

ACP PROGRAMME GRANTS EDUCATION SUPPORT

APPLICATION REQUIREMENTS & EVALUATION CRITERIA

Objective:

To encourage development of health professions education programmes or initiatives which are sustainable and in line with the SingHealth Duke-NUS Education Masterplan. Health professions education (Frenk et al, 2010) **focuses on the education of health professionals** in order to achieve positive health outcomes for patients and populations.



- Align to the Education Masterplan
- Pay close attention to the Evaluation Criteria (page 2); these are key to success of the application
- Themed applications preferred
- Be scholarly using Boyer's model – specific types of scholarship are preferred (page 3)
- Familiarize yourself with the budget guidance, especially what can and cannot be funded
- Additional Technology-Enhanced Learning (TEL) resources are available

General Information:

1. A health professions education programme / initiative (i.e. proposal) that clearly demonstrates alignment with 1 or more of the 5 SingHealth Duke-NUS Academic Medical Centre (AMC) Education Masterplan strategic thrusts (as listed below) is preferred:
 - (a) *Develop capacity and capability to achieve education excellence*
 - (b) *Build a community of collaborative practice-ready professionals through Interprofessional Practice and Education (IPE)*
 - (c) *Enhance education platforms by leveraging innovation and technologies*
 - (d) *Streamline and integrate training & development, structures and support services*
 - (e) *Foster wellness, resilience & nurture psychologically safe environments in healthcare*
2. Proposals that do not have focus on the education of health professionals (i.e. focuses on education for general public, focuses on clinical research study etc.) are not supportable.
3. Themed proposals have also been introduced with effect from FY2022 – please see appendix 1.
4. Proposals will be evaluated based on the following **Evaluation Criteria**:
 - (a) *Meets education needs*
 - *Aligned with Education Masterplan and the goals of Academic Medicine, and/ or*
 - *Address need(s) on the ground. Evidence of a needs analysis is a plus.*
 - (b) *Uses appropriate educational theory / theories and /or conceptual framework(s), eg. citing situated learning theory for a workplace-based learning intervention, using Analysis, Design, Development, Implementation, and Evaluation (ADDIE) for design of said intervention, using implementation science frameworks for rollout.*
 - (c) *Study design*
 - *Appropriate study design, methods, population, analysis*
 - *Defined outcomes that are appropriate, relevant & impactful to the ACP and/or SingHealth Duke-NUS AMC. Using a program evaluation framework is a plus.*
 - (d) *Innovative, novel*
 - (e) *Appropriate use of technology (if relevant)*
 - (f) *Be scalable (where appropriate) to other contexts within our AMC, as the intent is to benefit broad groups of people, eg. scalable from a pilot study in 2 hospitals in an ACP to multiple hospitals, or scalable beyond nurses to allied health professionals or doctors.*
 - (g) *Implementation should be described, considering potential hurdles and ways to overcome these. Considering applying implementation science frameworks.*

(h) Sustainability – projects should be sustainable in terms of finances, manpower, and equipment. Eg. After the initial funding, how will the project be funded? Will faculty still be available?

5. All application(s) must be completed using the prescribed ACP Programme Grants Application Form. Failure to comply with requirements and / or an incomplete application will result in disqualification from review and funding.
6. Clinicians with Duke-NUS Faculty or Non-Faculty Academic Appointment are eligible to apply. A Co-PI is required if an applicant does not have a Duke-NUS Academic Appointment.
7. Each programme can be budgeted up to a maximum of S\$50,000 in quantum and can be funded for 1-3 years.
8. Each proposal should demonstrate alignment with goals of academic medicine, with focus on its impact to the SingHealth Duke-NUS AMC and the ACP.
9. **Budgeting Guidance:** It should be noted that in the budget request:
 - (a) Publication cost may be supported with a cap of S\$2,000.
 - (b) Manpower may be supported only if it can be clearly justified with appropriate costing.
 - (c) Purchasing of new equipment is not encouraged, as sustainability is important. Reduce, Reuse and Recycle as far as possible.
 - (d) For purchase of services or items, applicants are to show that they have explored alternatives especially internally within the AMC, and justify why/how they are not suitable, before making the said requests.
 - (e) Purchase of overseas consultancy service delivered in Singapore will not be supported. This includes inviting an overseas Educator to Singapore.
 - (f) Overseas travel expenses (e.g. overseas conference, seminars, etc.) are also not supported.
 - (g) Logistical costs (i.e. refreshments, catering etc.) are also not supportable.
 - (h) Please note items indicated in budget table are final, there should be no changes (i.e. addition of new items/increase budget) unless requested by the Panel.
10. **Educational scholarship** is encouraged and is supported. Using Boyer's classification (Steinert, 2017) we prefer the Scholarship of Application and the Scholarship of Teaching and Learning, over Scholarship of Discovery and Scholarship of Integration.

