Runner Mobile

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Abstract

The mobile gaming industry is booming as Americans continue to devote more and more time to their mobile devices. We plan to release a “runner” style game, a genre that has yet to break through the top rankings. This void presents an opportunity for savvy software developers.

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Description:

Mobile devices are all but inseparable from the daily business of modern life, including entertainment. The mobile gaming industry continues to grow, outperforming even computer and console gaming. We plan to develop our own mobile game in a genre that has been underrepresented among the top competitors. Our “runner” will fill this absence with fast-paced gameplay and creative design.

Mobile gaming is a distinct niche in the booming mobile industry. At over 8 billion and growing, there are more mobile devices than people in the entire world. [1] Users continue to integrate mobile services with into their everyday lives, from placing phone calls and surfing the web to checking stocks and buying lunch. Nearly everything today must be built with mobile devices in mind, and entertainment is no exception. In 2015, mobile gaming surpassed the well-established console and computer gaming segments. This makes it one of the fastest growing industries, valued at over 40.6 billion dollars compared to the 35.8 billion and 6.6 billion dollars earned by console and computer gaming, respectively.[2]

Mobile gaming presents a ripe opportunity for software developers to break into a competitive but lucrative business. We will develop and launch our own mobile game to take advantage of these industry trends. Our fast-paced, side-scrolling runner game is from a genre that has yet to reach the top rankings dominated by strategy, role-playing, and puzzle games. We plan to break through by utilizing the natural pacing of the runner style game and implementing creative mechanics that have been lacking in most offerings. By building a minimal but stable harness for our prototype, we can quickly build our game and scale it to any number of levels and memorable designs.

Need:

Mobile gaming has already surpassed computer and console gaming and will likely continue to grow to reach the market demand for quick entertainment. Most mobile games take anywhere from a few minutes to a few seconds to play, satisfying users’ needs to fill up every bit of their time throughout the day. As a result of these play patterns, the lifecycle of the average mobile game is typically quite short, usually taking as little as 20 weeks to reach 90% of estimated market potential.[3]

[1] GSMA Intelligence, Mobile Connections, 2017 ↗

[2] SuperData, Market Brief, Year in Review 2016, ↗

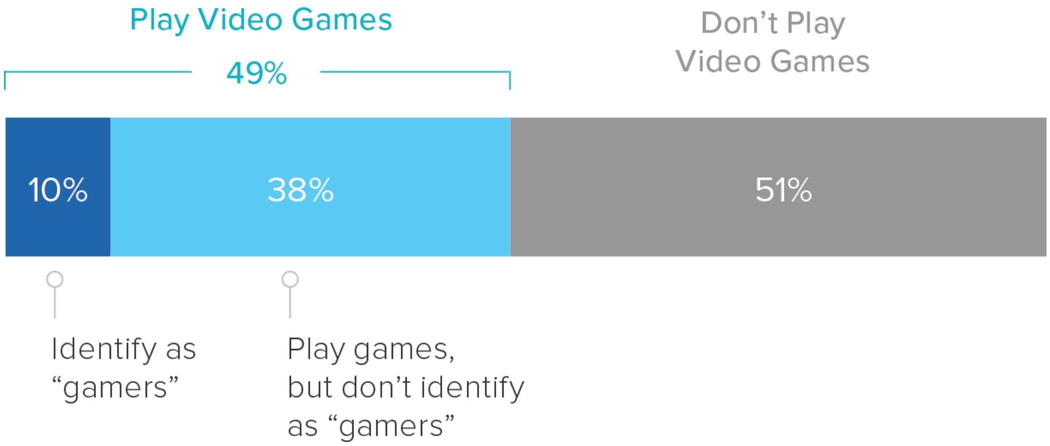
[3] App Annie, Mobile Games Lifecycle Shortening, 2016, ↗

Our runner will take advantage of the normal lifecycle for mobile games. Hype for old titles quickly dies as new titles enter the marketplace and users compete to finish games and rise in leaderboards (rankings or points). By focusing first on a minimal but sturdy base game, we can quickly develop new levels and make new creative decisions. The result is a game that looks and feels quite different although the underlying mechanics may have not changed at all.

Audience:

As a fast growing industry, the audience for mobile gaming continues to grow to include nearly everyone with access to a mobile device. Before 2008, mobile software development served only a small niche of users but with the launch of Apple's App Store and its ensuing competitors, mobile gaming has grown to encompass nearly all users and most mobile devices carry some kind of game by default.

Our main target audience is the group of casual mobile gamers, defined as those who don't identify themselves as "gamers". This group of mobile users takes up approximately 38% of all mobile users, as illustrated below:



Verto Analytics, The Average Mobile Game Day, 2016, ↗

We want to appeal to this group of mobile users specifically because of how large the market is. Users who don't consider themselves gamers spend less time per day and per session playing games than the heavy or core gamers,[4] so a game that takes less time to learn to play and can go from home screen to gameplay in seconds best aligns with this largest group of mobile game players' use cases.

