

ONLINE GAMES DEVELOPMENT

AN OPPORTUNITY TO REVOLUTIONISE THE GAME DEVELOPMENT PROCESS

ITI TECHMEDIA IS INVESTING £5.5M IN THE CREATION OF NOVEL TECHNOLOGIES TO ADDRESS SOME OF THE KEY ISSUES ASSOCIATED WITH THE DEVELOPMENT OF ONLINE GAMES



ITI Techmedia is a commercially focussed organisation with an economic development remit for Scotland. It is committed to positioning Scotland as an important world centre for the creation and marketing of new intellectual assets that will achieve commercial value and stimulate economic benefit. It seeks to engage with individuals and organisations that may be interested in commercialising the intellectual property it develops, from a base situated in Scotland.

Its R&D portfolio spans the spectrum of digital media and communications technologies. One significant area of focus is online games.

Online games have a brief history but are expected to have a brilliant future. There are now enough people on the internet willing to pay for entertainment and other services to make online games a viable proposition. The big challenge is making them work.

How can we create games, communities, and companies that are able to ride the online wave?

Many of the key challenges can be solved by technology. ITI Techmedia has set out to make the online games development process more productive via the provision of novel technologies that can be integrated into the existing tools and middleware chain.

“ITI TECHMEDIA IS SEEKING TO ENGAGE WITH INDIVIDUALS AND ORGANISATIONS THAT MAY HAVE AN INTEREST IN TAKING THIS TECHNOLOGY TO MARKET”

ITI TECHMEDIA'S R&D OBJECTIVES

- Reduce development cost and time
- Allow developers to focus on game design and playability
- Facilitate planning and increase the predictability of the games development process

This £5.5m R&D Programme has been split into four streams:

- Game design tools
- Programming productivity enhancements
- Network scripting language
- Procedural content generation



GAME DESIGN TOOLS

Solving problems during the game design process is expensive. Currently, more than 20% of development cost is attributed to resolving issues that would never have arisen if the industry had suitable game design tools. At present, tool development tends to be proprietary and in-house. There are few specialised game design tools in the market, and those that do exist tend to be integrated with games engines. Clearly, the industry could benefit from a suite of tools that allow game developers to validate game playability before expensive game assets are created.

ITI Techmedia is seeking to establish a game design tools business in Scotland utilising the novel intellectual property currently under development.

DELIVERING INNOVATION TO INDUSTRY

Contact : Gillian Brown
Tel: +44 (0)141 240 1187
gillian.brown@ititechmedia.com

ITI Techmedia's Solution

- **A notation and simulation system** that abstracts game design into notational format that allows developers to simulate design scenarios and test difficulty, survivability and other gameplay features before game assets are created. The solution can be used for:
 - Simulating Gameplay
 - Usability and Testing
 - Modelling Difficulty
 - Proving correctness

The Market Opportunity

The global market opportunity for game design tools and middleware is forecast to be \$395m in 2007. With more than 1500 independent game developers combined with the large publisher studios, the market for efficiency and productivity enhancing technologies could yield at least 3,000 design seats per annum.

PROGRAMMING PRODUCTIVITY TOOLS

ITI Techmedia aims to create tools that enhance the performance of games systems. Such tools already exist but the ITI development improves the implementation of them.

This technology is already being exploited in anti-tamper/anti-hack applications however, opportunities for commercial exploitation of this technology exist in a number of application areas, including:

- Embedded software optimization
- Multi-core software parallelisation

ITI Techmedia is seeking to engage with any individual or organisation with an interest in these applications with a view to creating a global business from a Scottish base.

“LICENSING THE INTELLECTUAL PROPERTY FROM THIS R&D PROGRAMME PRESENTS AN OPPORTUNITY TO CREATE NEW, MARKET-LEADING BUSINESSES”

NETWORK SCRIPTING LANGUAGE

ITI Techmedia is developing a simple language that handles the complexity of writing games and simulations that run over a network.

Access to this new and novel technology will allow an individual or organisation to develop a global network tools business in Scotland. ITI Techmedia is keen to hear from anyone with such an interest.

ITI Techmedia's Solution

A scripting language that enables the following:

- Real time updates to game servers without down time
- Optimisation for multi-core processors
- Management of the effects of variable network quality
- Deterministic online behaviour

Administration tools that support deterministic online behaviour, including:

- Accurate testing, fault recreation and debugging of network code
- Monitoring and repurposing of resource usage

Network physics integration that interfaces the network system with existing physics solutions to ensure that physics-based events occur synchronously across multiple network nodes.

The Market Opportunity

The global market for network games tools and middleware is forecast to grow to over \$53m by 2010. Game networking solutions are marketable to a significant proportion of the 1500 independent game developers worldwide as well as the publisher studios.

PROCEDURAL CONTENT GENERATION

Online worlds and increasingly larger games are creating an ever greater need for game assets thus the industry needs to find quicker, easier and cheaper methods for creating these assets.

ITI Techmedia is creating a toolkit for non-expert users that will enable the procedural generation of buildings, and is seeking individuals or organisations that may wish to take this technology to market from a company based in Scotland.

ITI Techmedia's Solution

A procedural content generation tool that enables easy creation of architectural game assets while minimising the use of memory and disk space.

The Market Opportunity



The total value of buildings in games is forecast to be worth \$780m by 2015.

For more information, or if you would like to discuss licensing this technology, contact Gillian Brown, Director, Marketing & Communications, ITI Techmedia. Details below.

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