XRDC

Designing Compelling AI Character Interactions in VR Using Body Language

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About Beast, Inc.

- We make AI-driven virtual pets!
- We create *Beast Pets* - VR sandbox baby dragon simulator

What is Body Language?

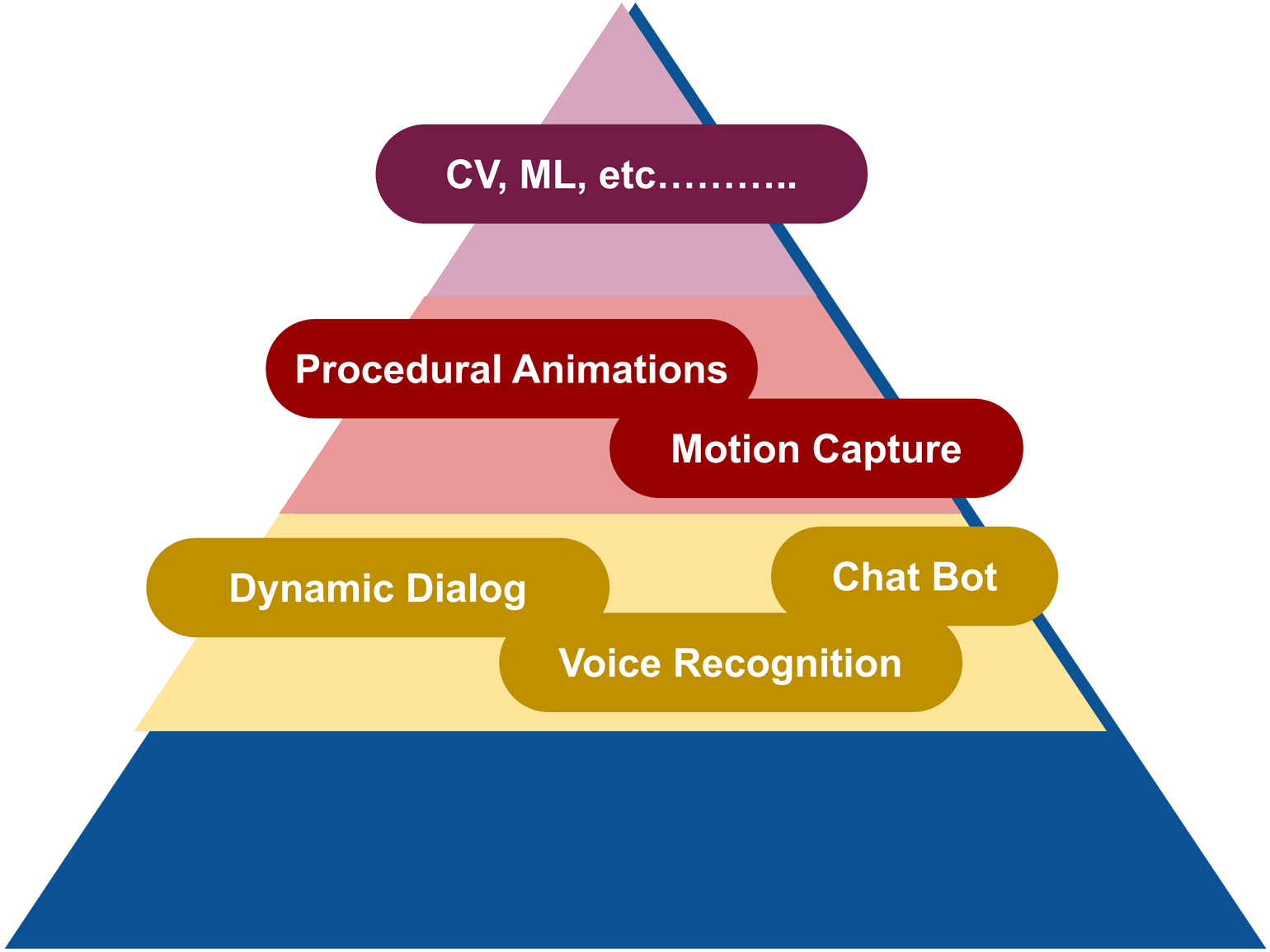
“Body Language”

In this context, a holistic term that encompasses:

