

Firefighter Virtual Reality Simulation for Personalized Stress Detection*



Mission: Apartme

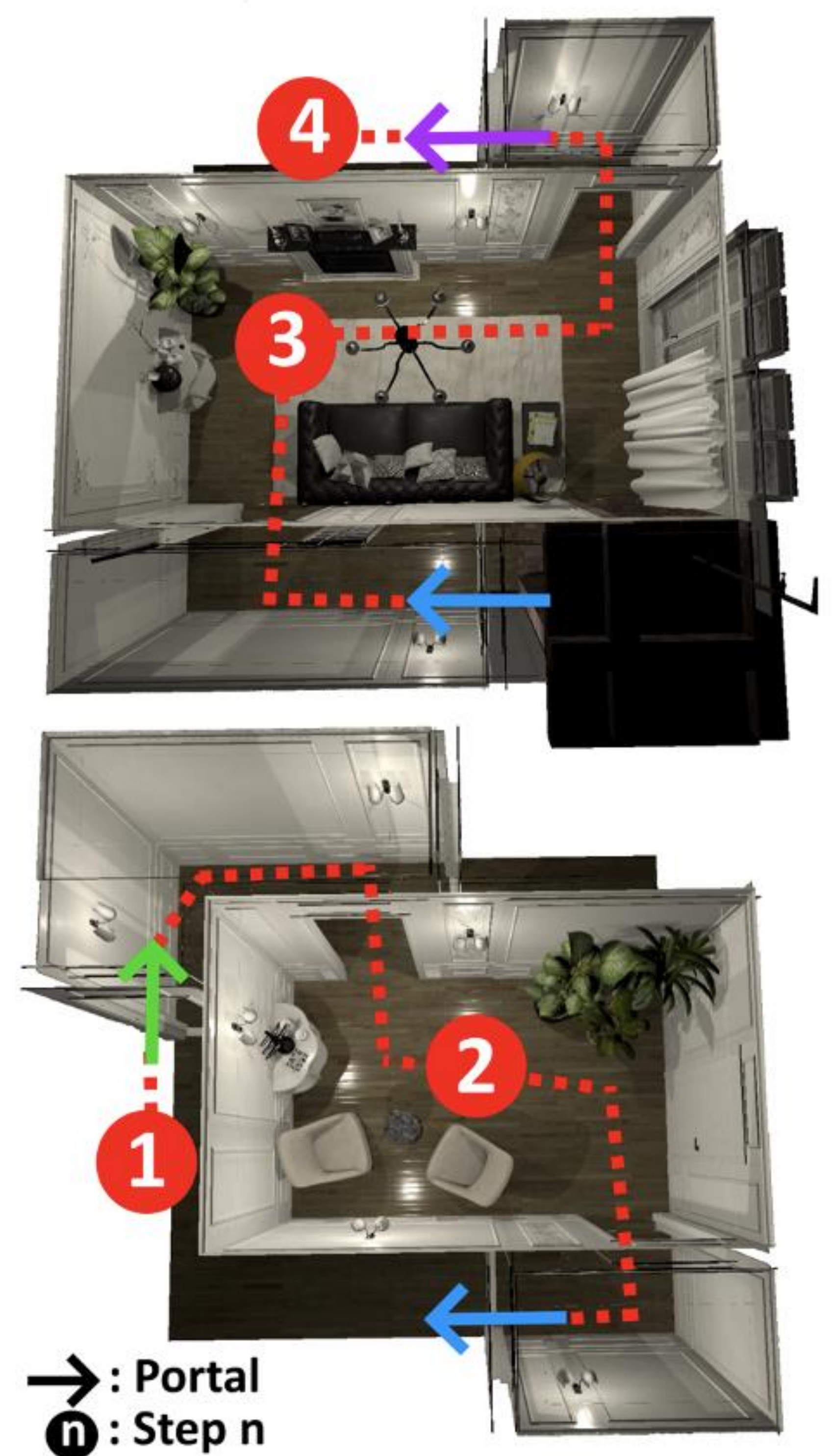
ichtige Schritte:
 Finde die **zwei Personen**
 Drehe das **Gas** im Wohnzimmer
 Öffne das **Wasserventil** in de
 Öffne die **Fenster** in der Küch

s befinden sich Menschen in L
 eile dich!



