

Request for Information (RFI)

Virtual Worlds for Singapore

IDA (RFI)-016

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REQUEST FOR INFORMATION (RFI)

Virtual Worlds for Singapore

INTRODUCTION

1. In June 2006, the Infocomm Development Authority (IDA) launched Singapore's 10 year infocomm master plan called the "Intelligent Nation 2015" or "In twenty-fifteen", to chart the innovative use of infocomm technologies in the various economic clusters. iN2015 is guided by three main themes, which are Innovation, Integration and Internationalisation.
2. Under the iN2015 master plan, the IDA's vision is to establish Singapore as a digital media and entertainment (DME) capital offering innovative content, services and technologies to the world. One of the key recommendations to achieve this goal is to develop Singapore into a centre for the creation and commercialisation of DME technologies, and making available technologies and platforms for media and entertainment companies to create content and services.
3. Within the DME space, significant innovations have taken place in the virtual world segment. Virtual World technology has been a driver for entertainment, specifically for games and online social networks. With the growing interest to explore the use of Virtual World as platforms for K-12 education¹, enterprise collaboration², and online advertisement³, this has led to many companies seeking to explore new business models and to better understand this space. This excitement and interest was evident at the *State of Play V*, a thought-leadership conference on Virtual Worlds hosted by Singapore in August 2007.

PURPOSE OF REQUEST FOR INFORMATION (RFI)

4. IDA proposes establishing a programme to harness Virtual Worlds technologies in realising the iN2015 DME vision. The aim of this RFI is to gather feedback, commercial interests, and challenges faced by Virtual Worlds stakeholders. Annex A provides a brief overview of Virtual World.
5. Prospective industry players are invited by the IDA to submit information relevant for building on the concept of Virtual Worlds for Singapore. These

¹ Second Life Education Wiki, secondlife.com/educationwiki

² IBM software in virtual worlds, www.ibm.com

³ eMarketer - Kids, Teens and Virtual Worlds, www.emarketer.com

proposals will help IDA to obtain information in which it can best develop an industry implementation framework for Virtual Worlds in Singapore.

6. Respondents may also want to specifically address some of the issues in deploying Virtual Worlds, such as:
 - Cost of development and the viability of shared infrastructure;
 - Virtual World standards and inter-operability; and
 - Regulating, managing, and policing Virtual Worlds.

7. This RFI seeks to gather comments from the following groups:
 - a. **Technology Providers:** Owners or providers of virtual world platforms / technologies, middleware suppliers, enabling software services, are invited to submit their comments or suggestions in how they can make this virtual worlds concept possible;
 - b. **Developers:** Players from the virtual world development community (i.e. virtual world developers, content providers) who may be users of the technology components offered by providers in 6(a) above are invited to submit their comments or suggestions on how they envisage virtual worlds could be developed to serve their needs.
 - c. **User Groups:** Users from the industry (i.e. brand owners, media/content owners, ad agencies, merchants) who may offer products (virtual or real) to consumers are invited to submit their comments or suggestions on how they envisage virtual worlds could play a role in growing their business.

SUBMISSION OF INFORMATION

8. This RFI is a mechanism for gathering information and concept proposals for the Virtual Worlds for Singapore. It does not constitute a procurement process, nor does it create any binding obligations on IDA.

9. The submission, in addition to the information requested in Annex B, should contain details as outlined in the guidelines in Annex D.

CONFIDENTIALITY OF INFORMATION

10. The IDA encourages submission of original ideas and will respect confidentiality on proprietary and commercially sensitive information. Companies are to state which parts of the information are proprietary/ commercially sensitive information.

11. However, there may be instances where the ideas or information is already residing with the IDA, overlap with ideas or information submitted by other companies, or are already available in the public domain. In such cases, the ideas will not be considered as proprietary and the IDA reserves the right to use them.

VARIATION

12. The IDA reserves the right to update and/or modify content contained within Annex B: Virtual Worlds for Singapore Concept including "Information Requested". Such updates and modifications may be issued as *Corrigendum*.