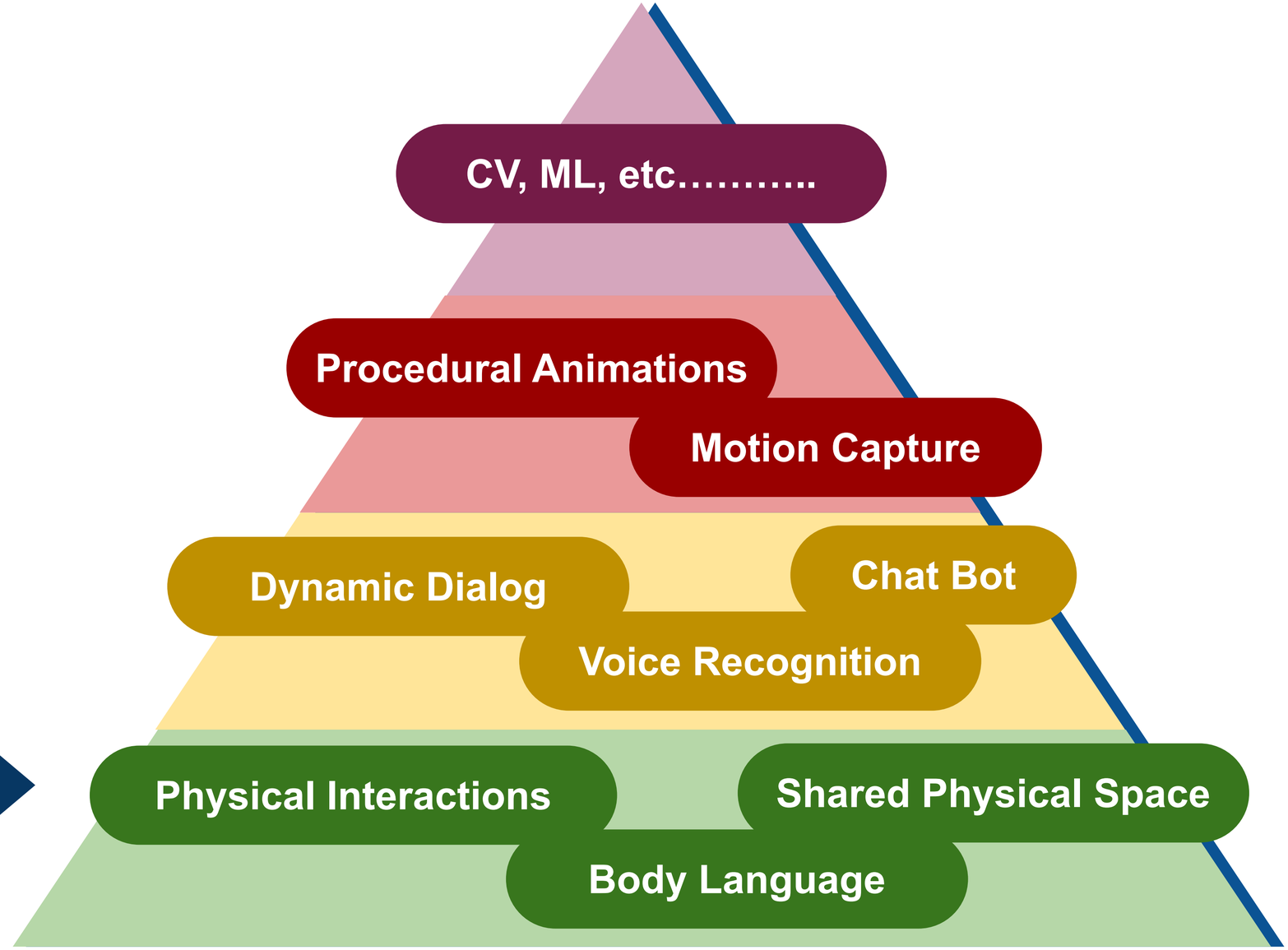
- Physical presence
- Spatial interactions
- Eye contact
- Player gestures

Why Body Language?

