

Inside the Open-Source Games: In Search of Business Opportunities



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Open-source games only use free content. Adopting an open-source approach means only using software, graphics, music, and other assets that have been released under free licenses.

The open-source game market is a growing segment of the video game industry. According to OpenGameArt, there are currently over 6,000 open-source game projects in development, ranging from small experimental games to full-scale commercial releases. The open-source game market is estimated to continue growing over the coming years due to continued advancements in open-source game engines and tools, increasing availability of cloud-based gaming services, and the increasing trend of making software open-source and the many open-source development communities.

Whom did we interview?



Webster Sheets
Pioneer
Technical Lead



Stanislas Dolcini
0 A.D.
Project Lead



Andy Parkhouse
OpenTTD
Core Contributor



Rafael Galvan
Rigs Of Rods
Lead Administrator



Beherith#9646
Beyond All Reason
Lead Administrator

6000+ open-source game projects are currently in development
 *according to opengameart.org

Revenue generated by open-source games is generally lower than major commercial releases, but there have been instances where they have successfully raised money:

SUCCESSFUL EXAMPLES OF OPEN-SOURCE GAMES



OpenTTD

raised \$1m for “médecins sans frontières” and the “electronic frontier foundation”.
 over 150,000 active players per month and over 1 million downloads per year in 2021



Veloren

over 1,000 contributors and 30,000 discord members as of 2022



Beyond All Reason

over 25,000 active players per april 2023



OpenTTD & FreeCiv

featured in the charity speedrunning event awesome games done quick (agdq), which has raised over \$10 million for the prevent cancer foundation since its launch in 2010.



0 A.D.

raised over \$30,000 through indiegogo & has over 300 000 downloads each year



SuperTuxKart

raised over \$15,000 through patreon in 2020

The 80 Level Research Team interviewed 5 developers from the most popular open-source games to gain insights into the inner workings of these projects and explore the potential for the future.

Tracking of Contributors

The number of contributors varies depending on the project, but there is usually a group of "core contributors" ranging from 1 to 15 people, as well as "active developers" numbering up to 50 people. The number of people "participating in the community and modding" varies greatly.

Tracking the developers' contributions to the project can be done automatically and manually. The most well-known method of tracking project contributors is GitHub. Project managers can monitor who is active, making comments, issues, or pull requests, and contributing code, art, or translations. GitHub has insights tailored for open-source projects, such as a breakdown of users and their contributions, including the number of commits or lines of code added/removed.

However, not all contributors may be trackable through GitHub, especially those who help in different parts of the infrastructure or do community outreach programs. Additionally, it is only possible to assess the qualitative impact of a particular person's contribution to the project manually, which is handled by a project leader.

OPEN-SOURCE GAME CONTRIBUTORS

Core contributors



Active developers



Monetization & Revenue Distribution

According to interviewees, open-source games have not been successful commercially. Since the games are already completely free, there is often nothing to monetize. It's very common for successful open-source games to cover operating costs via donations from the community. Many projects have a loyal player base who are often against the pay-to-play model, and monetization may cause players to feel alienated.

Developers of open-source games come across the challenge of distributing funds received through donations because their contributors are based all over the world (and the complexities of making payments and paying taxes come into the picture). To avoid potential disputes over revenue-sharing based on individual contributions, interviewees recommend either hiring developers under a contract or using services like Bounty Source, where contributors can set an amount of money for specific tasks.

Cloud Gaming Distribution

Developers have noted difficulties with cross-platform access to games due to the technical configurations of each individual game, difficulties in coding for iOS, optimization for mouse and keyboard input which makes it challenging to port to mobile platforms, as well as a lack of capacity for developing ports to different platforms.

Developers are open to the possibility of distributing their projects through cloud gaming. This could significantly increase the game's user base by attracting new players who can play on devices that are not currently supported.

Outcomes & Opportunities

The interviewees believe that while open-source games are a niche market and require dedicated contributors, they have a bright future with the potential for growth and increased accessibility. Developers see the use of middleware engines such as Godot and new distribution methods like cloud gaming as factors that could contribute to the popularity of open-source games.

1# Tracking of Contributors

**Webster Sheets**

Pioneer
Technical Lead

There are currently 3–4 core developers working on the Pioneer project, along with other semi-regular contributors and occasional one-off contributors. Most contributors are coders, with knowledge of C++ being most relevant to the project. There is only one artist among the core developers, which has resulted in a focus on procedural generation and systemic gameplay to minimize the need for art resources.