11. Applicants can approach SingHealth Duke-NUS Institute of Medical Simulation (SIMS) for the following services: Provision of suitable headsets for the project on a rental model basis and/or Project Management - please see appendix 2 for more details.
12. There should not be any duplication or overlap with existing platforms / resources within SingHealth Duke-NUS Academic Medical Centre (e.g. resources from AMEI, SingHealth Academy, SingHealth Graduate Medical Education Office etc) – please see appendix 3 for a summary of available Technology-Enhanced Learning (TEL) resources in the AMC.
13. For other Technology-Enhanced Learning (TEL) resources related to e-learning, animation, video production, etc., you may contact the following:
 - bagus.gheo.pradikta@singhealthacademy.edu.sg
 - elarning.helpdesk@singhealthacademy.edu.sg
14. All submitted documents and data therein will be made available to any persons who are reasonably required to review, evaluate, recommend, and approve the award. They shall also subsequently be used to facilitate administration, talent management and development within the SingHealth Duke-NUS AMC.

NEW with effect from FY2022 - Themes

JOAM, in collaboration with Group Education, have introduced themes into the grant calls with effect from FY2022.

Why are we doing this?

This is to improve alignment to the Education Masterplan. Better alignment will ensure that the grants we fund produce results that are strategically beneficial to our AMC. The 3 themes selected are *Technology-Enhanced Learning* (TEL), *Faculty Development*, and *Interprofessional Education & Collaborative Practice* (IPECP), which dovetail into the Masterplan.

What are these themes?

Theme 1: Technology-Enhanced Learning

Broadly defined as the application of information and communication technologies to teaching and learning (Kirkwood and Price 2014), TEL aims to support learning, improve the learner's experience, and maximise knowledge and skills acquisition. Examples include mobile apps, learning management systems, e-learning, Virtual and Augmented Reality, etc. Proposals should emphasize thoughtful, considered application of technology to education, based on well-established education theories or a conceptual framework. They should not merely be about purchase and usage of technology, and seeing whether learners like it or not (Kirkpatrick level 1). They should instead focus on measures of learning and beyond, clearly identifying what aspect(s) of teaching and learning will be enhanced, how will the enhancement(s) be achieved, and how these will be measured.

Theme 2: Faculty Development

Faculty development comprises activities aimed at helping faculty members become more effective as educators (Steinert 2008). Examples include workshops, peer coaching and mentoring, using communities of practice, reflection and so on. Education activities that help clinicians become better clinically (e.g. suturing workshop) would not be considered faculty development, however proposals for such activities will be considered under *non*-themed proposals as part of general health professions education (see below). Activities for patient / caregiver education would *not* be considered faculty development, nor would they fit into the remit of this grant call for health professions education, and should not be submitted as proposals.

Theme 3: Interprofessional Education & Collaborative Practice

We define IPECP using the 2010 WHO definitions. *Interprofessional education* is an experience that occurs when students from two or more professions learn about, from, and with each other. *Collaborative practice* happens when multiple health workers from different professional backgrounds

work together with patients, families, carers and communities to deliver the highest quality of care across settings. We are looking for proposals where the WHO ideals stated above are met.

How will this work?