“Wish List” for making awesome AI characters



Foundational interactions

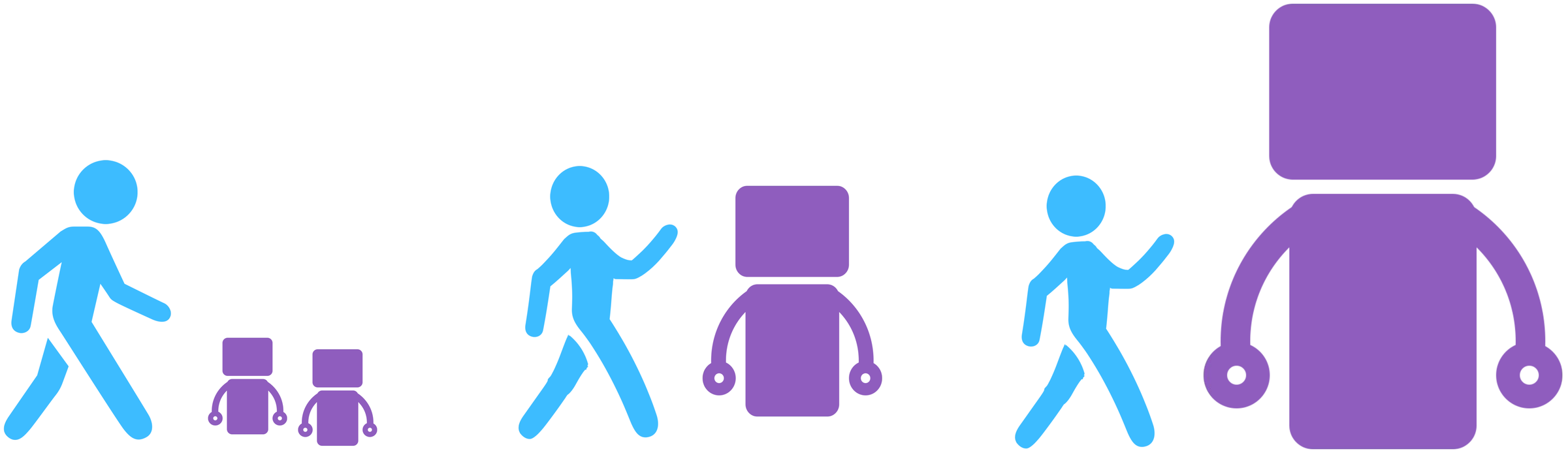


By Using Body Language, We Can:

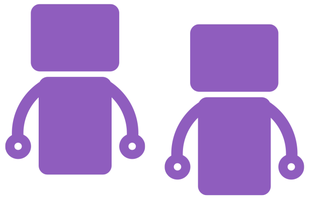
- Establish power dynamics
- Establish context, relationship, intent
- Prompt players to perform desired actions
- Minimize reliance on dialog, subtitles, menus
- Build foundation for more complex AI behaviors

Scale and Power Dynamics

Scale and Power Dynamics



Tiny Characters

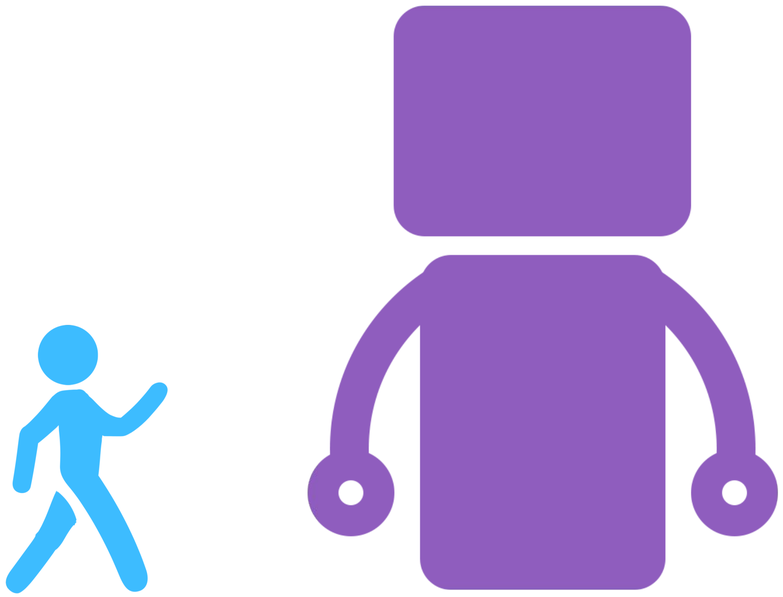


- Player has control
- Player role:
  - build
  - guide
  - protect
  - manipulate

