Sankha Cooray

Software Engineer

A self-motivated creative developer who always want to implement new unique concepts, a person who like to research about problems in the computer industry and develop creative solutions with innovative ideas. I want to connect and blend real-world objects with digital content to provide better productive software solutions. I am having a strong knowledge and experience in planning or organizing events, objects. I also have a passion for developing augmented reality applications and games

📞 +94714425595   ✉ sankha@ahlab.org   📍 154/2, Pathangiwatta, Morontuduwa, Sri Lanka

Work Experience

Research Engineer
University of Auckland [2020 Jul - Present]

Software Engineer (RND)
Embla Software Innovation [Jun 2018 - 2020]

Software Engineer (Full Stack)
Embla Software Innovation [May 2017 - 2018 Jun]

Associate Software Engineer (Full Stack)
Embla Software Innovation [May 2016 - May 2017]

Visiting Instructor (Interactive Visualization)
CINEC Maritime College [Dec 2018 - Dec 2019]

Top Skills

Unity · Vuforia · Arduino · AR · Angular · Java · CSharp
HTML · AndroidS · VIsualS
XCode · Git · Vue

Research Areas

- Virtual Reality
- Augmented Reality
- Mixed Reality
- Artificial Inteligence
- Computer Vision
- Neuro Science
- Flight Engineering
- Robotics
- Brain Computer Interfaces

Education Status

Bachelor's Degree
Physical Sciences
University of Sri Jayewardenepura
(Maths, Physics, Computer Science)
2013 - 2015

General Certificate
Advanced Level
Taxila Central College, Horana
(Maths - C, Physics - B, Chemistry - C)
2007 - 2010

General Certificate
Ordinary Level
Wadduwa Central College, Wadduwa
(8A, Science - B, Litereature - C)
2006 - 2007

Find me on Linkedin

Awards & Achievements

Innovation Helper (Official AR App)
Seed Forum Global 2018 Oslo

Special Appreciation Award 2018
Embla Software Innovation

Summer Spot Award 2017
Embla Software Innovation

Championship (U15) - 2004
Divisional School Sports

3rd place for 100x4 relay (U13) - 2003
Provincial School Sports

Extra Activities

- **Co-Leader** of faculty orchestra 2015
  (Introduced MIDI technology for the first time in "Sisi Arundathee" history)

- **Music Director** of faculty orchestra 2015
  (Creative music arrangements, Music scores and chord works)

- **Band Member** at faculty band 2013, 2014 and 2015

- **Band Member** at Trendy (local acoustic band) 2018-2020

- **Orchestra member** at faculty orchestra 2014, 2015

- **Audition judge** – Sisi Arundathee 2016 band auditions

- **Athlete**

Associated Projects, Research

Hopu Mobile (Augmented Human Lab) [Nov 2021– Present]
Science Educational mobile game where users can use internal sensors to measure various observables. Virtual creatures may appear upon satisfying a specific condition using a sensor value. Users can discover new creatures, study about their behaviour and collect them by playing set of mini games.

Technologies: Unity3D

AH Symposium Game (Augmented Human Lab) [Sep 2021– Sep 2021]
Official social game of AHLab Symposium 2021. App features treasure hunting like experience where users have to match two AR codes based on given clues. For a each match, app will show 2 facts about the speaker. Users have to match QR codes and collect all speakers. QR codes were mounted inside gathertown

Technologies: Unity3D, Vuforia, GatherTown

Kiwrious Measure (Augmented Human Lab) [Sep 2021– Nov 2021]
Progressive web app as a standalone tool to take many readings using kiwrious sensors. Realtime graph is visuzlizing the value changes. Users can set sampling rate and start a data recoding session. Recorded sessions can be exported individually or all at once.

Technologies: Vue, PWA, Web Serial API, AWS, Docker, Terraform,

Kiwrious Inquiry Editor (Augmented Human Lab) [May 2020 – Sep 2021]
Web platform designed for students to formulate scientific inquiries, make multiple observations, represent their findings in creative ways and discuss these findings. System supports 6 different sensors measuring UV, Light, VOC, Heart Rate, Ambient Temperature, Infrared Temperature, Humidity, Conductivity

Technologies: Vue, ASP.NET core, Web Serial API, AWS, Docker, Terraform,

Nimithlyzer (Embla Software Innovation) [Sep 2019 – March 2020]
Meditation supporting application which helps to relax the mind and gives useful statistics at the end of the session. App also features attractive user interface powered by alpha video animations. Realtime meditation quality is reflected by screen graphic colors and room ambient light colors.

