

# Blue Mars Chronicles: Building for Millions

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## Abstract

Developers are the first people who come to an empty world and make it habitable. In online virtual worlds, developers are 3D artists, architects, cloth designers and other talented and enthusiastic individuals with a passion for 3D modeling. Their joint creative efforts make virtual worlds possible.

In this report, we share our experience on close collaboration with a large community of developers in *Blue Mars* [2009] online virtual world, which was launched by Avatar Reality Inc (ARI), and now is experiencing explosive growth. From forum discussions, in-game meetings, question-and-answer sessions and from personal communications, we distilled and summarized some guidelines on how to keep the developers motivated and enthusiastic contributors.

**CR Categories:** K.6.1 [ Management of computing and information systems ]: Project and people management — Systems development

## 1 Introduction: What and Where is Blue Mars

Blue Mars is the next-generation platform for building online 3D virtual worlds, featuring photo-realistic rendering with CryENGINE-2 by CryTek [2010], motion-captured avatar animations and quality control over user created content. Blue Mars opened its doors to players and developers in September 2009, with only three locations initially. In less than a year, the number of completely terraformed Cities, Villages and Metropolises (the basic real-estate categories on Blue Mars), increased tenfold and new sites are being registered every week. The number of user-created items, such as interior elements, customized avatar bodies, faces, cloth, personal accessories, now approaches two thousand. All that content was created mostly by individual developers and independent game designers, working in their spare time. For some, building content for 3D worlds is a hobby. For many, it is also business, with real monetary returns. For all developers, Blue Mars is the place where they express themselves creatively and professionally. Their strive to make high quality models can only be matched by the level of expectations (and, therefore, demands) to the quality of 3D tools, provided by ARI.

Although the developers and ARI have similar goals and inspirations about the future of Blue Mars, working towards these goals in one team may be quite challenging. Below, we offer some observations from the recent history of “colonization” of Blue Mars, as the joint effort of Avatar-Reality (Honolulu, Hawaii, USA) and the team of 3D talents from all over the world.

## 2 Creating and Managing User Content

On Blue Mars, the virtual “real estate” elements range from small Outposts to Metropolises (one is shown in Figure 1), capable to accommodate thousand of concurrent players. Each element is further subdivided into blocks and shops, that can be leased to individual developers. Thus, the whole community of “colonists” can

be roughly categorized as city, block and shop owners. This simple hierarchy allows content creators to choose a role which suits their skills and interests best. City owners typically spend most of their efforts terraforming the land, before passing it to block developers, who create buildings, roads, bridges, etc. Shop owners operate on even smaller scale. Their job is arrange items for sale inside a shop and decorate its interior, to make it attractive for players. For these tasks, ARI provides a set of 3D Content Editors, based on CryTek [2010] Sandbox Tool.



Figure 1: Residential district, Beach City, Blue Mars.

## 3 Developers Challenges and Concerns

Besides mastering 3D content creation tools, developers also need to understand and operate certain elements of Blue Mars real-estate infrastructure, especially if they own a City or a Block. Sometimes, these tasks are not trivial. The whole process of creating and managing content is somewhat complicated by the fact that Blue Mars is continuously evolving, as new types of user-generated content become available. For example, at launch time, only very basic customization of avatars was supported. Now, the Cloth Editor tool allows to create a variety of wearable attachments, including cloth, shoes, gloves, hairstyles, jewelry, eye-wear and even more exotic things, as underwater breathing equipment. (There is plenty of water on terraformed areas of Blue Mars.) Six months ago, a Body Editor was published, which allowed to create customized avatar bodies and faces. Animation Editor is the latest addition to the Blue Mars Developers Kit, released at the time of this writing. Therefore, developers must remain on alert for continuously evolving tools.

Also, developers must watch for changes in content-management policies and practices, imposed by ARI. In order to maintain adequate operating conditions in-game for all players (especially, for those with low-end computers), ARI implemented and enforced certain restrictions on user-generated content. For example, cloth items must not have more than five thousand polygons each, otherwise rendering of crowded scenes will drop below acceptable level. For some reasons, some of computationally-intensive shaders had to be disabled for general use, for example, fur shader. These restrictions often raise questions and sometimes even protests in the community. When that happens, close communication becomes crucial for maintaining productive and healthy environment, for both sides: global development of Blue Mars as a platform, and local needs of content creators.