Tiny Character Example

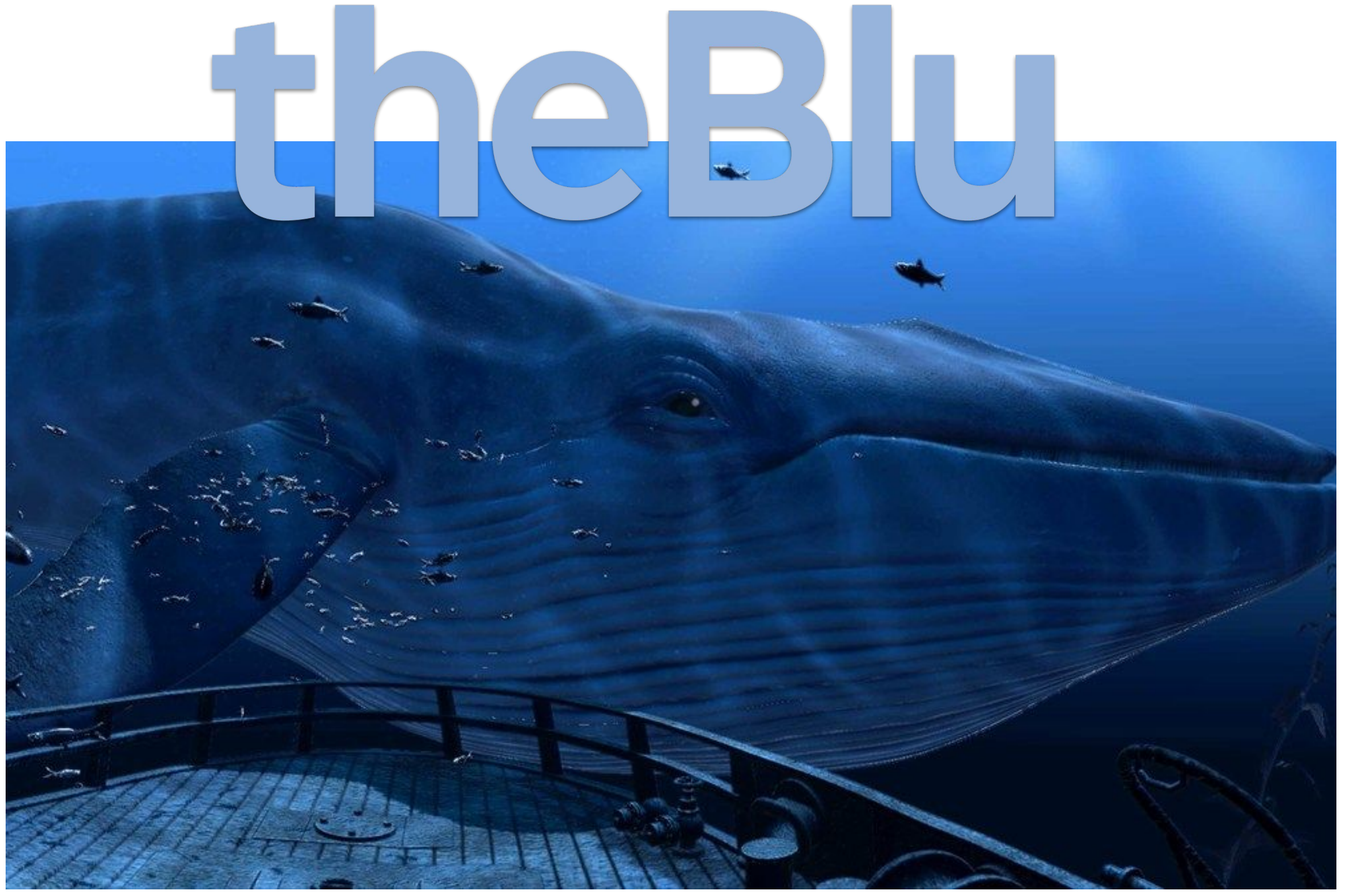
“Moss” Image & Logo ©Polyarc

Giant Characters



- Player has little control
- Player role:
  - observe
  - avoid
  - learn

Giant Character Example

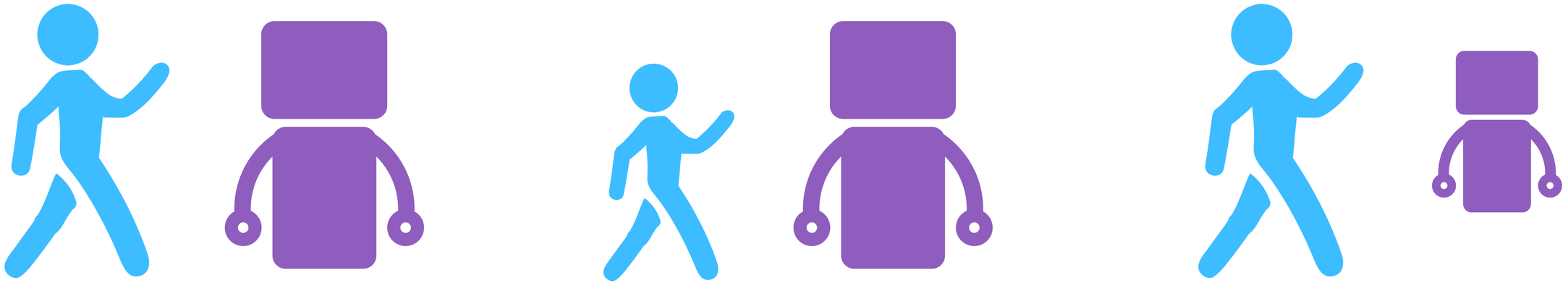


“theBlu” Image & Logo ©Wevr

Giant Character Example

“Sky Rim” Image & Logo ©Bethesda

