

## 1. Motivation

### Project Description

- The Virtual Pediatric Patient System (VPPS) is an application created to give student nurses the opportunity to practice interview skills through realistic scenarios without time restraints.

### Goal

Long term: Create a realistic simulation where nurses can practice their interviewing skills with pediatric patients.

Short term: Improve upon the first iteration of the VPPS based on the results of the first usability study.

### Motivation

A usability study raised several issues:

- Nursing faculty confused the pediatric room with an at-home visit, which affected questions the nurses asked.
- The mother's and child's lack of natural body language caused nurses to accidentally interpret the characters as being unwelcoming or exhibiting disease conditions.



Characters in the first iteration

## 2. Focus



### Room Modeling

- I modeled the room and objects in Blender.

### Character Appearance

- I created new high fidelity character models using Poser.



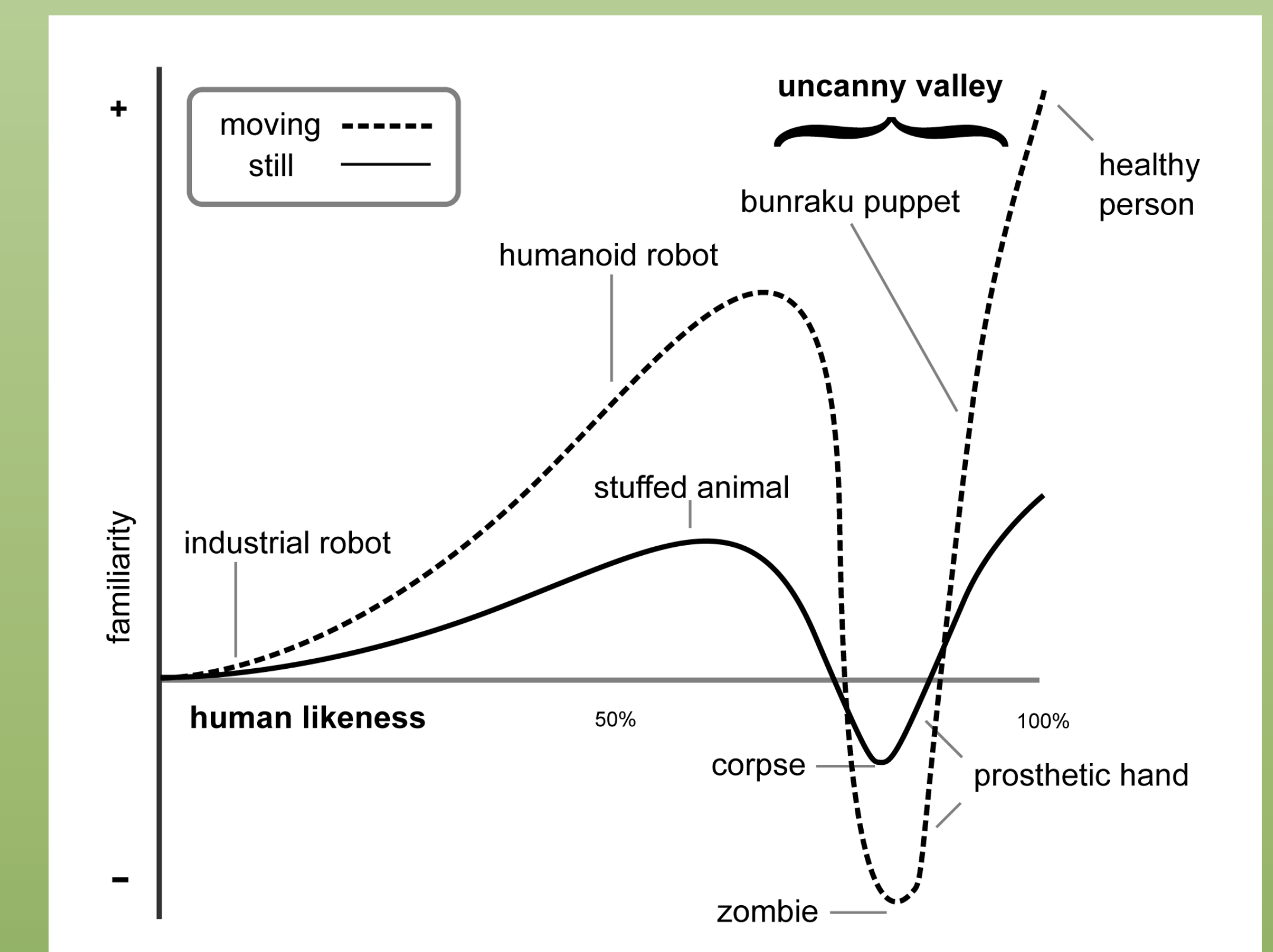
### Character Animation

- Animations I created for the child and mother:



## 3. Conclusion

- Nonverbal communication is as important as verbal communication for patient simulations.
- Virtual humans without subtle natural animations fall deeper into Mori's "Uncanny Valley" for medical students than for casual observers.



## 4. Future Work

- Import assets into Unity.
- Run usability studies with the School of Nursing to make the application sufficiently realistic.
- Conduct a large scale user study with a class of nursing students.
- Add more characters and scenarios.

## 5. Acknowledgements

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## 6. References

- Hodges, L. et al. Design and Usability of a Virtual Pediatric Patient System. [In review]
- MacDorman, K. 2005. Mortality Salience and the Uncanny Valley. *Proceedings of the IEEE-RAS International Conference on Humanoid Robots*. 399-405.