# BodyMap Brochure

Augmented Intelligence, Inc. www.mai.ai

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#### **Our Vision**

#### Introduction

#### Features

- Comprehensive Anatomy
- High Fidelity Model
- Intuitive UI
- Easy Manipulation
- Interactive Flashcard
- Powerful Tools
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**Our Vision** 

Since 2016, MAI has been on a mission to create a metaverse of medical education. We pioneered social learning for human body in a virtual world, and today, we help individuals and organizations connect and revolutionize how they teach, learn and share medical knowledge.



#### Quality

Inside BodyMap, the highly accurate, and high-resolution digital assets pave the way for an engaging social learning experience.

#### Usability

The user interface menus and tools are made intuitive for a seamless, user-friendly learning experience during or outside class.

#### Sociability

BodyMap motivates instructors and students to engage, interact, and collaborate within a VR social learning space.

| aclavicular Fossa<br>😑 []   | <b>¢</b> $\ddagger$        |   |
|-----------------------------|----------------------------|---|
| Left Clavicopectoral Triang | Thorax<br><sub>Cutis</sub> |   |
| oral Region Parts           |                            | + |
| Left Lateral Pectoral       | Region                     |   |
|                             |                            |   |
| eft Hypochondriac Region    | 100                        |   |
| Izzie Stevens 🎍             |                            |   |

# Introduction

#### What is BodyMap?

BodyMap is an immersive, engaging VR solution for human anatomy. We offer medical students and professionals a high-quality, comprehensive 3D human model with 12 body systems, over 5,000 flashcards, and interactive tools for the best teaching and learning experience.

#### Why BodyMap?

Human anatomy plays a critical role in understanding any branch of medicine. This is why we created BodyMap to better educate individuals their health, better help educators teach their classes, and better prepare students to become next-generation doctors.

#### "

BodyMap is better than anything else on the market for students. It is an important tool for students as a big part of our curriculum is not only knowing the anatomical features, but seeing how they relate to one another.

#### "

— Katie Jones Medical Student, University of Toledo

#### **Our Advantages**

- Comprehensive Anatomy
  12 body systems based on strict
  MRI and CT data reconstruction
- High-Fidelity Model We adopt modern techniques to cast clear, and precise anatomical landmarks
- Intuitive UI Easily access your desired content in an all-in-one menu
- Easy Manipulations Intuitive, and quick interactions with the 3D human model
- Interactive Flashcards 5,000+ flashcards, each with text, image, or animation
- **Powerful Tools** VR space for anyone to interact with one another in real-time, anywhere
- VR Sessions

VR space for you to socially interact with others in real-time, anywhere

 Learning Platform
 MAI Portal, a place to track your learning performance and progress

# Features

# **Comprehensive Anatomy**

12 body systems based on strict MRI and CT data reconstruction







6

#### 12 body systems

Explore over 5,000 structures from 12 body systems and 9 body regions and how they are related to each other.

#### Male or female model

Switch between the complete male and female 3D models displayed at 1:1 ratio to examine their anatomical differences.

#### Wide and close-up views

Observe the 3D models at macroscopic, microscopic and crosssectional views in great details from any angle. LOD Model

high frame rate

View more details when

model, while maintaining a

you move closer to the

# **High-Fidelity Model**

We adopt modern techniques to cast clear, and precise anatomical landmarks

# **PBR Material** Display surface textures with bumps, roughness, or specular of structures

#### **HDR Rendering**

Observe structural contours of the model with rim light and shadow

# **Intuitive UI**

Include 4 menu tabs of Body

#### Easily access your desired content in an all-in-one menu

#### **Body Systems**

Systems, Library, Animations and systems

#### Library

Bookmarks

Bookmarks

modified virtual model

Tabs

A list of default courses based on our selected body structures and images

Animations

Tools

A list of customized courses for your learning



BodyMap Pro LOD: 5 levels PBR: Full HDR: Yes



BodyMap Standalone LOD: 3 levels PBR: Partial HDR: No



Other product

LOD: No PBR: No HDR: No



12 body systems including digestive, skeletal, nervous and circulatory

A list of joints that show how they move and the muscles involved in the movement

Include brushes, slicing, and web browser for better teaching and



# **Easy Manipulations**

Intuitive, and quick interactions with the 3D human model

## **Interactive Flashcard**

5,000+ flashcards, each with text, image, or animation

# csilladder

#### Move

Drag the 3D model further away, close to you or to any position.