IRC channel is used for developers to communicate and ask questions about the game. We track who is contributing to the project by monitoring who is active on the channel and who is making comments, issues, or pull requests on GitHub. GitHub has insights tailored for open-source projects where anyone can see a breakdown of users and their contributions, such as the number of commits or lines of code added/removed. Axtel mentions that there are other insight tools used by GitHub as well.

**Stanislas Dolcini**

O A.D.
Project Lead

Project's contributors can take various forms, including programming and art creation, but this also extends to those who participate in forums and discussions. Stanislas also notes the importance of volunteers, such as translators, who may not be recognized in a traditional contributor list. This highlights the diverse ways in which individuals can contribute to a project, whether it be through direct or indirect means.

There are ways to keep track of contributors; for instance, through signed comments and co-authors. When switching to Git in the future, there will be co-authors, which will make it easier to track contributions.

**Andy Parkhouse**OpenTTD
Core Contributor

There are about 10–12 core contributors who are the most active in the OpenTTD project. There are also around 50 contributors listed on GitHub, but the level of their involvement varies from only a few commits to more active participation. Additionally, there are 10 to maybe 100 people involved in the content and modding community.

The easiest way to track contributors of an open-source game is through GitHub. The community polls feature allows for the tracking of contributors, their activity, forks, and other contributions. The wider modding community is harder to track as people come and go, with some making only one contribution and others making many.

**Rafael Galvan**Rigs Of Rods
Lead Administrator

There is a moderate number of current active contributors, including the project leader, Peter Ojodal, and around three other active developers. Additionally, he notes that the project has had over 50 contributors in total since he joined.

Rafael discusses the process of tracking the contributors to their project, noting that they rely on GitHub to keep track of contributors as part of the GPL V3 license. Contributors are required to include their name and information in their submissions, as it is their work being submitted. Therefore, the project does not proactively track contributors by itself.

**Beherith#9646**Beyond All Reason
Lead Administrator

That there are around two dozen people who are actively contributing to the project.

GitHub is a useful platform for tracking code contributions, but other contributors who help with different parts of the game may not be easily trackable through GitHub commits. Beyond All Reason team mainly communicates through Discord and that they do not track contributors who do not require it, such as those who do community outreach programs.

2# Monetization & Revenue Distribution

**Webster Sheets**Pioneer
Technical Lead

A commercial project was spun off from Pioneer's open-source code base, but it was ultimately a commercial failure. A few games have attempted to make the leap to commercial projects, such as Beyond All Reason, but it is unclear if it will be monetized or remain free on Steam.

The classic commercial model of charging for limited access may not be as effective for open-source games. Some successful and prolific open-source games have been sustained through donations.

The primary funding model is through donations, which can be made through website. However, user base is fairly small, so donations only cover the cost of domain names in a good year.

The developers fund the project and have taken steps to ensure that as much of infrastructure as possible runs on low-cost or free resources. Team is not worried about growing the game's funding to be able to pay developers, as Pioneer is a passion project — even though there are other projects in the open-source space that have grown to the point of being able to hire developers specifically for the project.

Webster admits that the possibility of building a system to distribute revenue for contributors to open-source games is a complex topic due to the initial hurdles of setting up a revenue stream when the content of the game is already available for free. However, he agrees that it could be possible to set up a funding or revenue-share model based on individual contributions.

However, it might not be wise to pay contributors differently for doing different amounts of work as it could lead to egos getting in the way, resentment, and even destabilize the project. There is a model like the Godot engine, where there is a significant revenue stream and enough donation revenue to hire contributors to work full-time. This way, the project itself hires developers to work on it, and monetization is set up within the context of a formal contract.

There are two ways to monetize open-source games: either make the code in the core engine free and have all the content be closed source, or focus on donations to cover operating costs and improve the game further.



Stanislas Dolcini
O A.D.
Project Lead

Open-source games require a lot of extra work to ensure that all financials are in order, especially since they operate under the patronage of a non-profit organization. This limits the projects to specific ways of handling donations to avoid tax problems. Regarding monetization models, Stanislas suggests that events or LAN parties for the game could be organized, and players could be charged to participate.

Stanislas suggests different ways to make money through open-source games, such as selling copies of the game and organizing events or charging for maintenance and services. Additionally, he mentions the platform Bounty Source, where people can set an amount of money for each task they want to be done. Regarding donating to O A.D, mentions that it's a bit tricky to ensure that the money is used for a specific purpose, and for now, donations are only being used for server fees.



