



Live Gamer: A Primer on Virtual Currencies

February 15, 2010

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What are Virtual Currencies?

Virtual currencies are created by a private company, typically for use in online applications. Usually, virtual currencies are used to buy virtual items used in the online applications. However, a virtual currency could also be used to buy eBooks, gain access to online articles/videos or buy virtual gifts in online social networks. Users make a payment to purchase virtual currency and then redeem it for virtual goods and content without having to go through a [micro-transactions](#) in a payment gateway. Therefore, a virtual currency is an efficient online payment intermediary that allows users to trade real-world currency for virtual items.

What are Micro-transactions?

Most people think of a micro-transaction as a payment of <\$1. Micro-transactions are also referred to as micro-payments. However, for online applications a micro-transaction is a virtual currency transaction that is frictionless. Online applications can profit by selling many low-cost virtual items for very small amounts. However, the fees charged by payment gateways are high compared to the value of the micro-transaction. They may even exceed the cost of the item, which causes friction when purchasing virtual goods with real-world currency. It is important for virtual currency transactions to remain frictionless.

Virtual currencies can solve this problem. Users can purchase a relatively large amount of virtual currency with a credit card. For example, a user might purchase 2,000 Zed points for \$20. A virtual good might cost only 100 Zed points. The fees are charged only to the initial exchange from dollars to Zed points. All in-application Zed point purchases don't incur fees.

Why do I Need a Virtual Currency?

Virtual currencies provide benefits to online applications, such as:

- Increasing the sale of virtual goods. Psychologically, people spend virtual currency faster than real world money. This idea is akin to people spending arcade tokens faster than they would spend quarters. In the minds of game players, tokens and virtual currency are no longer actual money, but an illusion of money. This is why casinos use chips.
- Allowing users lacking credit/debit cards or bank accounts to purchase virtual goods. Most children and teens don't have access to payment means other than cash. For example, these users can receive virtual currency as a gift from a parent or may purchase it by charging the purchase to their cellphone bills.
- Virtual currencies capture value. Once a user buys the virtual currency, it doesn't leave. If you rely on real money transactions, this isn't quite the case.
- Allowing users to sell and purchase virtual goods from each other in online applications.
- Allowing online applications to offer branded currencies, which is a good marketing strategy.

What is Important about Virtual Currencies for Online Application Development?

It might seem obvious, but your virtual currency should be integrated into the rest of your application. In particular, a large percentage of the end-user's actions should have a monetary consequence. For example, they should either generate or cost virtual currency.

When adding a virtual currency to your application, you should be thinking about:

- How do people acquire the currency? Is the acquisition (and loss) of currency firmly embedded in almost all application events and actions?
- How do people feel about the currency? Does it matter to them?
- How does the presence (or absence) of currency change their feelings about themselves, about each other and about the game. Can people see other people's currency? Can they see the impact of currency on the application? Do they feel envy, or at least a mild jealousy, when they interact with wealthier participants? How do social interactions change in the presence (or absence) of currency?
- How does the presence (or absence) of currency change what users do? Having more money should change what's possible, and what's likely.

How do I Know if the Virtual Currency is Performing its Role Well?

If your virtual currency does most of the following, it is performing its role well within your application:

- **Players receive currency in the course of ordinary play.** This enables people with little or no money to continue playing and lets players, who would otherwise be hopelessly behind, to have a hope of winning. Many Facebook applications use "logging in" as a way to receive currency. For example, if you play [Friends For Sale](http://www.facebook.com/applications/Friends_For_Sale!/7019261521) (http://www.facebook.com/applications/Friends_For_Sale!/7019261521), you're greeted by a message like "You earned \$250,000 for logging in." Unfortunately, this design can result in problems with hyperinflation.
- **It is possible to survive (and enjoy the game) without money, at least for a time.**
- **Almost every turn involves money in some way.**
- **There are lots of sinks that are important to gameplay.** You have to spend your money if you want to win the game.
- **Monetary success is public knowledge.** Players know, at least roughly, how much money and property the other players have. The amount of money you start with is public knowledge. All transactions are publicly known.
- **Money is physically represented and highly visible.** The presence of the actual bank balance gives the user a visual reminder of monetary success.
- **Money is an important part of "who's winning."** The primary determinant of "winning" is "how much money does the player have."

- **Money rebalances between players.** In virtual economy terms, both primary market (bank to player, first time purchases) and secondary market (player-to-player trading of properties),
- **Money is social.** Not only do players know how much money each has and not only does it factor into estimates of who is winning, but people change their behaviors based on money. Players are often more generous to other players who are “losing”, and will “gang up” on players who are winning. Or players might gang up on losing players to get rid of them. And, as stated above, the primary determinant of “winning” is “how much money does the player have”
- **Inflation is minimal.** The game is well-balanced. Players acquire property and money. But there is a limited amount of property in the game and, over time, the players don’t accrue vast amounts of money.

