed the level designers the knowledge to make the appropriate adjustments. This map went on to become perhaps the most iconic multiplayer map in video game history.

In this context of multiplayer balancing, I will explain a scenario in which this human-data-only approach falls short: An overview of player time spent bearing different weapons that does factor in the availability of these weapons, could not however factor in player decisions that are based purely on preference. This is

because player decision are based on more than raw competitive opportunity cost; the frequency of players making a given decisions does not necessarily correlate with how competitive that decision is. If we advantaged less-used weapons based on player data, we would likely end up pushing players towards adopting less fun game content in their effort to be competitive. The same analyses of weapon use but based on AI gameplay would not be limited by the same factor, as we know for sure that that AIs decisions are solely based on competitiveness. The use of AI would also mean that changes would not need to be tested on players to see their outcome, and so multi-vaired analysis could be produced without cumbersome player testing.

It is only in very recent years that AI have come far enough to be able to be competive, and even dominate, in in-depth video games. The AI Deep Blue won against the chess world champion in 1996. Despite this outstanding performance, many remarked that AI would struggle outside of areas such as chess, where there are a finite set of decisions. Since then the range of games and tasks that AI dominate at has only grown. In 2018 a team of AI, OpenAI Five defeated the best Dota 2 team. Dota 2 is commonly regarded to be one of the most in-depth popular strategy games. As such, it is probable that many other games can be mastered with the same deep Q-leaning technology employed by OpenAI. It is most likely that a business akin to that of MetaCaniX will manifest in the next 5 years.

The team

Data analysts are not too rare to come by these days, as many courses that combine computer science with another field, such as business, include the data end of computer science. The team could be quite lean initially, seeing as it would be contracted by a games studios, the team would be working alongside a game's existing development team. The team would need at least two marketting / sales people to reach out to, and maintain relations with, the corporate heads of game studios. A handful of developers would be needed to refine the tools the company can employ for clients. A few analysts would be needed to work alongside clients as they develop their games and maintain them. Scaling up would mostly entail hiring and training more analysts, so as to be able to work with more clients at one time. Now, more than ever, it is possible for a lean technical team to achieve a lot.

The plan

The tangiable fruits of our service would be very visual, and hence ideal for marketting. To promote our service, initially we would need to find a promising indie game that our service could be demonstrated well on and to cut them an exceptional deal on the basis that their game can be used as a showcase of our service. With good work done for this initial client, there would be plenty of history for the sales team to leverage. The objective thereon would be to scale up, both

through working with more clients as well as working with larger clients, as well as to refine and evolve the range of services we offer to clients.

Back-of-the-envelope financial projection

The success of the business hinges on showcasing to various actors in the games industry the benefit that early adopters of our service have received. The initial phase would involve creating the analytics tools: For this phase a team of about three would be needed (the tool developers). This phase would last about half a year. After this phase the team would be composed of about eight people (the earlier team with the addition of sales and analytics people). Eight people on ~45 grand salaries is 360,000 a year in employee costs. Employee cost would represent the vast majority of the cost, with the total annual cost coming to about half a million a year. The first year of the second phase would hope to see four clients enrolled. To make a small profit it would be necessary to on average charge each of these clients 150,000 for the year. Many of these companies could hire 3 developers for our price, but I do think any studio that values the longevity of their game would hire our service or seek to mimik us. If satisfied initially, many of these companies would be likely to become returning customers. In the first 3 or 5 years the company would seek to scale up, particularly by developing a pool of returning customers.