|  |  |  |  |
| --- | --- | --- | --- |
| People | Activity | Context | Technology |
| **Students (Children):** - Different physical and mental abilities; age, height, physical strengths-everything might differ from child to child.  -  Poor attention span and complexity of instructions are not understandable. | **Learning Activities with Gesture Control:** - Physical interaction with gesture-based controls using MediaPipe - **Gesture Commands:** - **Next**: Move two fingers to the right - **Previous**: Move three fingers to the left - **Stop**: Raise hand or hold gesture - **Feedback and Training:** Students train by using the gestures, test the model for accuracy; Immediate feedback through visual or haptic cues; Track performance over time with stored data - Physical interaction with the movement-based learning using TUIO and Bluetooth - Immediate feedback by having haptic (vibrational) and visual feedback - Performance monitoring for feedback to track progress over time  **Temporal Aspects:** - Activities can be done any number of times during the day - On a daily, monthly, and yearly timeframe | **Physical Environment:** - Camera-enabled classroom  or open space for gesture recognition **Social Context:** - Teacher-led and collaborative environment -  learning among peers,  teamwork encouraged **Organizational Context:** - Designed for educational purposes within a structured learning schedule | **Hardware:** - **Input Devices:**  Camera-MediaPipe; any Bluetooth-enabled device for connectivity with smartwatches or beacons.  - **Output Devices:** Screens for feedback; smartwatches for haptic feedback and notifications on mobile devices. **Software:** - **MediaPipe-**to carry out real-time gesture recognition and analysis; software that keeps track of performance  - software that keeps track of performance  -  feedback system-visual and haptic notifications - face recognition or unique identifier of users.  **Hardware:** - **Input Devices:** TUIO sensors for tracking gesture Bluetooth-enabled devices that connect to smartwatches and beacons - **Output Devices:** Displays for visual feedback, smartwatches for notifications, and haptic feedback for tactile response. |
| **Teachers:** -  Experienced in guiding students in teaching  - Able to monitor and analyze performance data  - trained to monitor and analyze the performance data. Basic technology, MediaPipe control. |  |  |  |