What Kinds of Problems can My Virtual Economy Experience?

Virtual economies have the same problems as real-world economies, such as fraud, inflation, deflation, illegal exchanges, black markets and supply and demand issues. Virtual currency must be paid for with real currency or through earning it by participating in the virtual world. Black market goods and currency can cause economic problems, such as inflation, and be unfair to other users in the virtual world.

Also, most games prohibit cashing out, the sale of virtual currency for real-world currency. Cashing-out can lead to money laundering through virtual currencies. See <http://thementalmilitia.com/forums/index.php?action=printpage;topic=12823.0> for examples.

What are the Ways an End User can Acquire Virtual Currency?

An end user may increase the amount of virtual currency in his account through a variety of ways. The ways an end use can acquire currency is determined by your application design. Ways to acquire currency include:

- **Paid Exchanges (Primary Market or Company-to-Player):** The player exchanges his own hard currency for the virtual currency using a payment gateway. Or in some cases, the end user completes an offer from another company (advertiser) to get virtual currency. In this case, you earn revenue from the advertiser.
- **Paid Money Gifts (Money Voucher):** Someone other than the player purchases a money voucher and sends it to the player. The player then exchanges the money voucher for virtual currency.
- **Paid Money Gifts (Secondary Market or Player-to-Player):** Another player in the game gives the end-user virtual currency from within the game. Elements does not support this functionality, as it is rarely desirable in an online application.
- **Paid Black Market:** The player purchases outside of the game virtual currency from another player using hard currency. This is usually not allowed by licensing rules, but it does happen in rare cases.

- **Free Attention, Temporal or Loyalty Currency:** A virtual currency used to reward time spent on an online application. This type of currency rewards loyalty to the online application. It can be minted on demand and used to encourage continued or repeat engagement with an online application. Getting a virtual good or virtual currency reward motivates daily play and stimulates repeat visits. Some applications show temporal currency directly to the user. For example the “/played” time on World of Warcraft.
- **Free Earned Currency:** A virtual currency received after an end user completes some task within the online application. The end user earns the currency.
- **Free Karma or Reputation Currency:** A virtual currency used to track reputational metrics in an online experience where a measure of social standing is important. Examples include the fame system in Maple Story or, to some degree, reputation in the eBay system.
- **Free Creator Currency:** A virtual currency used to measure achievement in virtual economies where user-generated content features prominently, or in marketplaces that displays third-party content creators.

See the section called “*Which Types of Virtual Currencies Should My Application Have?*” for a discussion on how to make decisions of this type.

Which Types of Virtual Currencies Should My Application Have?

It can be a dilemma to decide how many virtual currencies to use in your online application. Should you use only one virtual currency for any currency an end-user can possess? Or should you have one currency for purchased currency or gifted currency, one for earned currency and one for loyalty currency? Should the earned and loyalty currency be the same?

One of the first challenges that any would-be virtual economy encounters is “Should I have one currency or two?” Usually, online applications, if going the multiple currency route, use the same currency for earned and loyalty currency. Hence, this discussion will use the case of deciding between one currency or two. However, applications have used three currencies.

What is Live Gamer’s Recommendation about Having One or Two Currencies?

In general, while complexity exists in juggling two currencies, leveraging the two currency types is a powerful means to both incentivize application engagement and revenue.

Any type of virtual currency, whether paid or non-paid, enables your users to tailor and personalize their experience. For the application publisher, these currencies function as a barrier to hold back certain aspects of the experience to entice and incentivize users for the ultimate reward of unlocking new experiences. So, to a large degree, user intent winds up being guided by whatever structure is put in place to govern the distribution of the virtual currency.

Note: if you decide to use two currencies, make sure you explain to your end users what each type of currency is, how it is earned and how it is used.

One Currency (Paid)

A paid virtual currency is crucial from a monetization standpoint for your application. Paid currencies are also referred to as Real Money Transactional (RMT) currency.

Benefits

The key selling point of a single virtual currency is to minimize complexity of the experience for the end user and even the production team. This is the usual 'less is more' argument. After all, another currency is more cognitive overhead for the end user. Benefits of one currency include:

- It's simply easier for users to learn about and use a single currency than multiple currencies.
- It's easier for the developer to represent the catalog, price items, review account balances, et cetera in a single currency.
- Paid currencies provide revenue.

If keeping the experience as simple and straightforward as possible is the key driving force in the determination, then a single-currency system usually wins the day.

Drawbacks

However, it's important for the publisher to understand that the simplicity also extends to the breadth of capabilities they can offer. The drawbacks of using only one currency include:

- Fewer parameters for motivating your users.
- You don't have a strong capability for motivating user behavior.
- End-users can become rich just by purchasing currency without participating in the online application.