FORMAT OF SUBMISSION

13. Information must be submitted in English and written in a clear and concise manner.
14. Interested parties are requested to submit in soft copy and in Microsoft Word format.
15. The submission should be typed single-spaced with Arial font size 12. Please leave space for margin of 2.5cm on the left and right, top and bottom.

CLOSING DATE OF SUBMISSION

16. The closing date of the submission is 15 January 2008 at 1700hrs. Please send all submissions to **IDA_VWS@ida.gov.sg** prior to the closing date.

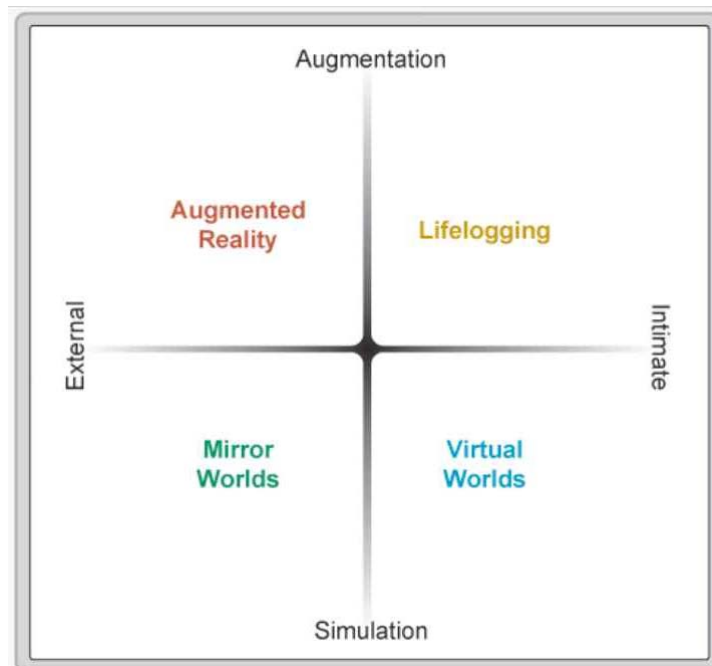
ENQUIRIES

17. All enquiries regarding this request should be sent to **IDA_VWS@ida.gov.sg**.

ANNEX A: A BRIEF OVERVIEW OF VIRTUAL WORLD

INTRODUCTION

1. Virtual worlds have existed since 1978, where the first text-based chat world, MUD (Multi-User Dungeon/Domain) emerged. Since then, there has been great interest in 3D virtual worlds where currently, among two of the most popular virtual worlds are Second Life, a social environment with 10,058,640 total residents⁴ (897,711 residents logged in during last 30 days) and World of Warcraft, a massively multiplayer online game with more than 9 million subscribers⁵. Their successes and recognition garnered indicates that consumers are ready to embrace virtual worlds.
2. In Metaverse Roadmap – Pathways to the 3D web, the term “metaverse” is used to describe the convergence of virtually-enhanced physical reality and physically persistent virtual space⁶. The diagram below shows the four key components of the Metaverse:



Source: Metaverse Roadmap, published June 2007 (metaverseroadmap.org)

- Virtual Worlds – A computer-based simulated environment intended for its users to inhabit and interact via avatars. It increasingly augments the economic and social life of physical world communities.
- Mirror Worlds – Mirror worlds are informationally-enhanced virtual models or “reflections” of the physical world. Their construction involves sophisticated virtual mapping, modelling, and annotation tools,

⁴ Second Life Economic Statistics (October 12, 2007), secondlife.com

⁵ Blizzard Entertainment, Press release July 24, 2007, www.blizzard.com

⁶ Metaverse Roadmap – Pathways to the 3D Web, www.metaverseroadmap.org

geospatial and other sensors, and location-aware and other lifelogging (history recording) technologies.