Mission Simulation in VR

- Directly triggers different mental stress levels in VR
- Configurable stressors (difficulty of navigation, sounds from victims, fire, breathing and communication, time pressure by air limitation, different tasks such as rescuing victims, extinguishing fires, and turning on/off water/gas)
- Developed an approach to map the limited VR tracking space (5 x 5 meter) to a larger virtual space

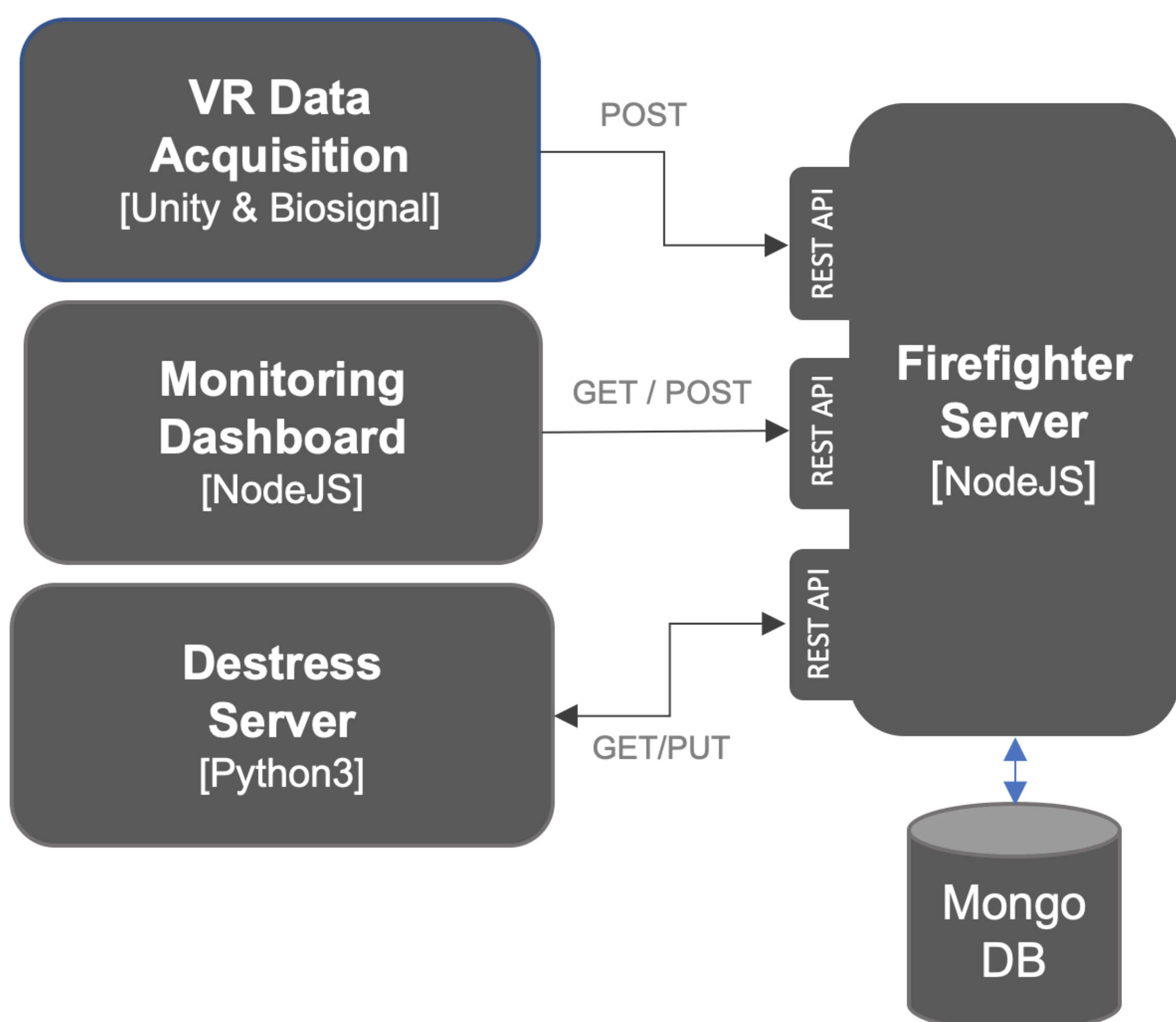


Data Acquisition System



- Scalable RESTful web services architecture for acquiring, monitoring, storing and classification of stress data
- Gathers real-time biosignal data (ECG, EDA, EMG, EEG, RESP, ACC, TMP), eye-tracking data and VR-tracking data (position, rotation of head and hands)

- Plan to publish multiple public datasets for researchers to build models for stress detection and management



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