We encourage all of you to submit themed grant proposals related to these 3 themes. Non-themed grant proposals will also be considered.

Whether themed or non-themed, we prefer proposals with appropriate conceptual framework(s), study designs, methodology, analysis and impactful outcomes, especially educational outcomes beyond personal satisfaction (Kirkpatrick Level 1) that are relevant to our AMC. Quantitative and qualitative studies, and mixed-methods studies are all welcome.

Proposals are also not limited to a single theme. Combining themes is perfectly acceptable – e.g. using technology to run a faculty development programme across multiple institutions within our AMC.

You should indicate on the form which theme(s) your proposal falls under, or N/A for non-themed grant proposals. Whether themed or non-themed, all proposals will be judged by the same criteria. Preference will be given to proposals which fulfil the themes.

NEW with effect from FY2022

SIMS i3 Hub

The SingHealth Duke-NUS Institute of Medical Simulation (SIMS) i3 Hub is a dedicated space of 63 sqm that is equipped with a wide array of Extended Reality (XR) solutions and cutting-edge gaming equipment, offering healthcare professionals immersive and interactive learning experiences to hone their clinical skills and competencies in a risk-free environment.

The Hub aims to inspire collaborations and innovations in healthcare simulation by gathering like-minded healthcare professionals, while spurring the incubation of new ideas to advance patient safety.

The configuration of the i3 Hub is optimised to support the training of individuals and healthcare teams with different types of extended reality headsets such as Oculus Quest, HTC vive, Microsoft Hololens as well as gaming computers and tablets are available for training purposes.

Service Available

A. Provision of suitable headsets for the project on a rental model basis

PI who is interested to leverage on the immersive technologies should engage SIMS for discussion on the project and also the models and quantity required to prepare the grant application. SIMS can also advise on the amount of funding to request for headsets support.

The scope would include:

- Advice on type and model of various headsets & cost
- Loan of headsets when required by ACP till project completion or up to 2 years after receiving the grant
- Responsible for all headsets repairs (due to normal wear and tear)
- Loan of additional headsets beyond agreed number (based on availability)
- Post project support of headsets for training at an agreed rental model

B. Project Management

Project Management services could be provided to PI if required.

Project management roles

- Discussion with SME & potential vendors on project requirements
- Calling for quotes from vendors & evaluation
- Coordinate ITQ specifications & requirements between ACP & ALPS
- Management of SME requirements & selected vendor throughout the project
- Keeping track of timeline & project deliverables
- Coordinate with SME for project updates to JOAM & ACP
- Coordination with vendor & finance for payment milestones
- Arrangements of User Acceptance Test & records
- Setting up of training calendar at the end of the project to train faculty and users

Rental Charges & Model

The rental cost is the fee for the headsets. With this, the PI / SME / Project Team can use the headsets whenever required without any additional costs. The headsets will be loaned to the SME / Project Team when required till project completion or up to 2 years after receiving the grant.

Before the submission for the grant, the SME / Project Team is expected to update SIMS on the requirements to ensure SIMS has sufficient stock to meet the needs.

The Team is to reserve the headsets at least 1 week in advance but subject to availability. SIMS will keep sufficient quantity of the headsets and would loan the best and/or suitable headsets available, when required.

Below is the rental of i3 Hub and the price list for 3 of the commonly used headsets & tab.

Item	Rental Fee	Remarks
i3 Hub rental, including Manpower support	\$130 / hour	Includes headsets

Headsets / Tablet	Rental (per day)	Rental (per week)	Rental (per Month)	Rental (per project - 2 years)
Microsoft Hololens 2 ¹	\$90	\$360	\$1,350	\$9,000
HTC Vive ² / Oculus ³	\$15	\$60	\$225	\$1,500

Microsoft HoloLens 2¹

To augment virtual objects into the physical world and seen via the headset. Objects can be shown at 1:1 scale and interact with surfaces.