Andy Parkhouse
OpenTTD
Core Contributor

There are potential monetization strategies for open-source games, including donations, selling content, charging for multiplayer server passes, and using the "original Doom" model where certain parts of the game are locked behind a paywall. While some open-source games could potentially be turned into businesses, many contributors to these projects are not interested in doing so.

OpenTTD is not intended to be a business and most of the contributors are programmers who have day jobs. He also discusses various ways to monetize open-source software, but notes that the project currently relies on donations to cover hosting and other expenses. Andy emphasizes that the contributors are primarily motivated by their love of the project and are not seeking to earn money from it. Andy sees OpenTTD as a hobby rather than a job, and believes that mixing the two can be detrimental. Overall, he characterizes the project as a pure form of art.



Rafael Galvan
Rigs Of Rods
Lead Administrator

Rafael discusses the potential for open-source games to be a business, noting that many open-source games are worked on by volunteers in their spare time. Rafael recalls past issues with collecting donations.



Beherith#9646
Beyond All Reason
Lead Administrator

Beherith#9646 seems to be open to the idea of monetization and donations, as long as it does not compromise the core gameplay experience. Additionally, small cosmetic items can be offered for purchase without negatively impacting players.

Beherith#9646 seems to be cautious about monetizing the project and considers the idea of redistribution of revenue among contributors to be a complex issue. He also acknowledges the challenges that come with having contributors from different countries and the taxes involved.

3# Cloud Gaming Distribution



Webster Sheets
Pioneer
Technical Lead

Axtel discussed the option of publishing games on the web, but mentioned that it requires a lot of technical configuration for desktop games to function properly on web browsers. Deploying games on the web via various technical platforms like Web ASM and WebGL will become more popular in the future. However, it is more challenging for games like Pioneer, which has its own custom stack down to the operating system, to modernize for web deployment. Axtel emphasized that it is a matter of development priorities — whether to focus on making the game run in web browsers or on providing users with content updates and fixing technical debt.

4# Outcomes & Opportunities



Webster Sheets
Pioneer
Technical Lead

Pioneer has a bright future and Webster expects more contributors to help take it in the direction it needs to go. He also noted that open-source games, such as Veloren and Beyond All Reason, have grown rapidly and fill a niche that is not commercially viable.

Webster believes that as middleware engines like Godot become more popular, developers will be able to do more with the time and resources they have, making open-source games more common. He also thinks that as the game industry explores new monetization options such as microtransactions, open-source games will become more popular, particularly among users who are put off by these corporate practices.

Axtel believes that the core spirit of open-source software, which is driven by a small core of users who want to make games for the users and not for profit, will never go away. He thinks that as long as open-source game projects are well-managed, mature, and humble, they will continue to grow their user base. Open-source games embody the spirit of freedom, while proprietary games are more focused on making money.

**Stanislas Dolcini**O A.D.
Project Lead

Stanislas notes the importance of finding people willing to invest their time in such a project, as there is no financial incentive to work on an open-source game — but the experience can be valuable for building a resume.

**Andy Parkhouse**OpenTTD
Core Contributor

Andy believes that OpenTTD will continue to thrive, as it has a dedicated community of players and developers who are constantly working to improve the game. He also notes that the game is highly addictive and free to play, which makes it accessible to a wide range of players — including those who may not have the means to pay for other games. Additionally, he points out that OpenTTD has been used to raise millions of dollars for charity, which he finds to be a fantastic use of the game's popularity.

**Rafael Galvan**Rigs Of Rods
Lead Administrator

Rafael mentioned that previously Rigs of Rods used to be quite popular, but they now see a shift towards proprietary alternatives. However, legacy games like Rigs of Rods will still be supported by fans of the game who wish to see it continue.

**Beherith#9646**Beyond All Reason
Lead Administrator

Beherith#9646 discusses plans for expanding the user base of their real-time strategy game. They acknowledge that the current community is not closed and anyone can join, but they want to polish certain aspects of the game before pushing for a larger audience.

Do You Want More?

The 80 Level Research team has compiled latest researches:

1. [From Samurai To Super Mario: Japanese Gamers Research](#)
2. [80 Level Research: Stats & Trends in Game Development in 2023](#)
3. [Cloud Playtesting: Advantages, Disadvantages, Supply & Demand](#)
4. [80 Level Research: Augmented Reality – Present Tools for Business Use](#)
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