Technologies: Neurosky, Unity3D, Bluetooth Socket programming, UWP, Philips Hue API

Around Colombo (Embla Software Innovation) [Dec 2018 – Jun 2019]
A Desktop game where the player has to go around Colombo and complete given tasks. The game features 2.5D graphics and smooth camera rotations, natural environment behavior, realistic sounds, and effects. Player will learn how to pass some activities based on previous failures.

Technologies: Unity3D, 2.5D Game

Wes Munu (Embla Software Innovation) [April 2019 – May 2019]
Wes Munu is an Augmented Reality Facial tracking mobile app. It will scan your face, and turn you into a Sri Lankan devil to match! Furthermore, the app contains realistic masks of traditional "Sanni" Demons and their real descriptions. Users can take photos and share anywhere they like.

Technologies: AR, Firebase ML kit, Native Android

Emon Play (Embla Software Innovation) [Nov 2018 – Dec 2018]
Emon Play is an Augmented Reality indoor hunting game. it is specially designed to be played inside the office premises. Users have to go around and find Emons (game character) as many as possible within a minimum time. Game contains collected Emon count, consumed time, countdown timer and game history

Technologies: AR, Game, Unity3D, Vuforia

Embla AC (R&D – Embla Software Innovation) [Oct 2018 – Nov 2018]
UWP desktop app to control standard Air Conditioner using USB IR transceiver. UWP app is passing arguments to WinLIRC transmit tool based on corresponding user inputs. WinLIRC server sends IR signals to hardware unit. Cortana custom commands are also attached to this app. Hence users can also feed voice inputs.

Technologies: UWP, WinLIRC, Iguana hardware drivers, Cortana AI

Smart Meetings (Embla Software Innovation) [Aug 2018 – Sep 2018]
Android application to display meeting room availability combined with Arduino controlled ambient lights. Meeting room information is retrieved from Microsoft Exchange. App communicates with the Arduino Nano via Bluetooth. If meeting available for the current time slot, LED's turn red otherwise green.

Technologies: Native Android, Arduino, PWM, Bluetooth, Microsoft Exchange

Seed Forum AR (R&D – Embla Software Innovation) [Jun 2018 – Jun 2018]
Augmented Reality pitch room application specially developed for Seed Forum Global Conference 2018, which was held on 12th June 2018 in Oslo Opera House. The app was intended to be used by Seed Forum participants. Prerecorded power pitch video clips were set as the augmented videos for each company logo.

Technologies: AR, Unity3D, Vuforia, Angular4, C#.net, Web API, Video Streaming

Embla Web Shop (Embla Software Innovation) [Nov 2017 – Jan 2018]
Supportive project goes along with Embla FT which can be used to buy Embla FT version 10 including Version 9 and Membership Activation. User can easily buy Embla FT V10 using Nets payment gateway through the Application or it provides invoicing options for users do not hold Nets payment facility.

Technologies: Angular4, C#.Net, Web API, SQL Server

BIM Tag Plus (R&D - Embla Software Innovation) [Jul 2017 – Nov 2017]
Google Tango based Mixed Reality app for building maintenance. Pre-reported deviations will be augmented as UI elements in screen space but also attached to 3D space objects. An Aruco marker localizes the 3d model as it is overlapping with the real-world building. Tango core handles continues pose tracking.

Technologies: AR, Unity3D, Google Tango, Google Firebase, SLAM

Embla Family Treasures (Embla Software Innovation) [May 2016 – May 2018]
Norwegian web application for genealogists. Users can enter details of their family history. All the family data can display as various report formats such as fanchart, artistic tree, tree editor. App contains several data input views such as Individual editor, Family editor, Place editor, Event editor, Source editor.

Technologies: AngularJS, C#.Net, SQL Server, Electron

Personal Projects, Research

Papi AR (BSCLabs) [Oct 2019 – Present]
Flight simulation application featuring an airplane cockpit view with essential flight instruments which are fed by internal sensors. App also generates AR Space virtual airport which can be augmented on a surface. Aircraft landing phase is visualized in both AR and VR spaces.

Technologies: Unity3D, ARCore, Virtual Reality, Mixed Reality

🏠 In-House

VFT VR (BSCLabs) [April 2019 – Present]
A mobile app specially dedicated for glaucoma patients. Patients can scan their vision to get an immediate report about their glaucoma progression and visual field. This report is almost similar to the actual report given at medical institutes.