The HoloLens has a plethora of optical sensors, with two on each side for peripheral “environment understanding” sensing, a main downward facing depth camera to pick up hand motions, and specialized speakers that simulate sound from anywhere in the room. The HoloLens also has several microphones, an HD camera, an ambient light sensor, and Microsoft’s custom “Holographic Processing Unit”.

HTC Vive²

The HTC Vive is a fully immersive virtual reality headset. Using two sensors in each corner of the room, the HTC Vive tracks and maps your movement around the room. The headset is connected to the power bank via cord, and the controllers are wireless.

A computer that has the processing power to run virtual reality is also required. **If HTC vive is used, SME has to ensure a computer is available or include it in the grant budget.**

Oculus³

A self-contained device with its own applications. Allows user to walk around in the physical world and have their movements reflected in the virtual world.

Project Management Cost

The proposed project management (PM) cost is 10% of the grant value or \$3,000 whichever is higher. Interested PI could engage the team to discuss and work out the final PM cost.

For more information or discussion related to SIMS, Gamifications, Holomedicine etc., you may contact the following:

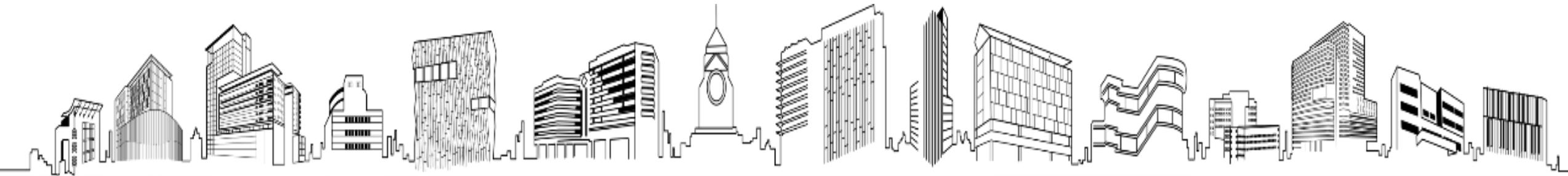
- diana.fu.c.w@singhealthacademy.edu.sg
- sims@singhealth.com.sg

or visit the website:

<https://www.singhealthacademy.edu.sg/sims/facilities-resources/Pages/Simulation-Facilities-i3-Hub.aspx>

TEL RESOURCES

Appendix 3



01

E-LEARNING & CONTENT DEVELOPMENT

02

SERIOUS & MULTI-REALITY GAMES

03

**VIRTUAL CLASSROOM & SIMULATION
FACILITIES**

TEL Resources & Facilities

E-Learning & Content Development

- Instructional design and eLearning development
- 2D/3D Illustrations
- Video Production & Animation
- SingHealth eLearning Portal Management

Serious & Multi-Reality Games

- Game-Based Training
- Multi-Reality Lab
- Holomedicine VSI
- Headsets for Training & Development
- Consultation Services

Virtual Classroom & Simulation Facilities

- Virtual Classroom
- Medical & Surgical Simulation Facilities

01

E-LEARNING & CONTENT DEVELOPMENT

Learning Development (LD): Services

1 Learning Design Consultancy

- eLearning/blended learning design solutions
- SSG course design

2 eLearning Content Development

- eLearning Course development
- Interactive eLearning game development *
- 2D/3D Digital Media and assets
- Illustrations

3 Video Content Development

- Video Production
- Animations
- 360° video development*

5 Training and Facilitation

Cluster-wide Trainings for educators:

