

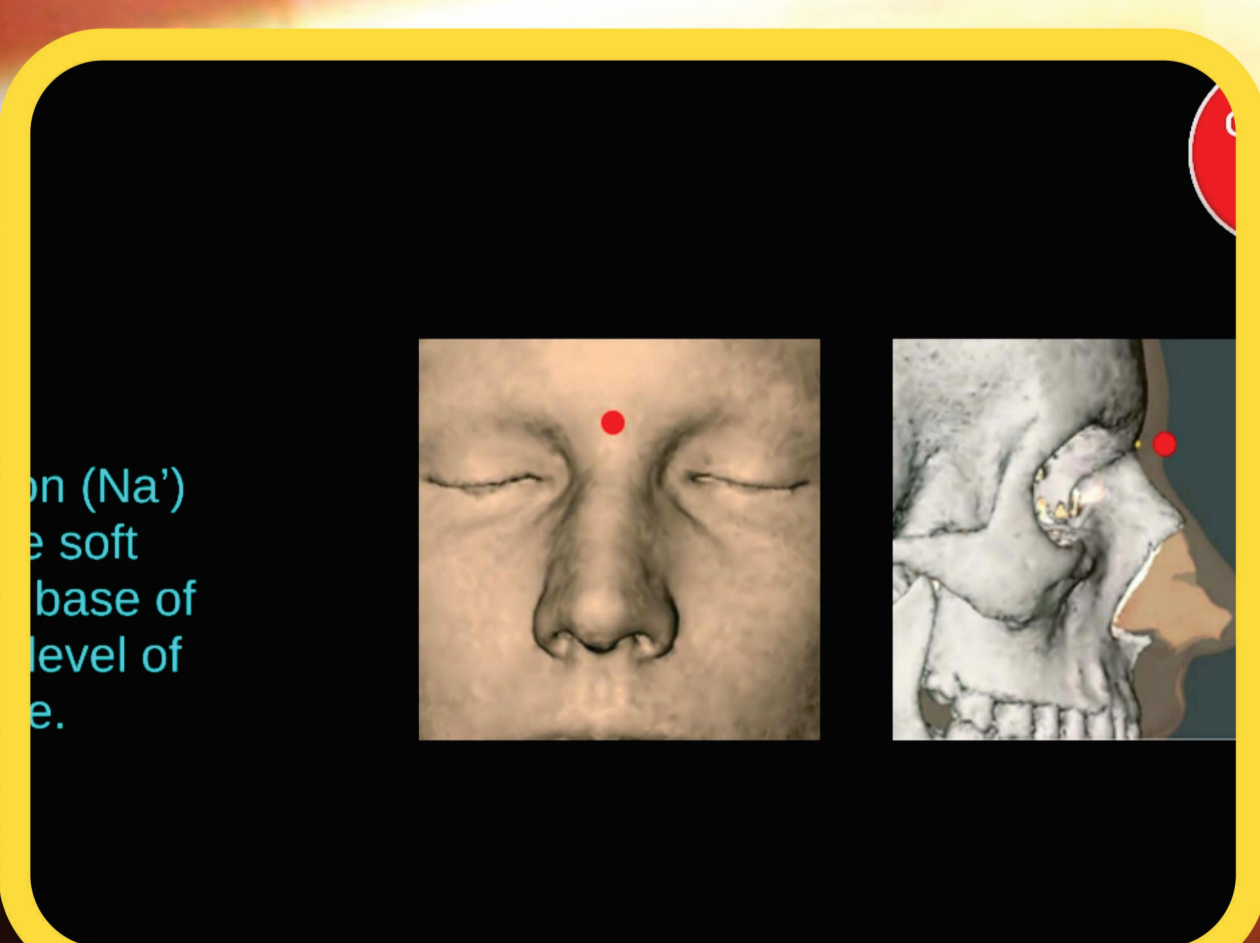
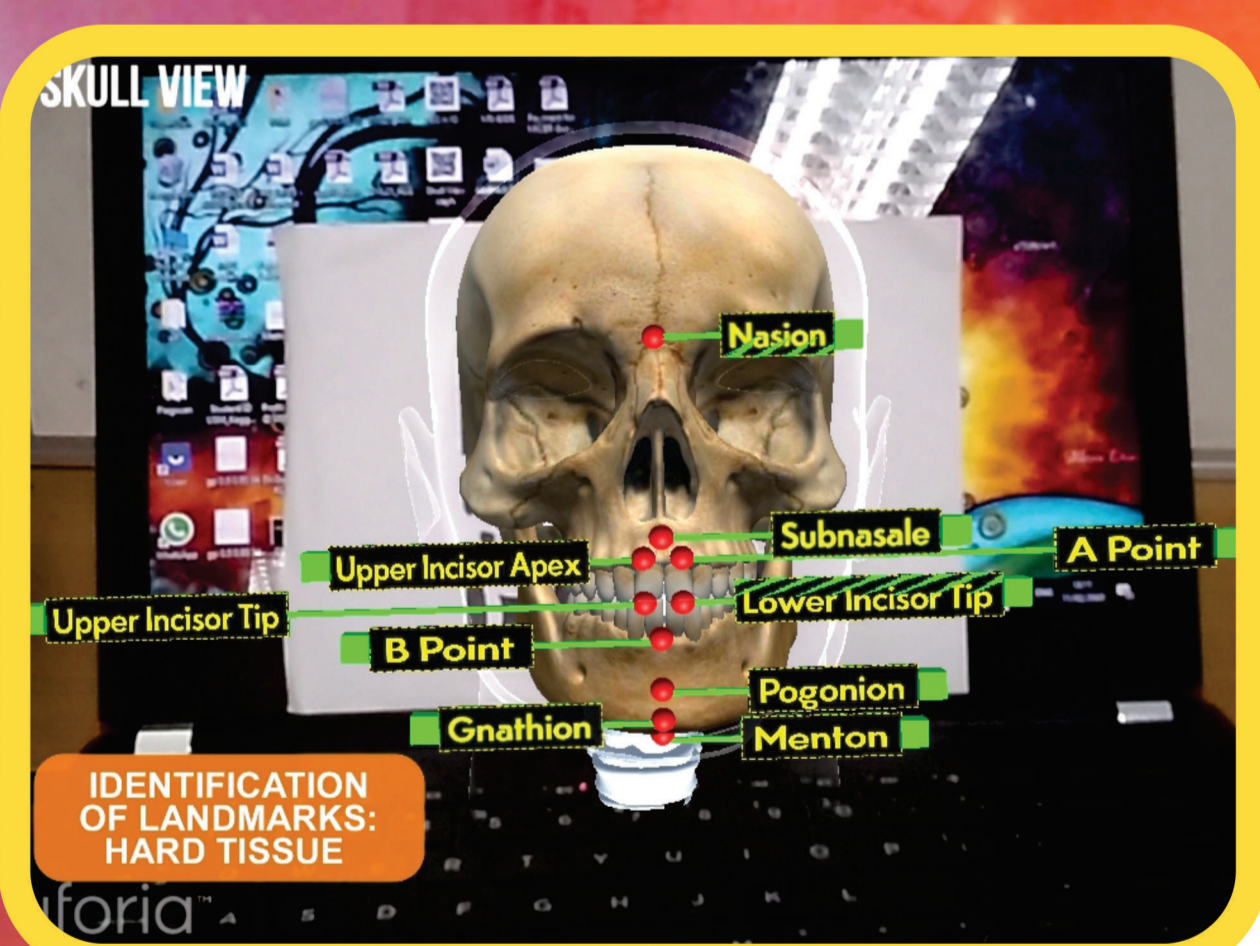
