Pandemic Summary

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Since Pokemon Go's release in July 2016, the Location-Based mobile game market has seen an explosion of similar products. However, these games are all the same, and the market is in need of a fresh subject. *Pandemic* aims to meet that demand by providing gamers with a new reason to get out of their house and enjoy themselves. *Pandemic* is a game about a war on bioterrorism between two opposing factions: The BioHydra - whose goal is to wipe out humanity with their viruses - and the VacSect - whose goal is to stop the spread of viruses with their vaccines.

Every new player gets to choose which side they would like to fight for, at which point they are given a seed virus/vaccine. That's when the war begins. Each player is now able to travel around in the real world to achieve their goal: to infect or vaccinate as many other players as possible. Players infect or vaccinate others by getting within range of them or through the use of items. Defending players can resist infection or vaccination by using items themselves, or winning the BattleShip-style mini game that begins between the defender and an AI as soon as an enemy is within range.

The BattleShip-style mini game gives player a chance to defend themselves against infection by correctly selecting the viral tiles on the board. When a member of the opposing faction creates a primordial strain or decides to modify an existing one, they are essentially rearranging and adding additional tile combinations onto their board. The player is given a limited number of tries to correctly guess and destroy the tiles, which varies depending on both the level of the player and the strength of the virus. Upon a successful defense, the VacSect member acquires the viral antibodies that he/she can then use to create a vaccine and cure other carriers of this strain as well as quarantine viral hotspots. Members of the same faction have the option of bypassing the minigame and becoming willing receptors of a virus or vaccine. That way they instantly gain the ability to reproduce it by becoming "active hosts".

One of the most interesting things about *Pandemic* is that there are a multitude of ways in which players can strategize to spread their influence as far as possible. This includes targeting high traffic areas, clever usage of items like BioBombs and VacBombs (which players can drop in any location, at which point the bomb will begin infecting enemies who pass by for a limited amount of time), and designing their virus or vaccine to be as effective as possible. Players can even do things like placing BioBombs in bodies of water, which has the potential of spreading to other users near that body of water thanks to *Pandemic*'s sophisticated algorithms.

Ultimately, *Pandemic*'s goal is to become a global frenzy, where a player in say, Alaska, can design the perfect strain, drop it in a fish supply, let it spread to the entire distribution network, restaurants, grocery chains, and eventually the entire world. Such an ambitious goal will take significant resources to accomplish. Pandemic will operate on a budget of 4.20 million dollars which will include both startup and operating costs several years into the lifespan of the project. Pandemic will require renting server space and developing an aggressive advertisement and rollout strategy.

In order to reach as many people as possible, Pandemic will be rolled out across both the IOS and Android operating systems. Most of the major processing will be done on the Pandemic servers, and the devices will simply host the front end. The game will be developed simultaneously across both platforms. Operating systems from the two latests versions of each device will be supported. Beyond that, Pandemic will not guarantee compatibility with older or fringe devices. All devices must have a GPS built-in as well as a constant connection to the internet as location data must be constantly transmitted.

Throughout its lifespan, Pandemic will be developed in a sort of perpetual agile methodology with scrum. Stories, sprints, and tasks will be planned around major releases, of which there will be an unspecified amount until the budget runs out or Zynga performs a hostile takeover. The *Pandemic* team hopes to constantly evolve and adapt the game based on the feedback of the community. This can lead to instability over a traditional waterfall approach but we believe that the current enthusiasm for augmented reality favors quick, experimental builds in the hands of players.

Once Pandemic is available across the major devices, we will ensure a welcoming environment and approachable learning curve, while at the same time offering an intense and rewarding experience to dedicated gamers. We expect the majority of players to be considered casual gamers thus no penalty will be dealt for player inactivity. Pandemic will employ a level-based progression system to avoid overwhelming new players with its plethora of features. Upon leveling up, the player will gain access to a new skill and be presented a tutorial with its uses. After a number of uses of said skill and others, the player will gain enough experience points to level up once more and continue the cycle. Extremely high level players will become local faction leaders and have their hard work repaid with advanced abilities. Only the highest level elite Pandemic players will be able to fully create, name, and design viruses and vaccines.

Pandemic will also foster its social component the fundamental purpose of augmented reality games should be to get people moving and interacting with otherwise strangers. Pandemic's faction system will allow lower level players to gain in-game rewards and experience by interacting with higher level players, visiting as many new locations as possible, and traveling across the globe. The game will also display leaderboards that show users with the highest scores, the name of their faction, and a heat map of how far their influence has spread.

Testing Pandemic will be rigorous. Developers will harness Test-driven development methodologies to develop unit tests and code simultaneously. Beyond unit testing, the Pandemic team will use integration and regression testing on every new build. Once a stable enough platform has been developed, builds will be rolled out to the community for an open beta test. These conditions will allow the developers to coordinate large scale functional and stress testing without the need to hire additional QAs.