Mobile Phone Laser Tag - White Paper

Portable laser tag at your fingertips

Tristan Van Cise
Bryce Melegari
Andrew Parker
Duane Shaffer
Jacob Guenther
Executive Summary

Laser tag is a harmless game that many know and love, but assembling enough people to play and finding a suitable location can be a daunting task. Even with laser tag arenas, players are forced to play on the same course each time with little variety. In accompaniment, classic laser tag weapons have hardly any customizability, making it hard for users to assemble unique attachments and modifications to match their style of play. In consequence, laser tag has seen a decline in popularity (see figure 1) versus its competition with the high end, first-person-gaming (FPS) industry. A revival of laser tag would have to address all of the aforementioned convenience and adaptability issues, while preserving the traditional feeling of laser tag.

We offer Phone Tag, a mobile, hardware enabled, alternative to laser tag that offers all of the features FPS games do and more. With Phone Tag, we want to maximize our user’s playtime and enjoyment with automated player searches, easy game location creation, and fast, reliable connectivity. User’s will have endless amounts of customization options when it comes to their weapons. Anything from game UI to gun features and attachments will be available, allowing weapons to adapt to players instead of players adapt to weapons. User’s will be able to form clans with each other and hold physical locations via geo-forts. Each member will be able to contribute to this geo-fort’s building process with resources acquired from matches or raiding other clan forts. In a nutshell, we hope Phone Tag will provide a unique solution to laser tag and bring the excitement and joy of virtual FPS games into the physical world.
Industry-wide Problem

People enjoy having persistence in activities, an end goal that one is always looking to achieve and can achieve with hard work. Be it a promotion, grade, or time, individuals seek these milestones as motivators to continue with what they are doing and to do it well. As this is an element of human psychology, implementing persistent goals in games like laser tag can be beneficial in capturing player attention and presents players with a long-term end goal they can work towards. In the current implementation of laser tag, there is a black and white end goal, win or lose. This scheme is enjoyable for the a while, but players often get bored with one static objective if it isn’t accomplishing anything beneficial to their personal interests. When this happens, users stop playing and the industry loses popularity and revenue.
Think also of the equipment laser tag requires for users to begin playing. Cheap, fragile, and unalterable hardware requires players to make do with what they have rather than allowing players the liberty to design weapons or interfaces best suited for themselves. There is no freedom of personalization in laser tag, which is a keen feature found in many other mediums of the combat entertainment genre.

Finally, consider the amount of time it takes to set up laser tag games and the cost of playing games privately and publicly. Private games require all participants to have the proper hardware and abide by non-policed guidelines and rules. To this end, cheating is much easier to accomplish and enforcement is frowned upon since it disrupts the flow of the match. Hosts must decide on the location to hold a match and coordinate with each player to find a time that works for everyone. Public games encounter similar issues, except players do not have to worry about location or even hardware in some cases. However, the use of such facilities and services can be costly in the long run and access is limited to the size of the battlegrounds and number of events scheduled.

Existing Solutions and Drawbacks

Existing combat entertainment solutions sit on two sides of a massive gap. On one side sits the always-evolving online video game. A large number of the most successful modern online games feature modifiable and upgradeable assets, persistent progression systems to drive and encourage player activity on the long term, and large social structures built around that persistence. However, in order to play cutting edge video games one must own an expensive computer system, and the current price for a new major game ranges from $60.00 to $80.00. Additionally, these games require a person to sit still for a long period of time, contributing to the myriad of health problems people face today due to increasingly sedentary lifestyles.
On the other side of this divide lies physical, in-person combat gaming, which encompasses activities such as paintball, airsoft, laser tag, and other similar practices. These activities allow participants to take part in the most immersive possible experience, because they are actually physically performing the actions of combat. However, only the most exclusive and expensive groups can hope to maintain any sort of ongoing experience beyond the combat itself. Matches generally do not have any objective outside the context of the match itself, and any systems that could feasibly implement persistence of this nature are, at best, contrived and complicated. Matches also take a significant amount of time to set up, find a suitable location, travel to that location, and all of the other logistics involved, which means that the amount of time people can actually spend enjoying the activity is diminished greatly. Additionally, in-person combat simulation shares a drawback with its electronic counterpart: cost. The cost of equipment for such activities is as bad or worse than the electronic gaming option. Not only is the initial cost high, but there are often costs associated with obtaining a playing field, and the most realistic and entertaining of the physical options require participants to replenish ammunition and/or propellants, as well as maintain their gear, all of which costs money.

