

SYSTEM AND METHOD FOR PROVIDING AUTOMATED TRAINING

TECHNICAL FIELD OF THE INVENTION

5 The invention relates to a system and method for providing an automated training, more particularly the invention relates to a system and method for training psychomotor and metacognitive skills. The invention further supports training of psychomotor, cognitive and character skills.

BACKGROUND OF THE INVENTION

Training is an action of teaching a person a particular skill or behaviour. The main purpose of training is to improve a person's capability, productivity and competency through acquisition of knowledge and skills. In order to keep up with the changing
15 requirements of new jobs and skillsets, heavy emphasis are placed on workforce development. Therefore, demand for training that is cheaper and more productive is steeply increasing. Further, with advancement in technology and automation, training is moving in the direction of eliminating classroom based learning, such as training through the internet or watching videos. At the same time, expectation of
20 having the best trainers imparting their skills to learners in a training session is highly asserted.

Training methods using artificial-intelligence devices have been developed as technology progresses. Use of software programmes having advanced algorithms to
25 track and monitor training progress of a person and use of feedback systems to determine how well the person performs a task are examples of such training methods. Further, various types of skills can be acquired through use of virtual training simulations. As training simulations are customizable, they are used in a wide variety of genres such as corporate training of management skills, academic
30 training in schools, sports training, operator training in manufacturing plants and et cetera. Training simulations provide a life-like experience typed training through imitation of real-life process via a computing device, and are proven to be very reliable and successful methods of training in many industries. Training simulations are incredibly versatile as they allow specialization in a specific area as well as to
35 educate individuals in the workings of sectors as a whole.

Technology involving detection of psychomotor movements and means to provide feedback to users based on comparison analytics software are increasingly common. However, beyond that, technology to facilitate human-machine-human interaction, for example, has yet to gain traction. The main reason is due to cost and time constraints in creating scenario simulations integrated with the expected behaviours of the individuals. In addition, there is currently no flexibility to change the scenario simulations when the standard operating procedures are updated or when equipment are changed.

United States patent number US 6,632,174 B1 discloses a method for testing and training of cognitive abilities by the steps of presenting a stimulus, receiving motion input in response to the stimulus, and analysing cognitive aspects of the motion input. The method in the patent further discusses profiling a learner and determining performance parameters to be achieved before recommending a training module. However, the patent does not describe a method for changing scenario simulations nor a training method whereby the learner imitates an expert in order to develop skills such as psychomotor skills.

United States patent publication number US 20120206577 A1 discloses a system, method and computer software code for mimic training wherein a first image is visually superimposed on a second image and distinctions between movements occurring in both images are made. In addition, the use of a three-dimensional stereoscopic sensor is disclosed in the patent application. However, there is no mention of training using scenario simulations that are unprecedented to develop metacognitive skills.

United States patent publication number US 2012183939 A1 discloses a method and system for automated personal training. Patent US 2012183939 A1 provides means of generating a virtual shadow and generating a representation of a user performing the same movements as the virtual shadow and further determining the quantum of overlap of the user representation and virtual shadow by means of a feedback score. A form of sensor to monitor the sensory location as a gauge of distance is used in order to generate the feedback score. However, the method and system in Patent US 2012183939 A1 does not allow for an expert to make alteration to the virtual shadow nor does it allow training where the user is placed in a scenario simulation without the presence of a virtual shadow.

The prior arts however do not address the versatility of inserting and modifying simulations by an expert nor did the prior arts reveal a feedback means for further training. Therefore, it is a solution of this invention to ameliorate the aforementioned problems.

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SUMMARY OF THE INVENTION

The present invention aims to provide training comprising psychomotor and metacognitive skills training and the present invention further provides support for training of psychomotor, cognitive and character skills.

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It is an object of the present invention to provide a system and method to track and record movements of a person by means of a three-dimensional motion sensor. Once the movements have been recorded, the series of actions can be used and reused multiple times during a training. Hence, rendering the training to be low in cost and highly efficient.

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It is also an object of the present invention to provide a system and method to introduce self-directed training. The learner has the advantage of repeating the training and practicing alone so as to not feeling embarrassed in front of others.

