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| **MEETING PARTICIPANTS** | |
| **CORE TEAM** | Molly Meadows  Noah Rieth  Xian Gao |
| **OTHERS** | Aleksandar Vakanski  Min Xian |
| **MEETING LOGISTICS** | Agenda: See below  Meeting conducted: Zoom videoconference |
| **MEETING CONTENT** |  |

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| **MEETING SUMMARY** |
| **Agenda**  Discuss Open Pose 25 body joint compatibility with HumanML3D  Discuss input that motionGPT uses for tokenization of the motions  Upcoming Testing and Snapshot  GPU server tutorial |
| **Notes**   * Xian Gao met with one of Dr. Vakanski’s grad students to get a tutorial on how we can utilize the GPU server for our project * Discussed the issues Molly and Xian have been having with trying to get the skeletal structure into the structure needed to be compatible with motion GPT   + Our output video follows the (nframes, 22, 3) structure thought to be necessary for input to the motion tokenizer     - (nframes, numJoints, coordinates (x,y,z))   + Turns out that the input takes in 263 features per frame?     - We do not have an easy way to transform our smart phone video data into the detailed data needed for input to MotionGPT * Noah have worked on a smoothing algorithm and a way to get some of the missing joints for each frame to be filled in * Our client agreed with our team that the best course of action moving forward would be to use the convolutional neural network that Dr. Vakanski has created to adjust our goal   + We lose the written feedback (LLM) aspect to the project moving forward with this |
| **New Tasks Given by Dr. Vakanski**  **Task 1**: Apply the existing models for rehabilitation evaluation developed by our team (based on deep Convolutional Neural Networks) to predict quality scores for given exercises, based on the estimated poses from the videos with OpenPose.  **Task 2**: Compare the quality scores by the NN models for the different exercises based on poses obtained by OpenPose, Kinect, and Vicon systems. Perform analysis to evaluate the suitability of pose estimation from videos for rehabilitation evaluation.  **Task 3**: Record several videos for exercises with a cell phone (e.g., 4 videos for 5 exercises, of which 2 videos capture correct execution of an exercise, and 2 videos capture incorrect execution of an exercise). Use OpenPose for pose estimation, and employ the trained NN models from Task 1 to predict the quality scores for the exercise. Perform data analysis to determine whether the predicted quality scores match the quality of the exercises. |