The modern combat gamer must choose one of these two extremes. They can either have all of the trappings of wonderful simulation, but with lackluster, sedentary gameplay, or they can fully engage themselves physically in a match, engage in hours of preparation, and spend hundreds of dollars on equipment, all the while with the knowledge that that match exists in a vacuum and will not affect anything larger.
**New, Improved Solution**

Phone Tag fills the divide between online video games and physical activities such as paintball by combining prominent features of both divisions. From online gaming, Phone Tag incorporates lower overall cost to play, modifiable and upgradeable assets, and persistent progression systems. With our entry cost of $14.99 plus shipping, avid gamers will be able to afford to try our system. Those that are discontent with the money sink of physical games can also look forward to the cost savings. Phone Tag features modifiable and upgradeable assets that, although not new for video gamers, physical gamers will love due to the ease of use and large variety offered. For those that like the persistent progression systems in modern video games, they will feel right at home with Phone Tag in their hands. For budding paintball or airsoft players, switching to a new platform will be easy and will provide a basis for interaction with other players of various skill levels. Such interactions will help expand combat knowledge and improve overall individual competency in matches.

For all gamers, the time required to play is important. Trying to coordinate games, setup games, play them, and then clean up is a daunting obstacle to those that want to get out of their chair. Phone Tag makes these tasks easy through the phone app because all the heavy lifting is done for you. Everything from assembling players to customizing a game type can be done at any time. Players can start pickup games on a whim and track their progression as they play more matches, thus combining the persistence of video games and immersion of physical activities in one.

**Case Study**
We strongly believe that our product has the ability to revive the popularity of laser tag. We questioned a large amount of college and high school students about their thoughts on laser tag, and found that our app could help revitalize the dying industry.

When asked why they did not play laser tag, 63% of students said that the main reason for their disinterest is caused by the difficulty of finding and connecting with people wanting to play. Also, 58% of students listed their second reason for a lack of interest was due to location. Younger students find it harder to get reliable transportation to the few locations in town to play laser tag. As for college students, 61% of them said they would probably give the game a try if they had the convenience of playing the game on campus.

Our study has found that students find that the laser tag community has no connectivity, and that the game is not easily accessible. These are two issues that our app addresses. Because of Phone Tag’s smart phone implementation, the necessary tools needed to support a thriving community are literally at people’s fingertips (see figure 2). Our product also addresses the issue of location. One defining feature of our product is mobility. With the necessary attachments, our game can be played anywhere.
Conclusions

Having identified an untapped niche market and a unique solution to the problems it faces, Phone Tag is prepared to enter the competitive market place. By making matchmaking a core feature of Phone Tag and by inheriting the portable nature of smart phones, Phone Tag has addressed the key concerns that users have expressed about other similar but fundamentally different technologies. Since Phone Tag brings together the most engaging and rewarding aspects of first person shooters, massively multiplayer online games, the geolocation technology of Pokemon Go, and the physical experience of laser tag, it effectively combines both realms of physical gaming and virtual gaming. This feature expands the player base of laser tag to a
whole new level, allowing individuals of vastly different backgrounds to unite under one common activity. The added benefit of cheap hardware also makes it possible for low income individual and people who are tentative to try the game without burning a hole in their pocket. Players will find themselves spending more time playing rather than coordinating after using Phone Tag’s match automation. Creative individuals will find solace in the gamemode creator, gun customizer, and in game UI customizer, while social individual may enjoy working with clan members on group missions. These features paint a vivid image of Phone Tag’s capabilities and solutions to a dying industry and illustrates how we intend to maximize our user experience.

About the Company

Located in Fairbanks, Alaska, Phone Tag is a dedicated company of aspiring individuals who want improve laser tag. As a whole, we are committed to ensuring our customers receive the most from our products in both quality and use. Combined, our members have over one hundred years of experience in the gaming and laser tag industry. Applying these experiences along with the concepts of our value sensitive design, Phone Tag achieves the highest standards in entertainment and safety not only for our customers, but for all our stakeholders who have an interest in our endeavors. For more information, visit our website at https://projects.cs.uaf.edu//redmine/projects/cs371_f17_phone_tag/wiki.
References