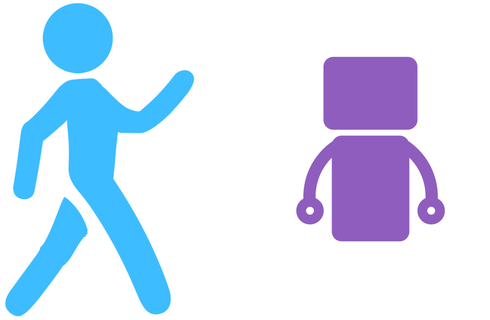
Normal Sized Characters

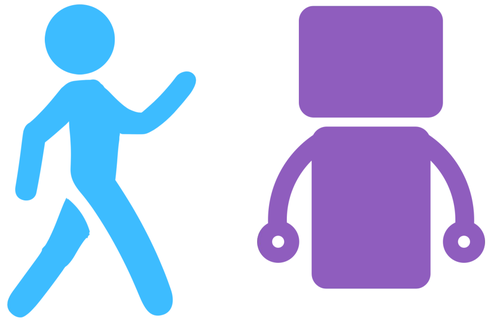


Normal Sized Character Example

“First Steps” Image & Logo ©Oculus

Normal Sized Characters

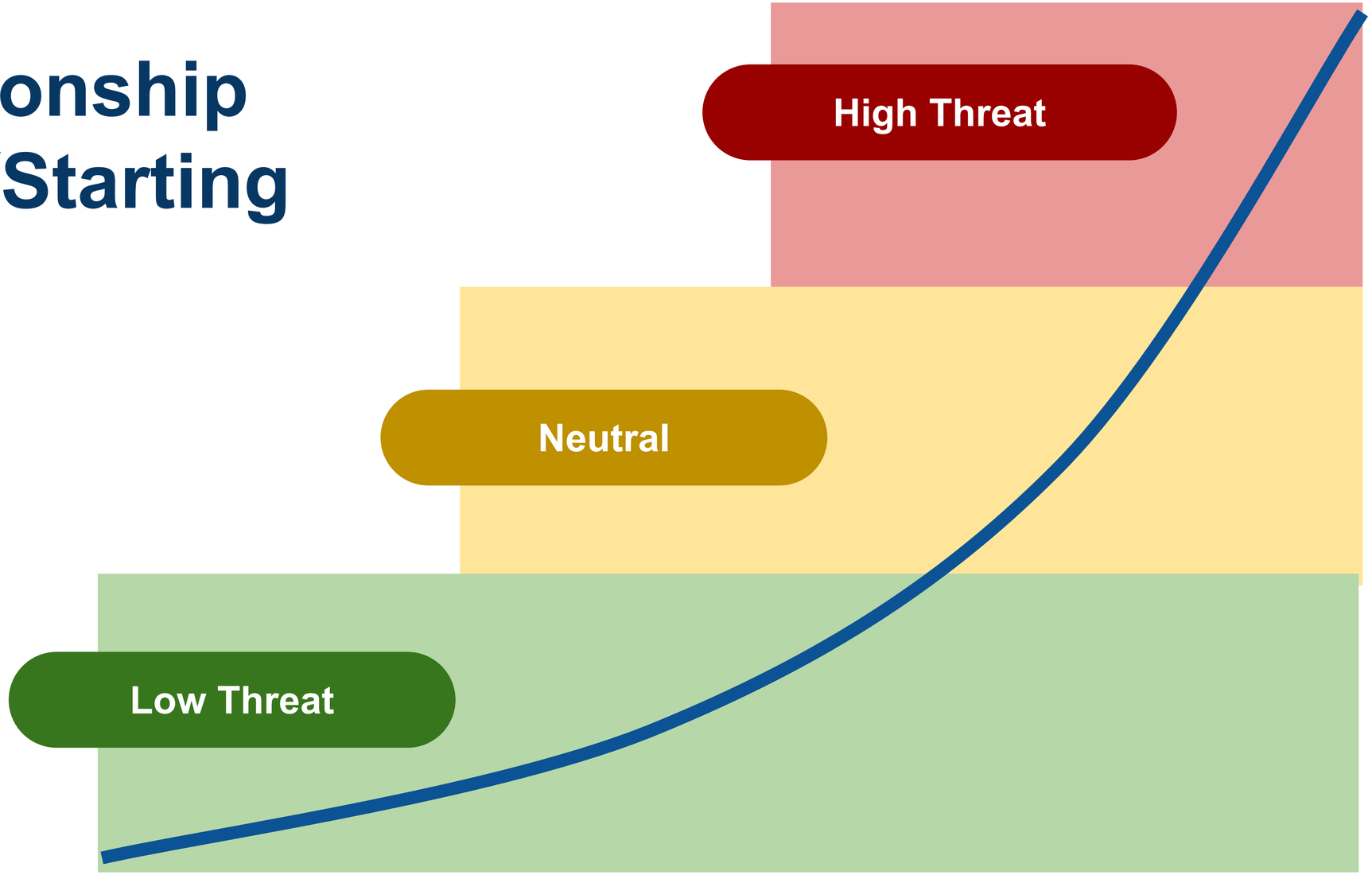




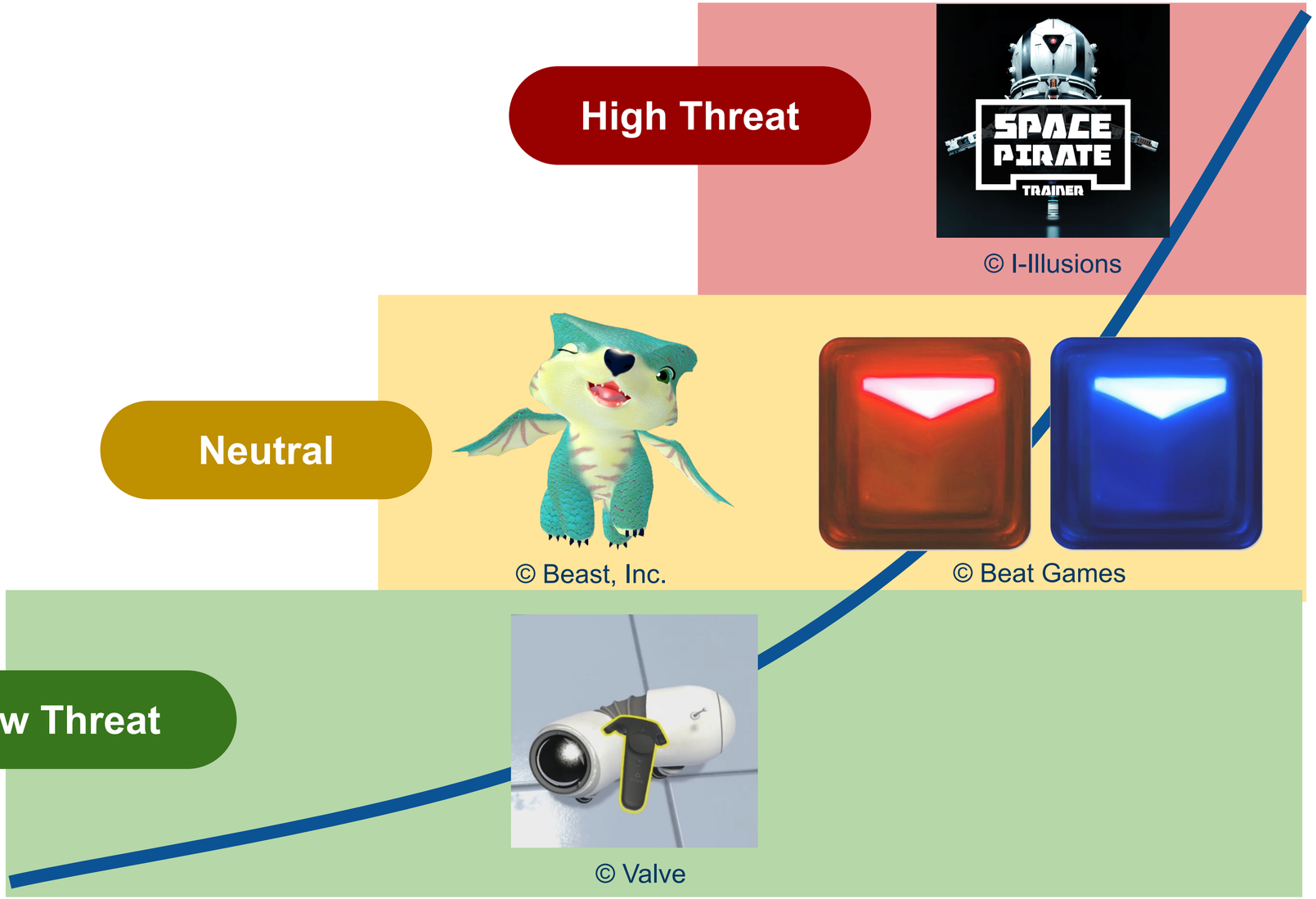
- Friendly characters: smaller/shorter than player
- Enemy characters: can be larger or smaller than player
- Dynamically scale character height to match player

Vertical Space

Define Relationship With Default/Starting Positions

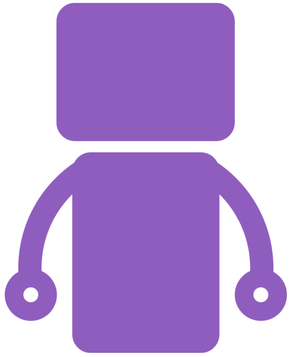


Examples

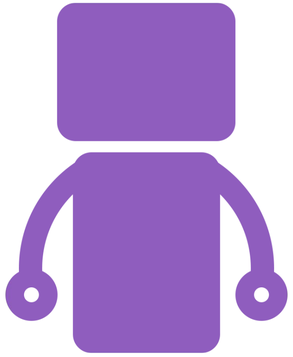

High Threat
SPACE PIRATE
TRAINER
© I-Illusions
Neutral
© Beast, Inc.
© Beat Games
Low Threat
© Valve