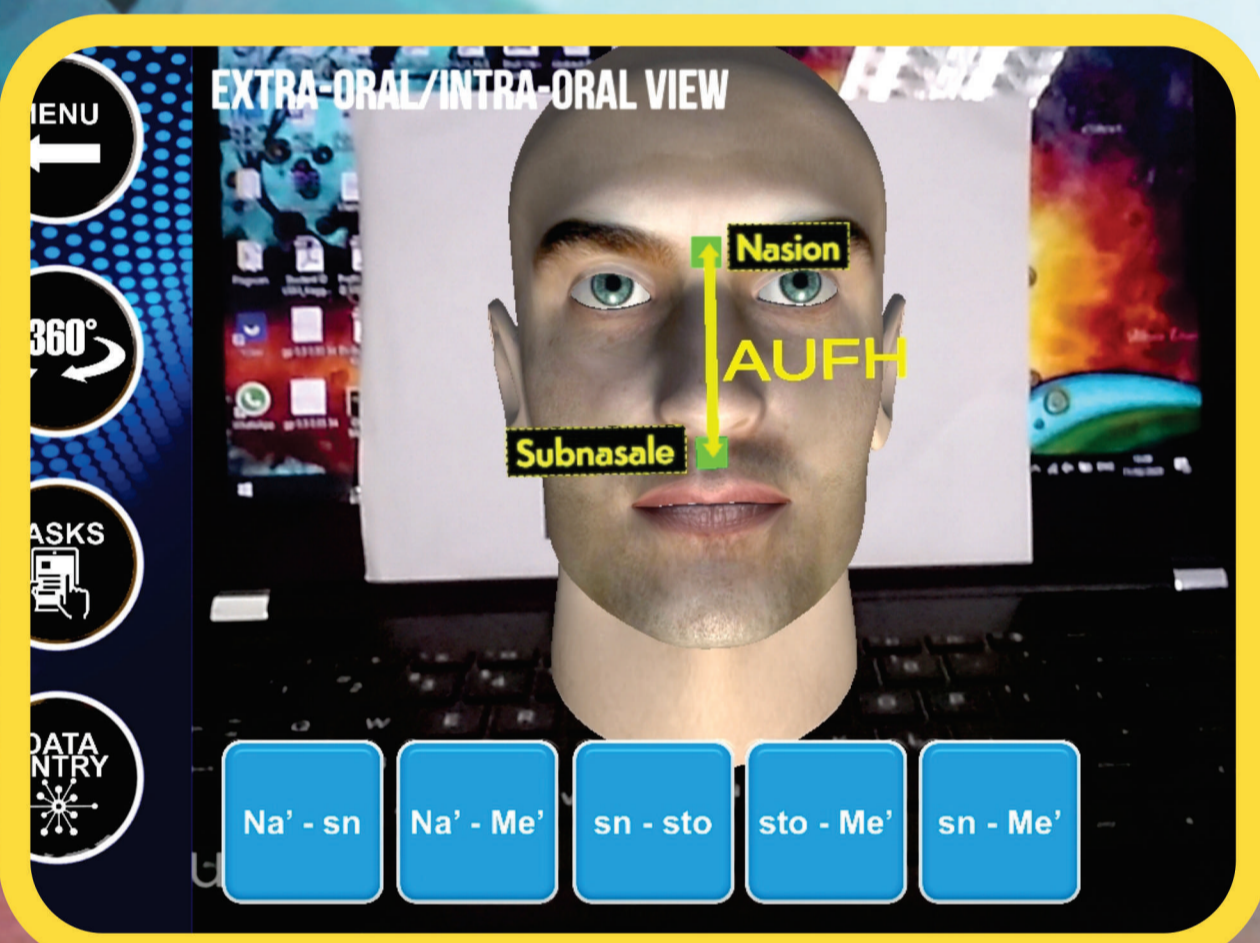