Technologies: Unity3D, VR, mobile input devices, Medical scan

🏠 In-House

Sensor 4DXR (BSCLabs) [Oct 2018 – Present]
Sensor 4DXR is a utility app which provides a lot of useful information based on inbuilt mobile sensors. It combines physical sensors alone or with web services to create some useful virtual sensors. Project under development and Alpha version ready.

Technologies: Unity3D, Open Weather API, Spatial audio, Software based Sensors

🏠 In-House

Vocal Racer (BSCLabs) [Mar 2018 – Present]
An interactive mobile game which implements a basic car driving interface powered by voice input steering. App can analyze audio input to drive the car. Project still in POC level

Technologies: Unity3D, Audio Engineering, Game

🏠 In-House

Virtual Tuner (BSCLabs) [Mar 2018 – Present]
Experimental Audio application which analyzes audio input and extracts music information. Optimizing in progress.

Technologies: Unity3D, Audio Engineering

🏠 In-House

DartsAR Lite (BSCLabs) [Sep 2018 – Jan 2018]
The successor of DartAR Pro game. DartsAR Lite is a free app but it contains In-App Purchases. App has a daily limit, once reached the limit, users have to wait until next day or they can buy the unlimited version within the app. Game also contains custom dartboard masking features.

Technologies: AR, MR, Game, Unity3D, Vuforia, Unet, Unity IAP, Feyona AI

 Download on the App Store   GET IT ON Google Play

DartsAR (BSCLabs) [Nov 2017 – Sep 2018]
A Mixed reality mobile game which blends the ancient dart game with modern digital technology. Players can throw digital darts onto a physical dartboard board. Game features cross-platform multiplayer mode. GAAI Fiyona will be the opponent for single player matches. DartsAR provides context-sensitive automated user guides using various tracking technologies.

Technologies: AR, MR, Game, Unity3D, Vuforia, Unet, Feyona AI

 Download on the App Store   GET IT ON Google Play

GraffitiAR (BSCLabs) [Nov 2017 – Jan 2018]
A mixed reality app which is turning the physical graffiti wall into an interactive & immersive graffiti wall. App features 3D spatial audio, smooth animations, augmented seasonal greetings and birthday greetings. Target audience was company staff. Touching on drawings will augment the artist of the drawing with a music track.

Technologies: AR, MR, Unity3D, Vuforia, Spatial audio, Google Firebase

 GET IT ON Google Play

Pattern Cricket Extended (BSCLabs)
NFC based 3d animation triggering mobile app. A mobile application will simulate all kind of bowling techniques with animations, each animation will trigger by pre-programmed NFC tags which are mounted below the Pattern Cricket, printed game board (book). Furthermore, gyro-based automatic pose adjustment controls available to make it more dynamic.
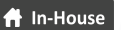
Technologies: Unity3D, NFC, RFID, 3D Visualization

🏠 In-House

Pattern Cricket (BSCLabs) [Jan 2012 – Paused]
It's a new era of Board Games, Players can experience as they are playing a real cricket match. Included all the cricket scenarios and uncertainties. Decisions should be taken wisely while uncertainty and probabilities are given by dices. Game interface is a printed book and there are some supportive assets.

Technologies: Board Game, Adobe Illustrator, Adobe Photoshop, Printing technologies

🏠 In-House

Augmented Facebook (BSCLabs) [Jan 2016 – Mar 2016]
An artistic mobile app which is able to recognize face drawings. Real reference photo is augmented on the drawing. App also introduces new invented concept called Hybrid AR codes. Hybrid AR code can be used by both QR reader and AR app. Each Hybrid AR code holds a playable video.

Technologies: AR, Unity3D, Vuforia, Adobe Premiere, Adobe Photoshop

🏠 In-House

Freelance Projects, Research

Mobitel Mrobot (Ribelz Digital) [Mar 2018 – Mar 2018]
An Augmented Reality Application for Mobitel Google IO 2018 event. Mrobot app augments the Mobitel dancing robot in front of mRobot banners. Users can take photos and share them on twitter. There are different mRobots for each banner. Dancing sequence can also be changed by tapping on the augmented robot.

Technologies: AR, Unity3D, Vuforia, Twitter API, Facebook API

 Download on the App Store   GET IT ON Google Play