Proximity

Active vs Passive Characters



Active

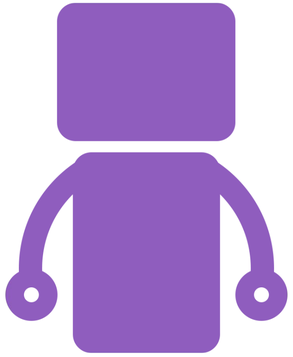


Passive

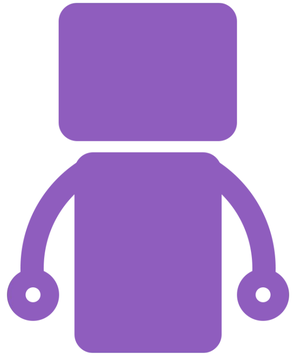
Active vs Passive Character Example

“Gorn” Image & Logo © Free Lives

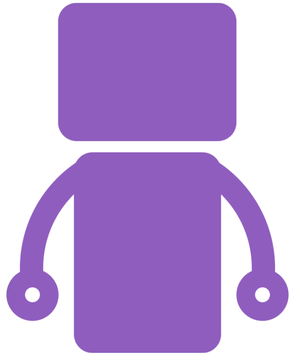
Prompt Player Movement



Stationary



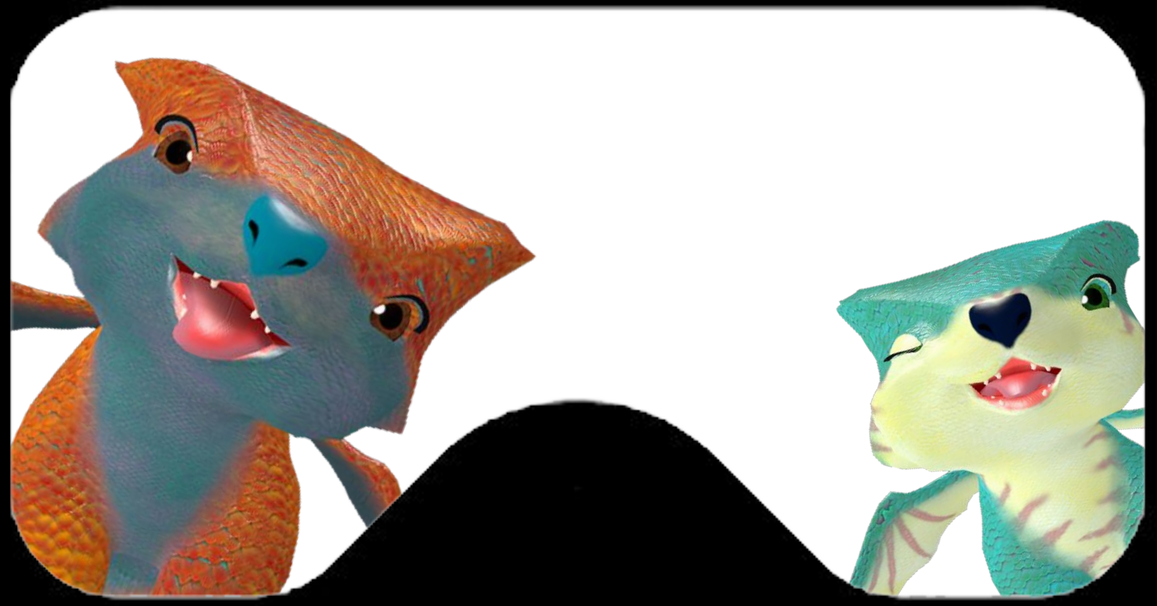
Walk



Teleport

Eye Contact

Eye Contact & Field of View



Attention Pressure

Attention Pressure Variables

- Proximity to player
- Direct eye contact
- Number of AIs

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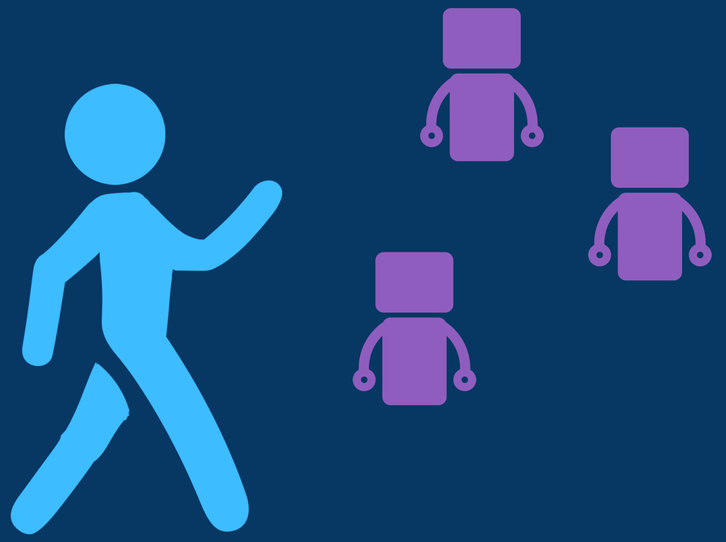