Researchers:

ASSOC. PROF. DR. NOREHAN MOKHTAR  
Dr. Yulita Hanum P Iskandar  
Dr. Gururajaprasad Kaggal Lakshmana Rao

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# MAR-ORTHO-EDU: Mobile Augmented Reality for Orthodontics



## INTRODUCTION

- The MAR-ORTHO-EDU (Mobile augmented reality – orthodontic – education) is an interactive AR application for orthodontic training.
- The app provides 3D AR models for an engaging and learner-controlled experience.

## PROBLEM STATEMENT

- The current orthodontic learning environment lacks the usage of technology. It is inhibited by an ineffective visual perception, ineffective feedback and lack of personalisation.
- The training environment is location and time based creating cognitive dissonance during transitioning between theoretical, pre-clinical and clinical stages.

## NOVELTY AND INVENTIVENESS

- The first hand-held interactive medical 3D AR simulation tool (app) for orthodontic training.
- Interactive interface with onscreen tools such as 360° rotation, ruler, hints (objects, text, sound and illustration).

## INTELLECTUAL PROPERTY (IP) STATUS

- Copyright: LY2020000173
- Patent search was done

## USEFULNESS AND APPLICATION

- Enhanced visual perception using feature-rich scalable 3D AR models.
- Effective feedback using onscreen hinting with sound, colour and illustrations.
- Personalisation of learning environment through ubiquitous (anywhere, anytime and any pace) learning.
- Overcoming cognitive dissonance through 3D MAR by combining real-world and digital world learning.
- Deliberate practice for competency-based learning in acquiring clinical skills.
- Supports single (hand-held) and/or multiple (projection onto a bigger screen) users.

## STATUS OF INVENTION

- TRL 5 - Validated in an intended environment

## COMMERCIAL POTENTIAL

- Perpetual-based licensing to industries
- Subscription-based licensing to local and international universities.
- Market as a stand-alone app to single user.

## POTENTIAL PARTNERS

- BookDoc
- Universiti Kebangsaan Malaysia

## KNOWLEDGE MANAGEMENT

- Supported by Academic Grant (1001. CIPPT. 8080004) and Bridging Grant (304.CIPPT.6316053)
- Publications: 1 citation indexed journal and 1 chapter in book
- Presentation at international conference
- Talent development: 1 PhD

## IMPACT OF THE PRODUCT

- Environmental integrity by reducing carbon footprint
- Economic viability of knowledge delivery by reducing the number of clinical sessions and reducing the cost of purchasing study models and skull
- User friendly option of digital learning that are inclusive, equitable and relevant for present and future generation.
- Contribute to the sustainable development goal on education by providing resources that meet the dynamic needs of individual learners

Contact  
Person

ASSOC. PROF. DR. NOREHAN MOKHTAR  
Advanced Medical & Dental Institute (AMDI), Bertam Campus,  
Universiti Sains Malaysia, MALAYSIA  
Tel: +604-562 2388 Fax: +604-562 2026  
E-mail: norehanmokhtar@usm.my