Second Currency (Free)

The question of whether to use a second currency as a reward currency is important, and it should be answered early in your product development cycle.

Benefits

A secondary reward currency can:

- Be used extensively to motivate the users to engage in behaviors that benefit themselves, the community or the system itself. This includes things like:
 - Driving session frequency – get 100 points a day for logging in.
 - Driving engagement – stay on this treadmill for 5 minutes and get 100 points.
 - Driving viral uptake – get 100 points for inviting a friend.
 - Driving user feature awareness – get 100 points for using feature Y.
 - And many more.
- Have the benefit that it trains users that time spent accrues value. This means that unlike surfing the web or watching the television, time spent in this world improves your virtual net worth. It's not empty calories. It's a valuable activity! This is a key psychological difference in how these experiences function. And one that can be used to great effect when used properly. It's not unlike the same leveling mechanic that keeps

people glued to World of Warcraft — every virtual fiend killed brings you that much closer to virtual greatness.

- Allow younger end-users to participate in your application. For this demographic, reward currencies are essential, given that many of them simply have no means of putting money into the system. Letting them participate in the commerce activities nonetheless can help close the gap between the have's and the have-not's and take the sting out of their sadly unfunded situation.
- Allow both paying and non-paying end users to engage in the online application and keep both groups of end users happy.
- For non-paying users;
 - Contribute to game growth.
 - Effectively work as training wheels for using paid currencies. Reward currencies help newcomers to the model understand how the system works in a low-stakes fashion. They're playing with monopoly money, not real money. And they don't have to pay anything to start trying it out.
 - Help create a community that is likely a core part of your appeal. Everyone adds value just by showing up, even if they don't or can't pay today.
 - Create page view advertising opportunities
- Incentivize positive behaviors.

Drawbacks

The drawbacks of a second currency include:

- You have to be smart about the circumstances under which you give out currency. If you hand it out too frequently, it can lose its perceived value. If obtaining it is too easy, people will use automated bots generate it *ad infinitum*, often leading to inflationary situations.
- You also have to be careful in considering what to price in reward and paid currencies. You want to sell important items for paid currency so you actually make money. In situations where you dual-price (list the same benefit in more than one currency) you need to ensure that you're not cannibalizing sales in one currency by permitting them with the other. You also need to avoid giving rise to arbitrage opportunities by connecting the two economies through items that are sold in both currencies.
- End users can use bots to gain reward currency. This allows them to become richer faster than end users spending time in the application.
- Non-paid currencies have no direct financial benefit to the game owner.

Should I Prohibit a Player-to-Player Market?

The *What are the Ways an End User can Acquire Virtual Currency?* section above discussed different ways an end user could get virtual currencies. One way was through player-to-player currency exchange. Most online applications prohibit the player-to-player transfer of virtual currencies.

Benefits

Prohibiting currency exchanges between end-users has the following benefit:

- Prevents virtual currency fraud between end users. Unrolling fraudulent virtual currency exchanges between end-users is complicated and messy.
- A black market (gold farming) for the virtual currency cannot develop.

Drawbacks

Prohibiting currency exchanges between end-users has the following drawback:

- End-users cannot give currency to a friend to get the friend to start using your application. You could lose out on paying end users who would get hooked on the application from a currency gift from a current end user.

Should I Prohibit Exchanges between Virtual Currencies?

It is possible to allow reward and paid currencies to be exchanged in a virtual world. Most applications do not allow these types of exchanges.

Benefit

Prohibiting currency exchanges between virtual currency types has the following benefit:

- Keeps both paying and non-paying end users as long as the uses for both currencies are similar.
- Can allow paying users to purchase exclusive or premium virtual items. This makes paying users happy.
- Can allow non-paying users to purchase exclusive virtual items to encourage end users to engage more frequently with the application.

Drawbacks

Prohibiting currency exchanges between virtual currency types has the following drawbacks:

- If have virtual goods that can only be purchased with paid currency, then don't want end-users to be able to purchase them with reward currency. It would dilute their revenue stream.
- Can allow currency fraud in application, which negatively impacts the virtual economy.
- Allows paying users to purchase exclusive or premium virtual items. This could make non-paying users unhappy.

End-users cannot choose which type of currency they want to spend on an item, which can make some end-users unhappy.

Further Reading

Recommendations for further reading on virtual currencies:

- [“Reasonings for virtual currency implementations in business models of free-to-play world”](#) by Juho Hamari of the Virtual Economy Research Network. This article lists many of the ways in which virtual currencies can be used within an application. If you’re designing a game, or trying to add virtual currencies to an existing application, this article is the basis of a great checklist.
- [“Human-Currency Interaction: Learning from Virtual Currency Use in China”](#) by Yang Wang and Scott Manwaring. This article goes over some lessons they learned by watching how people use virtual currencies