CLAIMS:

1. A computer-implemented method for providing visual feedback to a user of a rotary shaver, the method comprising:

(i) receiving movement measurements representing movement of the rotary shaver during a shaving operation;

(ii) processing the received movement measurements to determine a representation of a trajectory of movement of the rotary shaver during the shaving operation;

(iii) processing the determined representation to project the representation onto a two-dimensional plane;

(iv) generating a graphical user interface, GUI, the GUI including the projected representation and a graphical template comprising an annular target zone for a correct circular motion of the rotary shaver during the shaving operation; and

(v) displaying the generated GUI using a display unit.

2. ~~A~~The method as claimed in claim 1, the method further comprising repeating steps (ii)-(iv) for further received movement measurements to generate an updated GUI, and displaying the generated updated GUI using the display unit.

3. The~~A~~ method as claimed in claim 1 or 2, the method further comprises the step of:

comparing the projected representation to one or more boundaries represented by the annular target zone; and

wherein the step of generating the GUI further comprises generating the GUI to further include a visual element based on a result of the comparison.

4. ~~A~~The method as claimed in claim 1, 2 or 3, wherein the step of generating the GUI comprises:

determining an alignment of the projected representation with the graphical template; and

generating the GUI with the projected representation overlaid on the graphical template according to the determined alignment.

5. ~~A~~The method as claimed in any of claims 1-4, wherein the step of processing the received movement measurements to determine ~~a~~ the representation of the trajectory of movement comprises filtering to remove high frequency components in the movement measurements.

6. ~~A~~The method as claimed in any of claims 1-5, wherein the step of processing the determined representation to project the representation onto a two-dimensional plane comprises:

for a plurality of movement measurement samples in the received movement measurements, computing an orientation of an instant tangent plane based on a previous plurality of measurement samples;

projecting the movement measurement samples on~~-~~to the instant tangent plane;

aligning the projected movement measurement samples with previously-projected movement measurement samples; and

applying de-trending to the aligned projected movement measurement samples.

7. ~~A~~The method as claimed in any of claims 1-6, wherein the method further comprises the step of:

processing the projected representation to determine values for one or more characteristics of the movement of the rotary shaver; and

wherein the step of generating the GUI further comprises generating the GUI to further include the determined value or determined values.

8. A computer program product comprising a computer readable medium having computer readable code embodied therein, the computer readable code being configured such that, on execution by a suitable computer or processor, the computer or processor is caused to perform the method of any of claims 1-7.

9. An apparatus for providing visual feedback to a user of a rotary shaver, the apparatus comprising:

a display unit; and

a processing unit that is configured to:

receive movement measurements representing movement of the rotary shaver during a shaving operation;

process the received movement measurements to determine a representation of a trajectory of movement of the rotary shaver during the shaving operation;

process the determined representation to project the representation onto a two-dimensional plane;

generate a graphical user interface, GUI, the GUI including the projected representation and a graphical template comprising an annular target zone for a correct circular motion of the rotary shaver during the shaving operation; and

display the generated GUI using the display unit.

10. ~~An~~ The apparatus as claimed in claim 9, the processing unit is further configured to:

compare the projected representation to one or more boundaries represented by the annular target zone; and

wherein the processing unit is configured to generate the GUI to further include a visual element based on a result of the comparison.

11. ~~An~~The apparatus as claimed in claim 9 or 10, wherein the processing unit is configured to generate the GUI by:

determining an alignment of the projected representation with the graphical template; and

generating the GUI with the projected representation overlaid on the graphical template according to the determined alignment.

12. The ~~An~~ apparatus as claimed in any of claims 9-11, wherein the processing unit is configured to process the received movement measurements to determine ~~a~~ the representation of the trajectory of movement by filtering to remove high frequency components in the movement measurements.

13. The~~An~~ apparatus as claimed in any of claims 9-12, wherein the processing unit is configured to process the determined representation to project the representation onto a two-dimensional plane by:

for a plurality of movement measurement samples in the received movement measurements, computing an orientation of an instant tangent plane based on a previous plurality of measurement samples;

projecting the movement measurement samples on-to the instant tangent plane;

aligning the projected movement measurement samples with previously-projected movement measurement samples; and

applying de-trending to the aligned projected movement measurement samples.

14. The~~An~~ apparatus as claimed in any of claims 9-13, wherein the processing unit is further configured to:

process the projected representation to determine values for one or more characteristics of the movement of the rotary shaver; and

wherein the processing unit is configured to generate the GUI to further include the determined value or determined values.

15. A system, comprising:

a rotary shaver; and

an apparatus for providing visual feedback to a user of the rotary shaver as claimed in any of claims 9-14.