FACT SHEET

List of Awarded NTU Projects for Research & Development Programme on Interactive and Digital Media in Education: 3rd Call for Proposals

<table>
<thead>
<tr>
<th>#</th>
<th>Title of Proposal</th>
<th>Main Principal Investigator</th>
<th>School/ Research Centre</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Using Embedded Technology Support (i-Cube) for Children’s Concept Development through Play</td>
<td>Assoc Prof Goh Wooi Boon 吴伟文副教授</td>
<td>School of Computer Engineering</td>
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<tr>
<td>2</td>
<td>Enhancing Education in Environmental Awareness: A Game-based Approach to Ambient Learning</td>
<td>Asst Prof Chen Hsueh-Hua Vivian 陈雪华助理教授</td>
<td>Wee Kim Wee School of Communication &amp; Information</td>
</tr>
<tr>
<td>3</td>
<td>Intelligent Agent-augmented Multi-user Virtual Environments: Research into Designs for Learning Environments of the Future</td>
<td>Asst Prof Miao Chun Yan 苗春燕助理教授</td>
<td>School of Computer Engineering</td>
</tr>
<tr>
<td>4</td>
<td>Youth Tell: Bridging Formal and Informal Learning through Digital Storytelling with Singapore Youth</td>
<td>Asst Prof Katherine Anderson</td>
<td>National Institute of Education</td>
</tr>
</tbody>
</table>

Synopses of the Four Proposals Awarded

1. Using Embedded Technology Support (i-Cube) for Children’s Concept Development through Play

This proposal concerns the development of electronic play-blocks called i-Cubes, which are embedded with smart sensors, audio-visual outputs and wireless communication capabilities to a host computer. The i-Cube system is able to record the physical activities between the child and the blocks and allow researchers to develop assessments and therapies that are responsive to the children.

“I believe the i-Cube is a very exciting and innovative application of computer engineering technology and I am looking forward to working with my colleagues in NIE because they are always so enthusiastic about new ideas that can help children learn better”
– Assoc Prof Goh Wooi Boon
2 Enhancing Education in Environmental Awareness: A Game-based Approach to Ambient Learning

The project involves the development of mobile and web-based educational games for children to understand weather patterns, climate and environmental changes. In this project, students will be able to download real time weather data to play games on their mobile phones and learn about the environment at the same time.

“I am very happy to receive this funding for my project as very few social science projects receive such funding. This project not only develops games but it also investigates the impact of gaming. At the same time, it applies the concept of media convergence to aid students’ learning.”
- Asst Prof Chen Hsueh-Hua Vivian

3 Intelligent Agent-augmented Multi-user Virtual Environments: Research into Designs for Learning Environments of the Future

The project involves the integration of a new class of intelligent agents with the 3D Multi-User Virtual Environment (MUVE). These life-like intelligent agents will have realistic emotions, and will be able to interact among the agents and users. The project hopes to create a more realistic learning experience for the learner, and also bridges the gap between the learning content, the learners, and the simulated virtual worlds.

“This project has the potential to be internationally competitive in advancing research into the design and use of educational IDM, particularly on how students learn with advanced virtual environments with intelligent agents.”
- Asst Prof Miao Chun Yan

4 Youth Tell: Bridging Formal and Informal Learning through Digital Storytelling with Singapore Youth

The proposal involves the development of a digital platform for youth to compose stories using multimedia tools, videos, music, pictures, etc. The project hopes to provide the resources and support a community of digital storytellers, especially in places where youth may not have access to traditional storytelling tools to write their stories.

“Our team is passionate about working with Singapore youth. By creating social and digitally-mediated contexts, we hope to broaden readily available ways for youth to create, author, and learn on their own terms, with their own voice, and in ways that matter to them and their communities.”
- Asst Prof Katherine Anderson