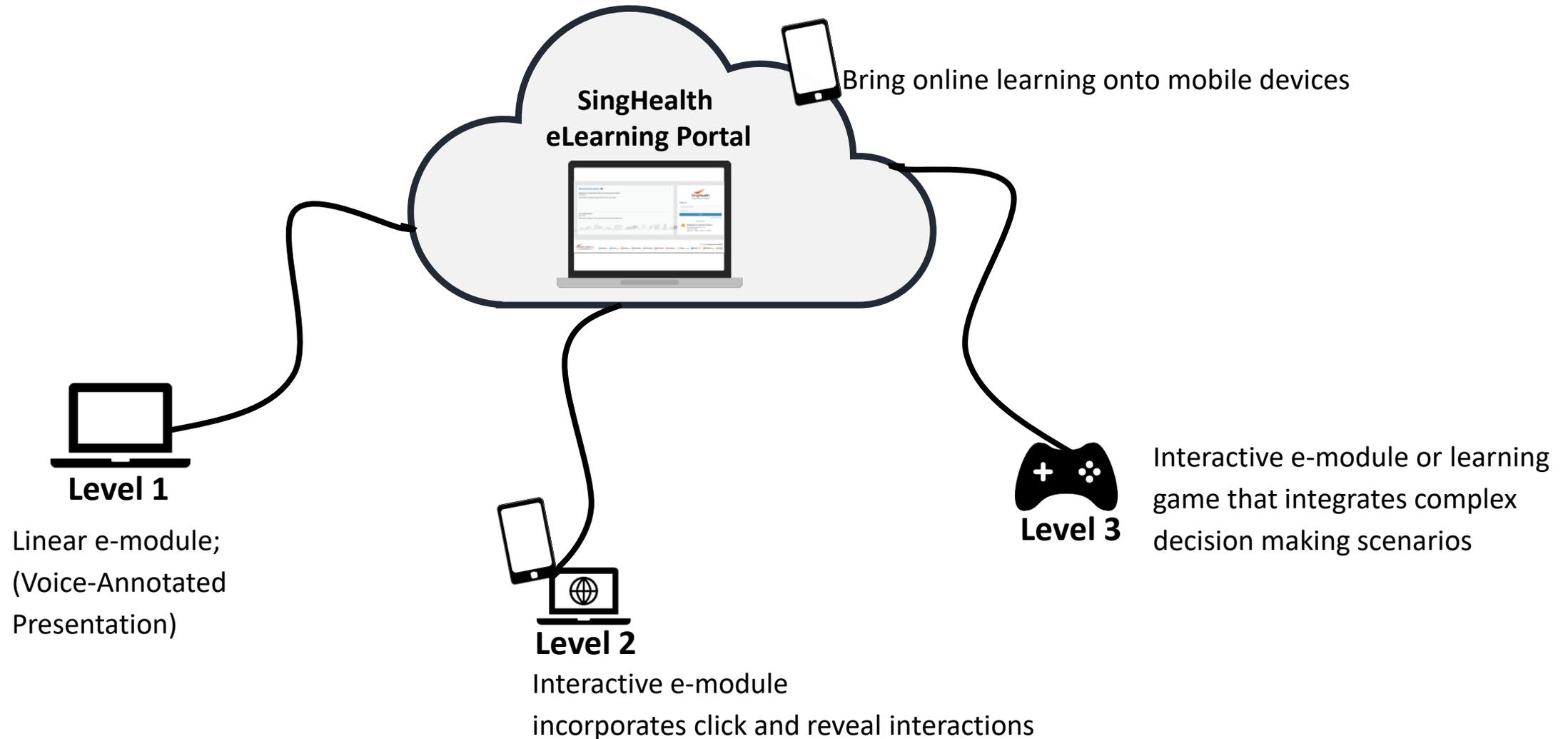
- DIY eLearning Course using Articulate
- Videography using Smart Phone for Teaching *
- LMS Training for cluster users

4 eLearning System Management & Administration

- Cluster-wide eLearning Helpdesk Support
- Daily SingHealth users' creation
- Course creation for commercialization *

* new services

Our eLearning Solutions: Instructional design and eLearning development



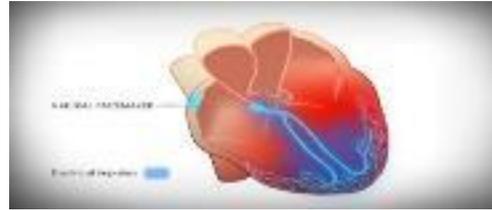
Restricted, Sensitive (Normal)

Our eLearning Solutions:

Video Production & Animations



Skill based / Work process



Illustrated animation



Medical simulation



Instructional



Product demo



Awareness / Education



Video Scenario based / Case study

eLearning Solutions: 2D Illustrations

Level 1



Simple tones

Illustration with black lines only without shadings or colours

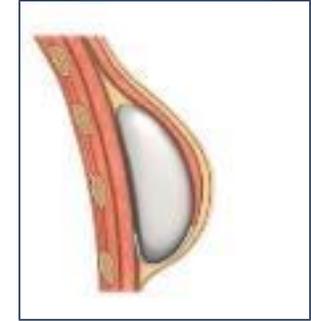
Level 2



Moderate tones

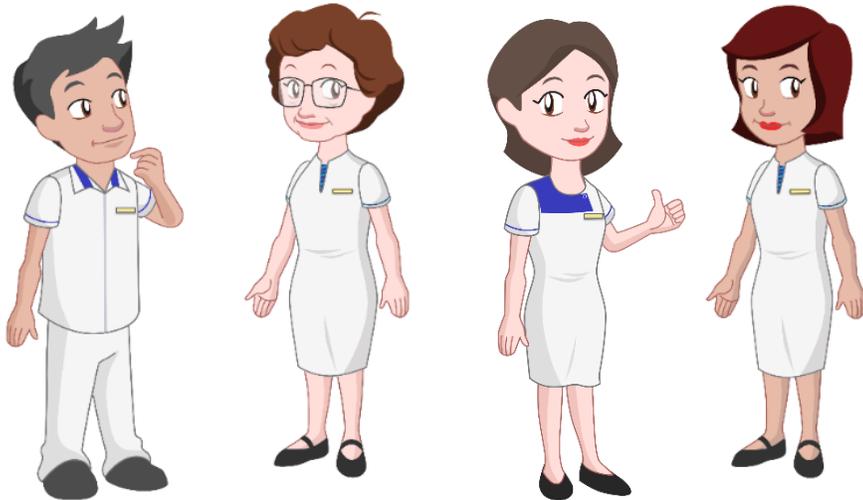
Illustration with a limited range of colours or grey tones

Level 3



Complex details

Illustration with wide range of colours, shadows, highlights and textures



Restricted, Sensitive (Normal)

SingHealth eLearning Portal

Announcements

Welcome to SingHealth New eLearning system (LMS)
07/12/2017
Let's take our eLearning journey to the next level.

eLearning Week 1
23/11/2017
Please participate in the upcoming eLearning Programme.



Sign in

Enter Your User ID

Password

Login

Reset Password

SUPPORT

Helpdesk for Technical Support
lmsupport@wizlearn.com
+65 6777 9661
(Monday - Friday: 7.30am - 9.00pm)



PATIENTS. AT THE HEART OF ALL WE DO.™

Next Generation LMS (NGLMS): Available in Q3 FY23

New features:

- e-Commerce & Payment Gateway
- Video Repository
- Video Editing
- Video Interactive Quiz
- Learning Analytics



Take It With You!

Access grades, course content, and more - right from the Blackboard app on your phone.

Available today on iOS or Android:

