WorldSkills Innovation Lab participant

ITE 3D Virtual Reality Learning Application: Water, Plumbing & Sanitation

Location: ITE College Central, Singapore **Duration:** 3 months, starting approx. mid Feb 2014

Background:

WorldSkills Foundation and ITE are excited to announce the second 3D Virtual Learning Innovation Lab, hosted at ITE's state-of-the-art Creativity & Innovation campus in downtown Singapore. This project is based around the design and development of immersive 3D Virtual Reality training content for Plumbing and Sanitation.

The selected candidates will join with students and staff – as part of ITE's Academic and Pedagogy Innovation team – to develop cutting-edge Plumbing and Sanitation training applications for the 4-wall, 3D Virtual Reality centre.

This Innovation Lab project will be integral to a series of new educational products that WorldSkills Foundation hope to develop for the Plumbing, Sanitation and Water Management sector in 2014, building up to the next WorldSkills Competition in São Paulo, 2015.

If you are a creative, inventive developer with a hunger for creating groundbreaking 3D interactive media – and excited to explore what Singapore has to offer over a 3-month mission to this dynamic technology hub – we want to hear from you!

We are keen to recruit three participants: two from software programming backgrounds, one from a 3D modelling/development background.

Provisions:

- WorldSkills Foundation will fund return flights to Singapore and weekly stipend (TBC).
- ITE provide all accommodation on campus.
- We just need you, your ideas, and your technical skills!

Language:

Placement will be delivered in English: professional language proficiency is crucial.

Project requirements:

- WorldSkills Champion: You have represented your country in competition at WorldSkills level.
- Skill set: Software Development, 3D Modeling and Authoring. Please see project info on page 3-4.
- Good verbal and written communication skills.
- Outgoing, independent and friendly, enjoy meeting new people, working in teams.
- Interest in travel and exploring new cultures.
- Social media savvy... we need you to share your experience with your family and friends around the world; help us push your story out to our global network of supporters!
- General interest in technology industry and VET sectors.
- Keen to experiment, prototype and explore the design process.

Other requirements:

- In good health, informing our team of any specialist dietary requirements or existing medical conditions.
- Selected candidates must confirm full travel and medical insurance is in place for duration of placement.

Application Process:

Applications close: **20 Dec 2013** (midnight GMT)
Candidate interviews: early Jan 2014
Successful candidates announced: mid Jan 2014
Expected placement start: mid Feb 2014
Expected placement finish: late May 2014
Planned project showcase at Singapore International Water Week: June 1–5 2014

To apply/for more information:

Please send your CV/résumé and a cover letter explaining your interest in the role.
Links to online samples of your work (eg. related projects) are also highly encouraged.

innovation.labs@worldskillsfoundation.org

3D Virtual Reality Learning Applications Development

We are looking for *passionate and creative talents* to be part of an ITE team to deliver appealing, interactive and engaging learning applications on 3D Virtual Reality (VR) platform in the area of Water, Plumbing & Sanitation.

Project Description: 3D VR Learning Application for Water, Plumbing & Sanitation

This is a new innovative 3D VR learning application project for the *Nitec* in Facility Technology course in ITE. The project members will have the opportunity to work with the Facility Technology subject matter experts to conceptualize the instructional pedagogy learning design and develop the learning application.

The application development will comprise of a 3D VR environment showing the water pumping and supply system from the source distribution to the buildings. In addition, there will be interactive learning scenarios in the virtual environment for the following tasks:

- Repair water supply and sanitary piping system
- Replace piping work and accessories of water pumping systems
- Clearing drainpipe blockages

The 2nd phase of development of the learning application will include the following interactive learning scenarios:

- Replace cold/hot water service fittings
- Replace sensor-activated taps and flush valves
- Replace sanitary appliances

Skillsets:

- Pedagogical design skill to design and develop a instructionally sound learning application using the affordances of 3D applied technology to add value to students' learning
- 3D modeling using 3D authoring tools such as but not limited to Cinema 4D, 3DS Max, CAD or Maya.
- Ability to use scripting with database accessibility for interactions and simulations control
- Ability in debugging and troubleshooting, integrating objects into the 3D platform engine, optimization and testing.
- Project management skill.

Job Scope

Competency	Task
A. To design instructionally sound learning application using technologies/tools.	A1. Collate the needs of user groups through incoming requests, one-to-one discussions, surveys, etc.
	A2. Conduct research that is focused on enhancing the use of innovative and effective technologies/tools for learning application.
	A3. Create learning design specification documents and storyboard based on the applied technologies/tools.
	A4. Evaluate the technologies/tools to assess if the learning design fits instructional purpose.

B. To produce 3D models/art assets for learning application.	B1. Prepare art asset requirements. B2. Produce sketches design of elements and environment of art asset. B3. Create 3D models/art assets. B4. Integrate 3D models/assets onto the respective application platform. B4. Perform checks on final 3D models/art assets on the respective application platform.
C. To perform program scripting.	C1. Develop programs for application functionalities and interactions. C2. Perform code optimization. C3. Perform unit testing & debugging. C4. Prepare technical documentations.
D. To perform application testing.	D1. Create test plan. D2. Create bug report. D3. Conduct user acceptance test.
E. To manage project effectively.	E1. Prepare project schedules. E2. Determine resource requirements. E3. Identify deliverables. E4. Monitor project progress. E5. Prepare project report. E6. Present project.