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## 4 How to Attract and Retain Developers

Given that the success of a virtual world relies on excellent user generated content, how does ARI attract and retain good developers?

**Documentation.** Good documentation on how the tools work is very helpful as a developer may be inclined to "give up" in the initial stages not because the learning curve is steep, but because of the time investment and frustration in seeking good and current information.

**Prompt and friendly help online.** Developers also value a prompt response to forum queries or help desk matters, and often seek and appreciate constructive feedback. It is very important to be as patient and polite as possible as developers may be timid about asking questions or be sensitive to feeling patronized when there is a simple solution involved. Developers are often very passionate about their creations and may work tirelessly to perfect them. They may be short tempered on forums if for example they find a bug impeding their progress or read an announcement changing the nature of the platform. Calm and encouraging responses go a long way to soothing frustrations.

**Open communications.** Open communication is essential with developers community. Technical staff should be very upfront about saying they don't know certain answers and be honest about the timeliness of new releases. This forms trust and credibility in the eyes of the developer. Most developers understand that difficult decisions sometimes have to be made, and that it is not appropriate for them to be consulted on every decision, but advice about what is under review for example is often helpful and again builds a positive and trusting relationship.

**Sharing success stories and future plans.** Developers also like to see and know that the platform is evolving. They like to see growth in population and sales and that ARI is working to promote the platform in the media and external sources to build a community. Developers also like to see regular news and announcements on growth and platform developments to feel some security in the sustainability and the longevity of the environment. Knowing the vision that ARI sees for the future is important to developers in that they can adjust their expectation and direction to be in line with the platform as it matures.

**Promotions.** Promotion of the higher end developers is important to encourage quality content. Good content sets a benchmark for other developers, thus ARI announced that it will provide incentives to the best developers. Statements of that nature are incredibly motivating. As our merchandising and marketing services mature, there is increased focus on promoting developers and content that bring value to the world. Rankings, reviews, tagging, co-marketing, bundling, paid promotions are all in the works. Throughout the marketplace development process, ARI is planning to test new options and revise its policies to foster a healthy economy while offering sensible options for not-for-profit and educational content creators, that do not put the commercial market to disadvantage.

**Practices That Should be Avoided.** ARI strives to be responsive to new requests or suggestions from the community. However, it is very important to consider each request in terms of the impact on other groups (i.e., City developers vs Content creators vs users). Sometimes, developers have polarized views on what priority ARI should give to bug correction or new functionality release. In this



**Figure 2:** Virtual Fashion is the fastest growing part of Blue Mars economy. Image courtesy Estelle Parnall Designs, <http://estelleparnell.com>

regard, ARI is careful not to forgo common interests while trying to satisfy one particular group.

If functionality is to be removed from tools, reasonable notice and reasons for doing so should be given. New bugs incurred from fixes or new functionality should be fixed promptly and with priority.

Staff should be careful not go in-world unless they are prepared to engage with the users and developers or they will be perceived as aloof and unresponsive. Friendliness and a sense of team spirit go a long way to inspire and encourage developers.

## 5 Conclusions

While the evolution of Blue Mars continues, there is a difficult tight rope to walk between wanting to have content to showcase and promote the platform (and to bring in more developers and users), and having the patience to motivate and support the developers that are already in place. This had to be done in tandem with the development of new functionality and trying to attract and retain new users to the platform.

Forming a positive and respectful working relationship between the developer community and technical staff was integral to the start up phase of Blue Mars. Encouraging and sustaining developers through new functionality releases became a crucial role in not only retaining and developing the 3D creators, but in improving the performance of the platform.

As Blue Mars evolves and matures into a final product, developers understand that the level of support provided by ARI cannot be sustained. But with a good developer base, and an established forum and wiki resource, and a reasonable initial user population, the developer community will become much more self-reliant.

## References

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