**Grab** Take out any structure to observe it one at a time, and closely.



**Hide** Hide any structure to better focus on the visible ones.



Zoom in, or out the model to observe each structure in detail or at large.



#### Annotate

Spin the model 360-degree to view it from any angle.



**Undo** Undone or redone your previous action in the order you did or undid them.

#### **Description Flashcards**



#### Info

See the structural name and labels of any selected structure

#### Isolate

Focus on one specific structure at a time by hiding the rest

#### Pathway

Watch how liquids or electricity of the structure flow through the body

#### Audio

Hear the correct pronunciation of each structure

#### Image Flashcards



#### **Cadaver Images**

Include overall & organ images of heart, lungs and liver

#### Pin Images

Drag each image out to closely observe its details

#### **Animation Flashcards**

#### **Radiographic Images**

Include CT, MRI and X-ray images of heart, lungs and liver

#### **Reliable Sources**

Licensed by Stanford Medicine Lane Medical Library and National Cancer Institute

#### Articulation

Show the joint, or the location where two or more bones meet

#### **Muscles in Motion**

Indicate which muscles are contracting and relaxing during motion

| Articulation<br>Temporoman-<br>dibular ioint | Elevation 0°-<br>40° |   |  |
|--|----------------------|---|--|
| Muscles in motion                            |                      |   |  |
| Agonist                                      |                      | > |  |
| Antagonist                                   |                      | > |  |
|  |                      |   |  |

#### **Range of Motion**

Indicate how much a particular joint can move or stretch

#### **Motion Play Bar**

Watch to what extent a particular joint has moved or stretched

## **Powerful Tools**

3D annotating, slicing and web browsing tools useful for teaching and learning



#### Brush

Draw meaningful explanations layered on top of the virtual model



Slicing

Divide the model with 3 different slicing planes to observe its cross-sections



Web Browser \*only in BodyMap Pro Browse the web, open a PDF file, or play a video while exploring the 3D model



#### Pin

Insert obvious indicators to specific body parts as you explain them



#### Insertion

Put a syringe into the virtual body, and feel the haptic feedback during simulation



**Screenshot** \*only in BodyMap Pro Capture high-resolution images of the model, and export them locally to your device

## **VR** Sessions

VR space for you to socially interact with others in real-time, anywhere

# **Learning Platform**

MAI Portal, a place to track your learning performance and progress

#### ACHIVEMENT 525 out of 751 SUCCESS RATE 56 correct answers out of 80 question

Muscle

Skeleton Respiratory

Digestive

Connective

Urinary

Endocrine

Lymphatic

Skir

Reproductive

#### Dashboard

View the overall activities and performance of everyone at a glance

#### **Quiz and Exam**

Create quizzes and group exams out of a question bank

#### **Review and Evaluation**

Check test scores, and questions with more answer time and low success rate

#### **Customize Flashcards**

Design your next curriculum by adding your own flashcard notes

#### **User Management**

Add or remove users from your organization, check their attendance and scores, and more

### **Invite Participants**

Invite up to 100 participants to join a VR session for online discussion or collaboration

#### **Host Controls**

Give participants the permission to speak, or manipulate the model on their own

#### Activity Dashboard

Check the status of participants, including whether they are speaking or muted, in real-time

#### **Cross-Device, Cross-Region** Communication

Meet, and interact with participants using different devices and from all over the world



