-- A facility for removing noisy inputs, such as button pseudo-presses.

generic

  type Sample_Value is private;
  No_Value : Sample_Value;

package NXT.Filtering is

  type Filter (Max_Samples_Required : Positive) is limited private;
     -- A filter for removing noisy inputs that are detected by the
     -- hardware but are not real inputs by a user. The discriminant is the
     -- number of successive samples required for a detected input to be
     -- considered a real input.

    function Filtered (The_Filter : Filter; Latest_Sample : Sample_Value) return Sample_value;
     -- Returns the value that the user has actually input.
     -- Returns No_Value if no input has been detected.
     -- Updates the filter state accordingly.

private

  type Filter (Max_Samples_Required : Positive) is limited
     record
        DETECTED : Sample_Value := No_Value;
        Previous_Sample : Sample_Value := No_Value;
        Detected_Count : Natural := 0;
     end record;

end NXT.Filtering;