Backlog projektkurs

**Project Backlog: Gesture-to-Speech Glove**

**User Story 1:** As a mute individual, I want to wear a glove that can detect my hand gestures so that I can communicate with others using sign language.

*Tasks:*

* Select and source the most suitable flex sensors for accurately detecting finger movements.
* Design the glove, ensuring that the sensors are correctly positioned on the fingers to capture gestures effectively.
* Create a prototype of the glove, integrating the sensors and ensuring comfort and usability.
* Test the prototype for functionality and comfort to ensure it accurately detects hand gestures.

**User Story 2:** As a user of the glove, I want the glove to interpret my hand gestures into letters and symbols in real-time so that I can communicate efficiently.

*Tasks:*

* Write the Arduino code to read the data from the flex sensors on the glove.
* Implement a gesture recognition system in the Arduino that translates finger positions into corresponding letters or symbols.
* Test the gesture recognition with various hand movements to ensure accuracy and responsiveness.
* Optimize the Arduino code to process gestures in real-time without delays.

**User Story 3:** As a user, I want to see the interpreted gestures displayed as text on an LCD screen or in a mobile app so that I can confirm what I’m communicating.

*Tasks:*

* Develop the functionality to display the recognized gestures as text on an LCD screen attached to the glove.
* Alternatively, develop the user interface (UI) and user experience (UX) for a mobile application that displays the text.
* Ensure that both the LCD display and the mobile app can accurately and quickly show the recognized text.
* Test the display and app with the glove to ensure the output is correct and easy to read.

**User Story 4:** As a user, I want the option for the system to speak the recognized gestures aloud so that others can easily understand what I’m communicating.

*Tasks:*

* Integrate a text-to-speech function in both the LCD system (if feasible) and the mobile app.
* Research and select a suitable text-to-speech API or module that can work with the chosen platform.
* Implement the speaking function, ensuring that the pronunciation is clear and understandable.
* Test the speech output under different conditions to ensure clarity and accuracy.

**User Story 5:** As a user, I want to calibrate the glove to my specific hand size and movement range so that the gesture detection is accurate for me.

*Tasks:*

* Develop a calibration system that adjusts sensor sensitivity based on the user’s hand size and movement.
* Create a user-friendly interface for calibration, either on the LCD display or within the mobile app.
* Test the calibration feature with different users to ensure it meets a variety of needs.
* Adjust and improve the calibration process based on user feedback.

**User Story 6:** As a user, I need the Bluetooth connection between the glove and the mobile app to be stable, or ensure a reliable connection to the LCD display, so that my communication is not interrupted.

*Tasks:*

* Investigate and troubleshoot any potential issues with the Bluetooth connection between the glove and the app, or between the glove and the LCD display (if applicable).
* Optimize the communication to ensure a stable and reliable connection.
* Test the connection under various conditions to ensure it remains stable during use.
* Implement fixes or enhancements to maintain connection stability.