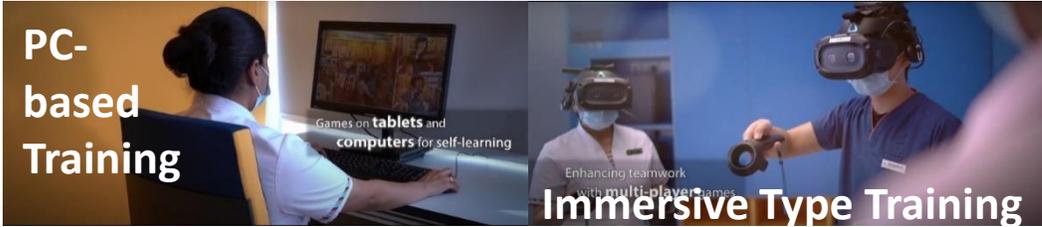


02

SERIOUS & MULTI-REALITY GAMES

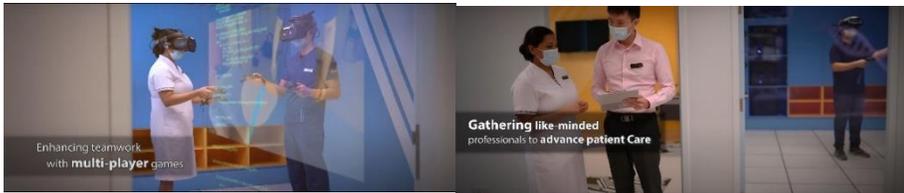
Serious & Multi-Reality

Game-Based Training



Developed 22 Serious Games, Virtual, Augmented & Mixed Reality Games for Training

- 14 games from \$750K SSG LTAG
- 8 VR/AR games from SIMS i3 Hub



SIMS i3 Hub (Multi-Reality Lab)



Holomedicine for Training



Headsets for Training & Development



Consultation Services

- Game design, development & evaluation
- Project Management
- Application for grants, competitions
 - IAL InnovPLUS wins of \$200K grant for 3 projects (TAMS with SIMS, SMILE with NDC & GO PRIME with SGH)

List of Serious Games Available for Training

1. Basic Cardiac Life Support (SGH)
2. Pharmacy Visual Games (SGH)
3. Learning of middle ear & mastoid anatomy through VR gaming (CGH)
4. Managing Resuscitation (KKH)
5. MRI (NNI)
6. Hazmat Suit (SGH)
7. Acute Medical Emergency (SKH)
8. Infection Prevention (SKH)
9. Acute ischemic stroke thrombolysis & endovascular therapy trainer (NNI)
10. Emergencies in Primary Care (SHP)
11. Paediatric Resuscitation (KKH)
12. Medication Errors (KKH)
13. Improving Procedural Skills of Residents Through Gamification (GamePro) (SKH)
14. Gamification of Organ Dissection (SGH)
15. ACLS
16. Heart Anatomy & Heart Visualisation (for Medical students, junior residents)
17. Acute Care Medicine
18. VR Emergency Resuscitation (4 Games) - Adult Seizure, Paediatric Seizure, Paediatric SVT & Paediatric Anaphylaxis

SIMS i3 Hub @ Academia

- Extended Reality Lab with 3 Immersive Training Rooms using various type of Headsets
- 8 Games are provided in this Hub
 - ACLS & Heart Anatomy & Heart Visualisation
 - Acute Care Medicine
 - VR Emergency Resuscitation (4 Games - Adult Seizure, Paediatric Seizure, Paediatric SVT & Paediatric Anaphylaxis)
- Gaming PCs for browser based games



Holomedicine VSI

- Acquire 2 Year Trial Licence with 3 HoloLens and 1 Streamer
- The Holomedicine system is able to allow
 - pre-surgery planning,
 - telemedicine,
 - patient education, and
 - training.
- The system is used in the areas
 - Head & Neck,
 - Dental,
 - Oral Maxillofacial,
 - Visceral &
 - Traumatology.
- Trial Focus – For Education and Training
 - Contact us: SIMS
(sims@singhealth.com.sg)



Headsets for Virtual & Mixed Reality

- Headsets Available for Training & Development

Headsets	Qty	Type
Microsoft HoloLens 2	4	VR, MR
HTC Vive Cosmo Elite*	3	VR
Oculus Quest 2	9	VR

- Decontamination units are available to disinfect the headsets after every use

* It requires base station sensor and server PC, therefore, unable to loan out.



03

VIRTUAL CLASSROOM & SIMULATION FACILITIES

Virtual Classroom @ Academia



Academia L2S2

- Real-time remote learning close to an in-room experience.
- Promotes collaboration and active learning, on-site and online.
- Interactive and provide engagement with students wherever they are without giving up learning outcomes

SIMS Facilities @ Academia

- 3 Simulation Labs
- Surgical Skills & Simulation Lab
- 4 Skills Lab
- 2 Simulated Operating Theatres (Dry & Wet)

