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NRIC:
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Gender: Male
Citizenship:
Singaporean
DOB: 16/07/85

Education

National University of Singapore (2006-2010) Bachelor of Computing (honors)
Pioneer Junior College (2002-2003)
Bukit Panjang Government High School (1998-2001)
South View Primary School (1992-1997)

Employment

Senior System Analyst at NUS IT (May 2018 – Present)
Research Engineer (full-time) at CUTE Center,IDMI NUS (June 2013 – May 2018)
Junior Research Assistant (casual) at CUTE Center, IDMI, NUS (Nov 2012 – Feb 2013)
Junior Research Assistant (casual) at Department of Communications and New Media, NUS (July 2010 – Aug 2012)
Junior Research Assistant (part time) at Department of Communications and New Media, NUS (June 2009 – June 2010)

Technical Experience

Actively used: Unreal Engine, Unity (C#), Javascript,
Language experience: Python, C++, Java, Objective C, Clojure, Scheme

Hardware: Oculus Quest, HTC Vive, Oculus Rift, Kinect
Libraries: Vuforia(AR), OpenCV, CUDA, Matlab/Octave

Version Control: Git, Bazaar, Subversion
Platforms: Android, IOS

Employment Projects

Current Active Projects

Nursing VR (2020)
Developed a VR prototype in Unreal Engine for the Oculus Quest device for the procedure of doing urinary catheterization. The work involved dealing with Unreal's physics to simulate softbody like the catheter and urine bag and handling of in-game objects to create an immersive VR simulation for clinical practice. The game would also catch violation to the aseptic technique in the execution of the procedure.

ChemPOV (2020)
A multiplayer networked board game for learning organic chemistry developed for chemistry students.
Students move around on the board to collect chemical cards to complete the blanks in a chemical equation. The game is competitive and the first player to complete their equation wins.
Led the project from inception and moving towards a UAT.

CogB (2020)
A mobile serious game for learning about cognitive biases. It is a lively isometric choose your own adventure game where the player goes through mundane scenarios and has practice awareness when they make their decisions as they get to know their own biases.
I led the project from inception to the first UAT with 100 students.

VARS (2018 - 2019)
An AR mobile application built on top of Vuforia and then AR foundation for learning structural loads in buildings.
Developed the UI that guides the students through the content which involved answering questions and interacting with on screen graphs.

Image Recognition/Signal processing projects

AR Chinese Character Writing (2018):
A prototype for chinese character coaching used by students on paper in front of a tablet using OpenCV image processing. The android application would scrutinize the form of every stroke to decide whether it is the stroke that comes next, whether the stroke is well formed and whether it is placed in the right position.

SilveryFun (2017, 2019):
An accelerometer-powered exer-game for cognitively impaired elderly for rehabilitation and strengthening.
Developed a graph visualizer for the data.
Cleaned up data and processed the data to find peaks and troughs.

Virtual Reality projects

VIHA (2018):
In charge of laying out the flow and interaction of the lower limb module in the project on the timeline.
http://cutecenter.nus.edu.sg/projects/viha.html

Holo Cad (2014) : A virtual reality application for dissecting virtual human cadaver for studying human anatomy

Oculus 360 Video (2013): Create a Oculus program that lets people experience a 360 video

Augmented Reality projects

ARMuse (2014 – 2015): An augmented reality based application that focuses on adding interactivity to artwork exhibits in the museum http://cutecenter.nus.edu.sg/projects/ar-muse.html

LeARnus (2016): A web and AR integrated platform for creating AR interactive maze playable on mobiles.
The project has two major components, a web editor for level design and the AR viewer running on the mobile. After fleshing out the grid based maze and setting the behaviour of the objects, the player plays the game by directing an avatar through the maze. The player can gain score, collect objects and resources and get hurt by patrolling enemies. http://cutecenter.nus.edu.sg/projects/learnus.html

AR Organs (2018):
An AR mobile app for primary school students to learn the path that air and food travel. The application is used to scan the individual organ cards (AR markers) and go through small drag and drop interactions on the screen.
http://cutecenter.nus.edu.sg/projects/ar-organs.html

PinLe (2018):
A web application for learning Hanyu Pinyin using AR through the webcam and printed Pinyin cards using Artoolkit for the web. It is a straightforward application of AR marker technology that has a challenge of having to work on a low end notebook with built-in webcam. The technology has since been patented and the Pinyin cards are being sold to schools.

Work done with Department of CNM

Travel Teller: (2013-2014)
An android application that recommends places of attraction with a focus on storytelling.
The app interfaces with google map and provides an interface for the user to author their story.
The system processes thematic similarities of the location visited so far and makes recommendations. The idea being explored here is a co-authoring AI of a travel story.

Cooperative adaptive game AI (2011 – 2012):
A series of games were developed for studying human's behavior and attitude towards cooperative AI. The games are built in the scheme programming language running on jvm called kawa. An example is a sheep herding game where an AI would herd a flock of sheeps together with the player. The AI would adapt to the players play style.

End user programming IDE (2009 - 2013) :
Developed in multiple editors that enabled end user programming for different purposes. Hypedyn being the latest of the list generates hypertext fictions from the nodes and links that are viewed on the web. Hypedyn has since been open sourced on github.

Publications

- WildAR: Creating a Networked AR System for "In-the-Wild" Studies W Lu, MJ Lee, TL Chuah, CK Lee, ZY Lim, EY-L Do ISMAR-MASH'D '15
- Effects of mobile AR-enabled interactions on retention and transfer for learning in art museum contexts W Lu, LC Nguyen, TL Chuah EY-L Do in ISMAR-MASH'D '14
- Telling Stories on the Go: Lessons from a Mobile Thematic Storytelling System A Mitchell TL Chuah ICIDS'13
- Closing the human-AI team-mate gap: how changes to displayed information impact player behavior towards computer teammates C Ong, K Mcgee, TL Chuah, OzCHI '12
- Choosing human team-mates: perceived identity as a moderator of player preference and enjoyment C Ong, T Merritt, K Mcgee, TL Chuah, FDG '11
- Did You Notice? Artificial Team-Mates Take Risks for Players T Merritt, K Mcgee, C Ong, TL Chuah, IVA'11
- Are artificial team-mates scapegoats in computer games T Merritt, K Mcgee, C Ong, KB Tan,AT Abraham, TL Chuah, CSCW '11

Interest

Artificial Intelligence, Cryptocurrency, Macroeconomics, Cognitive Science, Epistemology, Game Development/Design, Zen Buddhism, Go (board game), Mechanical keyboards