Lil’Flo is a mobile tele-rehabilitation platform augmented by a social robot. The remote clinician is presented on a screen as the social robot interacts with patients, playing games, and demonstrating activities. Cameras collect data to perform automated assessment.

**Need**
- There is a shortage of rehabilitation workers in rural and resource denied areas which is expected to worsen, affecting rehab patients, such as those with cerebral palsy and stroke.
- COVID-19 presents risks for reduced access to rehab care.
- Telerehabilitation could help to alleviate shortages and reduce the burden of travel on patients and their families.
- A social robot with a humanoid form, used to augment telepresence, may enable richer telerehabilitation experiences by playing games with patients and demonstrating activities.
- Automated assessment tools could reduce the load on clinicians and deliver objective patient tracking to rehabilitation care.

**Interaction Model**
We envision the social humanoid robot along with the cameras acting to bridge the gaps in communication, motivation, and quality of assessment which exist over telepresence:

**System**
Lil’Flo operates fully under the control of the remote clinician using a web based interface. Scripts are used to run motions, demonstrations, and games. The clinician is always in control:

**Interface**

**Utility Testing**
352 therapists in the United States with one or more years of experience and no prior knowledge of Lil’Flo watched a short overview video of Lil’Flo prior to answering: “How do you believe that adding a social robot as a companion for your patients during video+audio telepresence interactions (such as the Lil’Flo system) would change the following when compared with traditional video+audio telepresence based rehab?” on a continuous scale of 0 (decrease utility), 50 (no change), 100 (improve utility). Medians are significantly above 50 for communication, motivation, and compliance ($\alpha = 0.05$, one sided Wilcoxon signed rank test):

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