#### Davao Medical School Foundation







| ACHIVEMENT () | SUCCESS RATE |
|---------------|--------------|
| 70 %          | 70 %         |
| 20 %          | 80 %         |
| 1.5 %         | 15 %         |
| 1.2 %         | 10 %         |
| 0 %           | O %          |
| 0 %           | O %          |
| 0 %           | 0 %          |
| 0 %           | 0 %          |
| 0 %           | 0 %          |
| 0 %           | 0 %          |
| 0 %           | 0 %          |
| 0 %           | 0 %          |
|               |              |

|              | 1              | Filter by: Created I | Date 🗸     |
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| 2020/10/24   | 12             | 60                   | i          |
| 2020/10/17   | 22             | 90                   | :          |
| 2020/10/17   | 21             | 100                  | I          |
| 2020/10/17   | 21             | 100                  | :          |
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| ical structure |                 |                      |
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| ire u          | ANSWERED-TIME ~ | SUCCESS RATE ~ ADDED |
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| rve (CN VI)    | 00:23           | 8%                   |
| verve          | 00:43           | 10 %                 |
|                | 00:56           | 12 %                 |
|                |                 |                      |

## **User Scenario**



#### **Classroom Lecture**

Bring human body to life with BodyMap in a classroom. Instructors can explore, and identify different body systems on a big screen to immerse students, so they get the most out of the lessons.

# of VR headsets needed Other items needed

1 for instructor VR-ready PC or laptop Big TV screen Good Wi-Fi

#### **Academic Event**

Use BodyMap as a supplementary tool in seminars, conferences, or workshops. Speakers can connect it to a projector or TV screen to visually, and easily explain and elaborate on topics.

# of VR headsets needed Other items needed

1 for speaker VR-ready PC or laptop Big TV screen Good Wi-Fi

#### Self Study

BodyMap is the VR human anatomy app for reviewing what your teacher has taught, and previewing what you will learn. You can study on your own, and at your own pace.

# of VR headsets needed Other items needed

1 per student Good Wi-Fi

#### **Remote Learning**

BodyMap is the distance-learning solution for human anatomy. You can attend a VR class hosted by your teacher, meet with your classmates in a VR session, or join a VR workshop anytime, anywhere.

# of VR headsets needed

1 for instructor/speaker + 1 per student/participant VR-ready PC or laptop

Other items needed

Good Wi-Fi

## **Product Comparison**

We have two versions of BodyMap. BodyMap is the standalone version for standalone VR headsets like Meta Quest 2, and BodyMap Pro is the PC/laptop-based version.

| Category          | Sub-Category         | BodyMap  |   | BodyMap Pro   |
|-------------------|----------------------|--|---|---|
|                   |                      | Student License  | Instructor License                                    | Instructor/<br>Student License                        |
| 3D Model          | Sex                  | Male   | Male  | Male + Female   |
|                   | Body Systems         | 12 systems   | 12 systems  | 12 systems  |
|                   | Body Regions         | 9 regions  | 9 regions   | 9 regions + whole body                                |
| Resolution        |                      | Standard   | Standard  | High  |
| Content           |                      | Descriptions, Images & Animations  |   |   |
| Function          | Pathway              | v  | v   | v   |
|                   | lsolate <sup>1</sup> | 1 stage <sup>2</sup>   | 1 stage <sup>2</sup>                                  | 2 stages <sup>2</sup>                                 |
|                   | Audio                | v  | v   | v   |
| Manipulations     |                      | Move, Grab, Rotate,<br>Scale, Undo, Hide <sup>1</sup>  | Move, Grab, Rotate,<br>Scale, Undo, Hide <sup>1</sup> | Move, Grab, Rotate,<br>Scale, Undo, Hide <sup>2</sup> |
| Annotation        |                      | Brush & Pin  |   |   |
| Tools             | Quiz                 | v  | v   | v   |
|                   | Slicing              | v  | v   | v   |
|                   | Insertion            |  |   | v   |
|                   | Web Browser          |  |   | V   |
|                   | Screenshot           |  |   | v   |
| Languages         |                      | English, Chinese (Traditional & Simplified), French, German, Portuguese, Spanish,<br>Thai & Vietnamese |   |   |
| VR Classroom      |                      | V  | V   | V   |
| Learning Platform |                      |  | V   | v   |

1. The Isolate feature allows you to focus on one specific structure by hiding the rest, while the Hide feature allows you to hide a body structure one by one.