Demographically, there isn't a specific user we are designing for. Audience composition for mobile games varies depending on the game's barrier to entry, time required, subject matter, and art style. It is not, as one might expect, dominated by males or by younger

[4] Verto Analytics, The Average Mobile Game Day, 2016, ↗

audiences,[5] most likely because many people already have smartphones, regardless of age or gender. Without this extra cost of obtaining a gaming system, the statistics of mobile gamers closely mirrors the statistic of general mobile users. For this reason, to maximize audience appeal, we hope to design a game that does not lean too far in its appeal to a certain demographic. The subject matter, art style, and music should be just as appealing to an 18 year old male as they are to a 55+ year old female. Mention women as largest “gaming” segment

Competing Products:

Most other top mobile games such as Pokemon Go and Game of War: Fire Age have additional barriers to entry for gamers that do not focus on the most basic elements of gameplay. For example, Pokemon Go requires players to physically interact with the environment around them and Game of War: Fire Age has an additional storyline that players need to understand to play. To appeal to a general audience of players, including those that do not self-identify as gamers, we want to focus on the most essential parts of gameplay (e.g. challenges and controls). Focusing on runner games will allow us to create a type of mobile game that users can quickly pick up and enjoy.

There are some competitor runners on the market, including Subway Surfer and Minion Rush. Although these games are very popular, we think that there is still room for new runners that add new gameplay twists. We will not be focusing on a storyline or environments that could potentially distract from gameplay. Rather, we will present users with fresh new challenges and controls. Moreover, we can allow users to customize certain aspects of the game ranging from music to building their own characters and sprites, which is not widely seen in other competitors.

High Level Technical Design:

We will be using the LÖVE2D game engine, which supports cross-platform game development in the Lua programming language. We will use the middleclass Lua library to provide object-oriented programming. We’ll use the love-ide package along with the Atom text editor for developing the game.

The game will be split into multiple “scenes,” each of which either represents a menu or a level. Each scene will contain a list of entities, which are the objects that are drawn to the screen.

[5] Verto Analytics, Mobile Gamer Demographics, 2016, ↗

High Level Approach:

Runner games present an interesting dynamic that can be heavily utilized in mobile gaming, meaning that we can make a game that is better suited for mobile use than through any other medium. Mobile games are rarely played in long segments, regardless of whether the user is a serious or casual player. A typical session is, on average, between three and six minutes long.[6] Thus, games that ask the user to be heavily engaged, whether through plot or other means, typically only appeal to a specific group. To attract as many users as possible, it makes the most sense to design a game that is easy to play immediately, without too much time spent on explanations, story, or tutorials. Furthermore, mobile games can take advantage of the smartphone's large touchscreen.

Instead of overlaying buttons, we hope to design an interface that allows the gameworld to be fully shown and unobstructed to maximize the small amount of screen real estate. Doing this would require simple and intuitive mechanics so that any player can pick up the smartphone and almost immediately understand the goal and mechanics of the game without having to guess or ask. Luckily, these goals go hand-in-hand, since a game that maximizes screen real estate and has intuitive controls are both eye appealing and quickly enjoyable.

Runner games lend themselves to this style extremely well. They are typically very simple: the character runs from left to right in a two dimensional side-scroller fashion, and has to jump, duck, or perform other actions to avoid obstacles, with the goal being to reach as far as possible or to complete the course. This genre does not emphasize plot, since the enjoyment isn't from a fulfilling story but rather through fun and frantic gameplay. Not having buttons overlaid on the screen would allow the user to see and enjoy the graphics of the game while also, more practically, giving a clear view of the obstacles ahead for the character.

In this way, we are not simply building a game and arbitrarily building it for mobile, but rather we plan to take advantage of both mobile platform capabilities, mobile gaming use cases, and runner game traits.

Resource Requirements:

Besides an endless supply of coffee and ever-growing sleep debt, we will likely need several groups of participants, creative assets, and advertising funds.

[6] Verto Analytics, The Average Mobile Game Day, 2016, ↗

We will need to playtest our game at various phases during it's development. In order to do this, we will need a fresh supply of people who haven't seen our game before and are picking it up for the first time.

To set our runner apart from our competitors, we will need more in-game art. Although free assets can be easy to obtain, we have no guarantees that other developers have not yet utilized them in their projects. We may first fill the void with simple computer-generated vector art of simple shapes and designs. However, private commissions from paid artists will be an end goal.

Once the game is complete, we may use a small amount of advertising money to get it into the hands of an initial playerbase. These initials players build hype for the game in its opening days into what we hope to be a train of success.

Potential Approaches:

We could make our game in Unity, which uses C#, instead of LÖVE2D which uses Lua. There are a couple advantages to this approach - C# has static typing, Unity has a lot of documentation, and we have access to a scene editor. However, LÖVE2D works better with version control, Lua allows for productivity enhancements through metaprogramming, and LÖVE2D has a library allowing for hot reload so we can write and test code in real time. Although LÖVE2D is more DIY, we believe it to be the better choice, and that Unity may be overkill for our game with simple 2D graphics.

One big difference in approaches would be to either start building the mechanics and systems of our game before we decide on the visuals, sound, and story. Alternatively, we could design the presentation first and then code the mechanics with our style in mind. We will attempt a middle of the road approach, by first building an MVP of the mechanics, then starting to define an aesthetic and narrative. As the game evolves, we will then go back and change the mechanics or presentation so that both components fit together in the final product.

Assessment of Risks:

One major risk is the difficulty of obtaining art for our game. To sidestep this issue, we plan to use vector-based programmatic art that consists of simple shapes. While this may hurt our game's wider appeal, the art can be replaced in the future with something more friendly to the casual player.

Next Steps:

Our first step is to build an MVP of the core gameplay. This will include basic implementations of jumping mechanics, coin collection, and obstacle spawning. Once we have that, we need to investigate adding more actions (like shooting and sliding). From there, we need to start creating levels, as well as come up with new and creative obstacles for players to shoot, slide, and jump past.