biogears®

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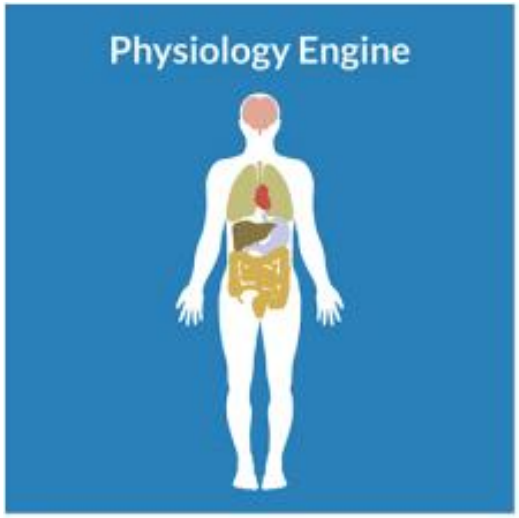
BioGears Overview

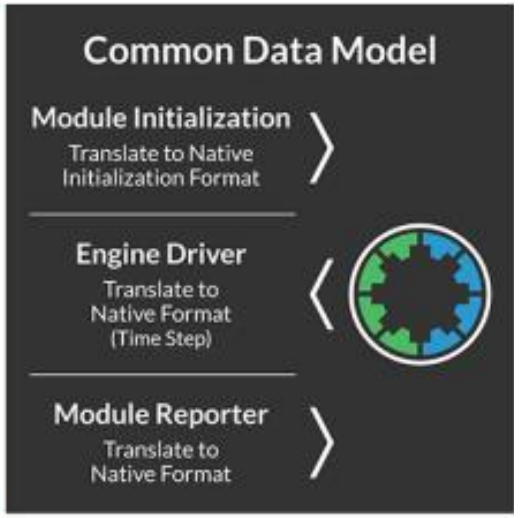
Last Updated: April 2017

ARA

What is BioGears?

- An open source physiology engine
- An open source common data model
- Software and methodology documentation
- Community involvement and BioGearsEngine.com





Project Goals

- Create a publicly available physiology research platform that enables accurate and consistent simulated physiology across training applications
- Lower the barrier to create medical training content
- Engage the community to develop and extend physiology models
- Meet the training needs of the military
- Expand the body of knowledge regarding the use of simulated physiology for medical education

Relevant Example of BioGears in Use

- ARA's Virtual Heroes Division is developing 'Combat Medic,' an immersive training game for RDECOM STTC.
  - This serious game trains Combat Medics how to treat the top three causes of preventable death on the battlefield: Hemorrhage, Airway Obstruction and Tension Pneumothorax.
- BioGears powers the physiology responses to trauma and treatment and provides trainees a realistic immersive training experience.
- The BioGears team can support engine implementation in your immersive training technologies and research programs!

Hemorrhage

Airway Obstruction

Tension Pneumothorax

Images courtesy of Combat Medic project funded by Army RDECOM-STTC

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- The BioGears open source physiology engine is a whole-body simulation comprised of accurate system-level models.
- A few examples of how BioGears can be extended or used in your applications include:
  - Integration with immersive medical training applications,
  - Integration with medical training hardware devices,
  - Model extensions or customizations,
  - Variations on training scenarios for specific physiologic effect, and
  - Researcher/educator applications for classroom learning.
- Please contact us for more information.
- We would like to talk with you about BioGears and listen to your ideas.

Open Source License

- **Bottom Line Up Front: BioGears can support both proprietary and open source applications and extensions.**
- BioGears is open source, all code is under an Apache 2.0 license.
  - Learn more about the Apache 2.0 license here.

Contact Us

Our team is always looking for ways to work with new research partners and sponsors. Get in touch to find out more about how BioGears can work for you.

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