2. In BodyMap Pro, the Isolate and Hide functions will first make all structures except the one you selected translucent (stage 1), and then transparent (stage 2).





## **Product Comparison**

BodyMap is the only VR anatomy application certified for continuing medical education (CME) credits in the US.

Here is a comparison table of what makes BodyMap different:

|             |                       | BodyMap   | Other(s)   |
|-------------|-----------------------|---|--|
| Quality     | Level of Detail       | High fidelity   | Low fidelity   |
|             | Level of Detail       | Frame rate: 90fps (Pro), 50-90fps<br>(Standalone)<br>Anti-aliasing: Yes   | Frame rate: 40fps<br>Anti-aliasing: N/A  |
|             | Comprehensiveness     | 5,000+ structures with full extremities, fasciae and tissues  | Less extremities, fasciae and tissues  |
| Usability   | Intuitive UX          | Clean UI with intuitive controls<br>5 DoF maneuver in human body  | Complex UI with lots of buttons & menus<br>to master<br>3 DoF maneuver in human body |
|             | Interactive Flashcard | Interactive<br>With description, image or animation in<br>anatomy labels<br>Clickable features such as pathway, isolate,<br>hyperlinks and more | Static<br>Without description in anatomy labels                                      |
|             | Curated Learning      | Carefully-designed, and organized flashcard contents  | Loosely compiled, and less organized flashcard contents                              |
| Sociability | Engaging VR Space     | Up to 100 users   | 10 users   |
|             | Learning Platform     | Quiz results, difficulty level, group exams, activity dashboard   | Quiz results   |
|             | CME Accredited        | Yes   | N/A  |

# **Hardware Requirement**

MAI has partnered with industry leaders such as Meta, HTC, NVIDIA, and AMD to provide the best experience of the best solutions on the best headsets.

|             |            | BodyMap                       | BodyMap Pro   |
|-------------|------------|-------------------------------|---|
| VR Headset  |            | Meta: Quest 2<br>HTC: Focus 3 | Meta: Quest 2, Rift S<br>HTC: VIVE Pro, VIVE Cosmos                     |
| PC / Laptop | OS         | N/A                           | Windows 10  |
|             | CPU        | N/A                           | Intel Core i7, AMD Ryzen 7 2700x,<br>Ryzen 5 2600x equivalent or better |
|             | GPU        | N/A                           | NVIDIA GetForce GTX 1060,<br>AMD Radeon RX 580 equivalent or better     |
|             | RAM        | N/A                           | 16GB DDR4 or more   |
|             | Disk Space | N/A                           | 3GB   |

# About MAI

Augmented Intelligence, Inc., doing business as Medical Augmented Intelligence (MAI), is a 2016-founded startup focusing on innovative medical VR solutions. We develop VR applications that combine textbook knowledge with handson simulation, and that utilize the latest technologies for an immersive, virtual learning experience.

Our solutions include BodyMap and AcuMap, the world's leading VR training solutions for learning human anatomy and acupuncture, respectively, and also DigiTwin, a medical 3D virtual imaging tool.

We make it our mission to provide institutions, schools, groups and individuals with the most effective, and enjoyable way to teach and learn about human body, and collaborate in real-time, from anywhere.

We have offices located in the US and Taiwan. You are more than welcome to visit us in person, or drop us an email.



US 4000 Legato Rd., Ste. 1100 Fairfax, VA 22033, USA

Taiwan 15F, No. 101, Songren Rd., Xinyi District, Taipei, 110 Taiwan

Augmented Intelligence, Inc. www.mai.ai Email: hello@mai.ai