- Augmented Reality – A hybrid structure in which virtual elements, through the use of location-aware systems and interfaces, are overlaid on our visual/audio/haptic sense of the physical world to augment information flow.
- Lifelogging – Augmentation technologies record and report the intimate states and life histories of objects and users, in support of object- and self-memory, observation, communication, and behaviour modelling.

3. Some of the benefits of a 3D virtual world are as follows:

- Immersive and Engaging Experience
- Socialization/Community
- Persistence
- Immediacy/Real-time
- Sense of location ('being there')

4. Virtual Worlds Management recently released a report stating that US\$1 billion have been invested in 35 virtual worlds companies within a short span of 1 year, from October 2006 to October 2007⁷. Of the US\$1 billion, US\$196.8 million was invested in 33 companies, while the remaining captured by the two acquisitions, namely Walt Disney's US\$700 million acquisition of Club Penguin and Intel's US\$110 million acquisition of 3D virtual worlds graphics technology company, Havok. The total amount of investment raised indicates a growing market and the readiness by users and businesses to use virtual worlds.

5. With the increasing investments in virtual worlds, many real world corporations such as Coca-Cola and Dell are experimenting with virtual world to various degrees of success⁸. While the 3D virtual worlds are currently successful as social networking and gaming platforms, they do not necessarily provide enough features for business users. It is evident that as virtual world technologies advance and mature, more users are expected to take to the virtual worlds; and this will eventually transform the way people work, live and play in the foreseeable future.

⁷ Virtual Worlds Management – Market Research, www.virtualworldsmanagement.com

⁸ Second Life, secondlife.com

ANNEX B: VIRTUAL WORLDS FOR SINGAPORE CONCEPT

DESCRIPTION

- 1 The preliminary concept of the Virtual Worlds for Singapore (hereinafter referred to as “VWS”) is a metaverse platform that enables the development, management, digital distribution, and deployment of virtual world products and services. This RFI’s main focus will be on the virtual world quadrant of the metaverse (as described in Annex A).
- 2 This initiative is envisage to provide the basic infrastructure and technology resources for the virtual world platform(s) so as to enable companies to accelerate creation of products and services on it. Several known virtual world platforms were identified in Annex C as possible examples.
- 3 This platform will be designed to allow developers and user groups to offer content, products and services with minimum capital investment.

SCENARIOS

- 4 Below are a few possible application areas where Virtual Worlds may be most relevant:

Application Area 1: Virtual World for Education

- An immersive environment for teaching and learning that allows for 3D spatial visualization, navigation and interaction.
- There can be an unrestricted variety of settings and locations which can be created, based on teaching and learning needs, e.g. Singapore in 1800’s, Mars etc.
- With such unlimited possibilities of customized environments, there is no limit to the types of scenarios that can be designed for the lesson context. For example, physical geography, history and science.

Application Area 2: Virtual World for Social Networking

- A virtual world where consumers especially youths can form virtual communities and engage in social networking.
- A place where businesses can provide real and/or virtual products and services, and conduct activities and events
- Some of the activities for the virtual world can include:
 - Sale/trading of virtual goods
 - Games
 - Form virtual communities
 - Chat

Application Area 3: Virtual World for Tourism

- A geographically accurate virtual world of Singapore that will help tourist plan their trip to Singapore.
- A place where business travellers can use to facilitate their travel to Singapore to conduct business, attend conferences and exhibitions.
- Allows visitors to explore various attractions and places of interest, even show the historical growth of Singapore