High pressure creates urgency

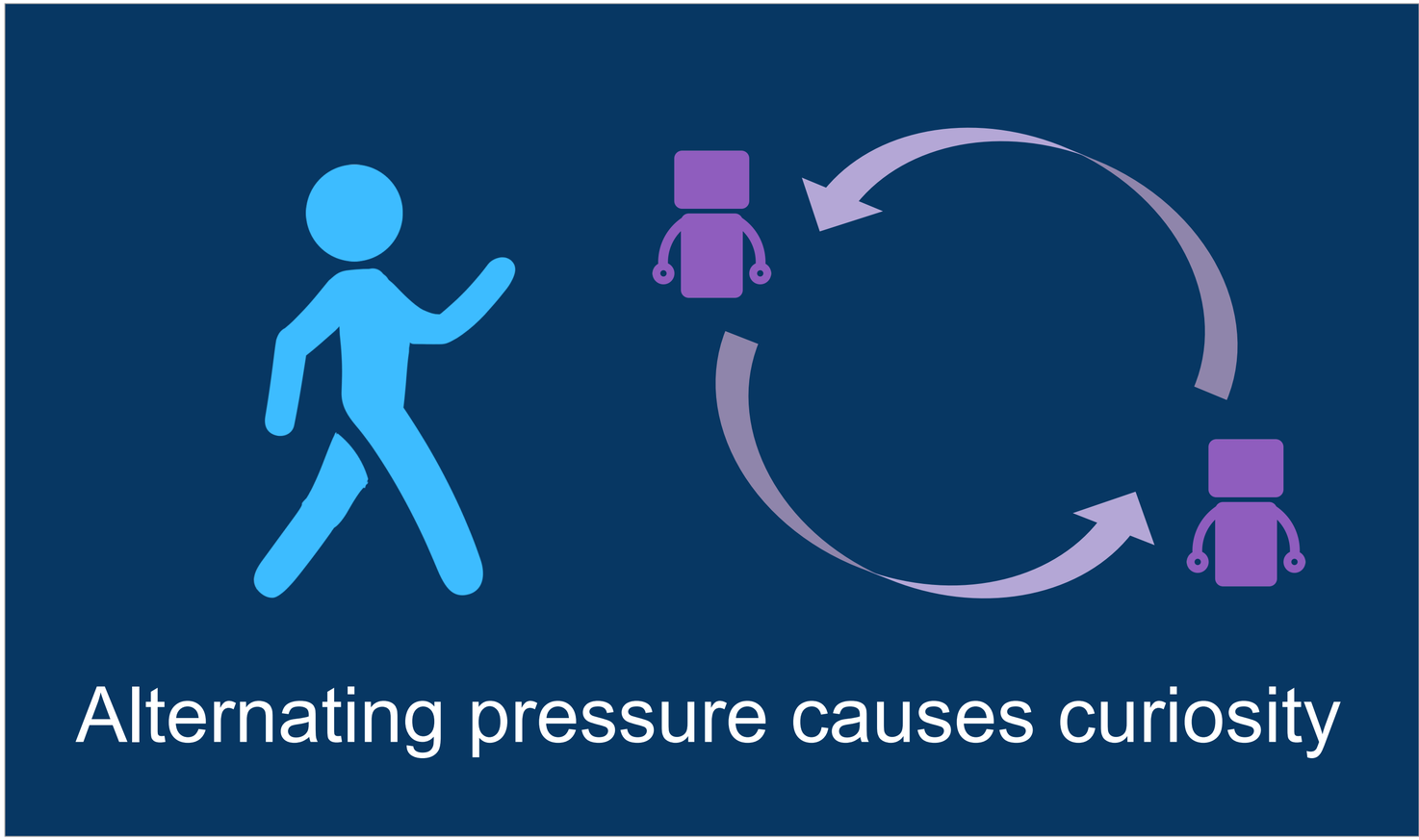
Attention Pressure Variables

- Proximity to player
- Direct eye contact
- Number of AIs

Low pressure encourages exploration

Attention Pressure Variables

- Proximity to player
- Direct eye contact
- Number of AIs



Hand Gestures

Hand Gestures Reinforce Roles

- Treat hands as tools
- Applies to players and AI characters
- Only allow hand gestures you want players to use
- Open palm = friendly, waving, high-five
- Closed fist = hostile, punching

Hand Gesture Examples

“Vacation Simulator” Image & Logo © Owlchemy Labs

CREED
RISE TO GLORY™

“Creed” Image & Logo © Survios

How To Know If Any Of This Works?

- Playtest
- Playtest with different types of people
- Playtest some more!

XRDC

Thank You!

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