

Key

	Must
	Should
	Could
	Won't have

MoSCoW Requirements

Functional Requirements		
ID	Requirements	Priority
1	Provides access to a high quality reading experience	
2	Allows user to interact with the device whilst facing the webcam and facing away from the webcam	
3	User can navigate across the full screen	
4	Calibrate MotionInput to the angle the user is sat at from the camera. (Modules: Hand, Face)	
5	Using calculations or models to calibrate the camera's angle e.g. a model is created using sklearn's linear regression.	
6	The model is stored in a file called 'angle_model.joblib' in the MotionInput's data folder using Python's joblib library.	
7	Successfully use the calculations or model to find the position of the cursor given the (x, y, z) coordinates of the bottom of the middle finger.	
8	Successfully use the calculations or model to find the position given the (x, y, z) coordinates of the nose tip.	
9	Use a gaussian filter and laplacian smoothing to reduce cursor jittering and noise.	
10	Calculate the yaw, pitch, roll values of the user's head pose at a given frame.	
11	Map the user's head pose to the direction the user is facing e.g. right, left, up, down using calibration.	
12	Each head pose gesture (right, left, up, down) will trigger an event.	
13	New games and web pages on FISECARE targetted towards children	
14	Optimise hand and face models using OpenVINO's model optimiser.	
15	Improve gesture detection such as index pinching, or open mouth gesture from different angles to the camera.	
16	The user can add their own apps to use on FISECARE by editing a JSON file.	

Non-Functional requirements		
ID	Requirements	Priority
17	Programmed on Python	
18	Can be run on a monitor using Intel NUC	
19	Integrated with MotionInput's face module. (Libraries MediaPipe, openCV used for face landmark detection)	
20	Integrated with MotionInput's hand module. (Libraries MediaPipe, openCV used for hand landmark detection)	
21	Be compilable to an executable without additional dependencies	
22	The program can be installed on an Intel NUC such as MeLe mini PC	
23	Instructions for calibration are easy and natural to follow	
24	MotionInput should be fast and responsive with the addition of new Machine Learning models running in the background	
25	New games and web pages added to FISECARE should be easy to use with MotionInput.	
26	The MFC provides options to select a mode that suits the user's abilities	
27	The MFC should provide information for each option so the user understands what modes are available to them	
28	An NDI version of the camera added to the MotionInput API will allow the user to connect to MotionInput with their team's camera via their phone.	
29	MFC provides a setting to change the cursor speed for comfortability	
30	MFC provides a setting to change tracking method for comfortability	
31	MFC provides a setting to either use speech commands or gestures to interact with the system so user can select what is comfortable for them	
32	FISECARE provides services that are entertaining to children	