INFORMATION REQUESTED

- 5 Companies are invited to comment on the proposed virtual worlds concept and the ideas presented.
- 6 This RFI also seeks to gather information in the following areas:
- 6.1 Potential Key Services: Respondents are invited to moot ideas and information on the key service(s) or project(s) for the VWS.
- 6.2 Industry Participation: In order for the VWS to be successful, industry participation across the digital media value chain (e.g. content providers, virtual world developers, virtual world operators) is important to ensure that both supply and demand aspects of the virtual worlds are well sustained. Respondents are invited to provide information on the indicative industry partners that may participate in the mooted service(s) and project(s).
- 6.3 Business / Operating Model: As the VWS aims to address a new market for the deployment and delivery of interactive content and services, a viable business / operating model taking into account current and future needs will have to be worked out. Respondents are invited to provide information on viable business / operating models for the services or project(s) mooted.
- 6.4 Governance Policies: In addition to business & technical considerations, governance related areas such as trading rules, rights management and standardisation in the virtual worlds that may need to be addressed. The RFI invites views regarding these areas that may be necessary to ensure the virtual worlds can succeed.
- 6.5 Key Performance Indicators: Respondents are invited to provide information on key performance indicators, both quantitative and qualitative, which could be used to measure the success of the mooted service(s) and project(s).

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ANNEX C: LIST OF VIRTUAL WORLD PLATFORMS

While not exhaustive, the list below provides some known Virtual World platforms that companies may consider as relevant for their RFI submission:

Product (URL)	Company (Country)	Comments
Active Worlds (activeworlds.com)	Active Worlds (USA)	
Big World Technology (bigworldtech.com)	Big World (Australia)	MMOG Platform
Croquet Consortium (opencroquet.org)		Open Source
Metaplace (www.metaplace.com)	Areae, Inc. (USA)	
Moove Online (moove.com)		3D Chat World
Multiverse (multiverse.net)		In development
OLIVE (forterrrainc.com)	Forterra Systems (USA)	There.com
Outerworlds (outerworlds.com)		3D Chat World
Project Darkstar	Sun Microsystems (USA)	Open Source, Java-based
Qwaq (qwaq.com)		Focus on collaborative work
Realtime Worlds (realtimeworlds.com)		3D Game Engine
uWorld (uwo3d.com)	UOneNet (China)	

ANNEX D: GUIDELINES FOR SUBMISSION OF RFI

1. Background Information

Please provide the following information about yourself/your company for our record purposes.

- a. Name and Address of Company
- b. Nature of Business, Company Profile and Track Record
- c. Contact Person(s)
- d. Designation(s)
- e. Designated Email(s)
- f. Contact Number(s)
- g. Facsimile Number(s)
- h. Current solutions/products/services offered

2. Response to RFI

Respondents are invited to comment on the areas described below and/or the preliminary concept of Virtual Worlds for Singapore. Respondents are also welcomed to comment on other relevant areas pertaining to the development of this rapid development platform. Respondents may refer to Annex B for an outline of the concept and use that as the basis for comments.

For the information submitted, please cite, where applicable, the reference and source of information, and similar offerings that have been implemented or under trial by other providers.

- a. Potential Key Services. The key service(s) or project(s) for the VWS. For example:
 - i. Technology providers, developers and user groups could leverage on the VWS to deploy their content, products and services in Singapore, as illustrated from the scenarios in Annex B.
 - ii. What are the content, products and services that can tap on VWS? What are the specifications and potential demand?
 - iii. Will the choice of 3D virtual world platform be critical to the success of the services? If so, which is your platform of choice?
- b. Industry Participation. Your company's interest in participating in VWS. Under what situations or conditions will your company be interested to take part in the VWS initiative? And in which of the following capacity (please provide more details):

- i. As a provider of technologies and capabilities;
 - ii. As a developer of one of many services in this platform; or
 - iii. As user of this platform.
- c. Business / Operating Model. Suitable business / operating models for the service(s) or project(s) mooted. For example:
- i. In your model, how will you derive your revenue?
 - ii. How can this platform be operated such that your company and the other participating businesses can benefit?
 - iii. How do you think the Government can support the industry in the development of VWS in the initial period? Is there a place for one common virtual world infrastructure to be provided by the Government or should this be left to the industry to provide?
- d. Governance Policies. In addition to business & technical considerations, governance related areas such as trading rules, rights management and standardisation may need to be addressed. The RFI invites views regarding these areas that may be necessary to ensure this platform can succeed.
- e. Key Performance Indicators. Your company is invited to provide information on key performance indicators, both quantitative and qualitative, which could be used to measure the success of the mooted services and project(s).