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It is another object of the present invention to provide a system and method to increase productivity of the learner through scenario-based training. Training of higher cognitive skills such as metacognition, problem-solving and decision making based on scenarios improves the learner's critical thinking and reasoning strategies when faced with problems.

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It is yet an object of the present invention to provide a system and method for providing automated feedback to the learner after a training process is carried out. Based on the automated feedback, a further training is recommended to improve the specific inadequate area.

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It is yet another object of the present invention to provide a system and method to empower system developers to customize scenario simulations without the need for programmers and graphic artists. New scenario simulations are added into the system to trigger responses from the learner for better work competence.

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It is a further object of the present invention to provide a system for training comprising a movements recording device for recording movements, a visual generating device for displaying the recorded movements and a processor for processing the recorded movements and a reference, then providing an analysis of the recorded movements and the reference.

It is yet another object of the present invention to provide a method for training comprising the steps of tracking and recording actions of an expert in a pre-determined situation, displaying the pre-recorded actions of the expert by means of a visual generating device for a learner to emulate, tracking actions of the learner emulating the pre-recorded actions of the expert, displaying the actions of the learner on a same screen as the pre-recorded actions of the expert and generating a score between the actions of the learner and the pre-recorded actions of the expert.

It is therefore a solution to provide a system and method for training, which is cost effective, efficient, convenient and versatile. Other objects and advantages of this invention will be apparent during the course of the following description.

BRIEF DESCRIPTION OF THE DRAWINGS

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Figure 1 illustrates a schematic of a system for providing a training according to the present invention.

Figure 2 illustrates a process flow of a method for providing a training according to the present invention.

Figure 3 illustrates a process flow of a method for executing scenario simulations for further training according to the present invention.

Figure 4 illustrates a process flow of a method for training of psychomotor, cognitive and character skills according to the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

The abovementioned and other features and objects of this invention will become more apparent and better understood by reference to the following detailed description. It should be understood that the detailed description made known below

is not intended to be exhaustive or limit the invention to the precise form disclosed as the invention may assume various alternative forms. All the relevant modifications and alterations made to the present invention as covered in the detailed description should be construed to fall within the scope of the appended
5 claims. Therefore, the configuration of the invention is not limited to the configuration mentioned in the following description.

Referring to Figure 1, the figure illustrates a schematic illustration of one embodiment of a system (100) for providing a training comprising a movements
10 recording device (101) for recording movements, a visual generating device (103) for displaying the recorded movements and a processor (105) for processing the recorded movements and a reference then providing an analysis of the recorded movements and the reference, characterized in that the system (100) further comprises a feedback system (107) for suggesting further improvements, on an
15 independent mode, based on the analysis and a simulation generating device (109) to generate unprecedented scenario simulations (207) for further training.

The training herein mentioned comprises psychomotor skills and metacognitive skills training. Psychomotor skills are both mental and motor activities of a person.
20 Psychomotor skills are coordinated activity involving the arms, hands, fingers, and feet, demonstrated by physical skills such as movement, coordination, manipulation, dexterity, grace, strength and speed. Examples of such physical skills are preferably but not limited to machinery operations, physiotherapy, military drills, dancing, playing musical instruments and athletic performance. Cognition is the act or process
25 of knowing, including but not limited to decision-making, mindfulness to contextual cues, predictive abilities, comprehension, judgment, memory, perception, and reasoning. Metacognitive skills are a learner's (111) automatic awareness of own knowledge and ability to understand, control and manipulate own cognitive process. Metacognition provides self-monitoring, which is a step-by-step process of evaluation
30 during the learning process. In addition, Metacognition develops higher learning and problem solving skills

The movements recording device (101) herein mentioned comprises a three-dimensional (3-D) motion sensor for tracking movements to be recorded. The
35 tracked movements are recorded in the format of 3-D coordinates (113) which is used in the analysis by the processor (105). The 3-D motion sensor relies on ambient light for range determination via stereoscopic vision, in other words, by

combining two numbers of two-dimensional (2-D) image sensors. Another approach used by the 3-D motion sensor is through structured light, whereby it generates an electromagnetic radiation and analyzes the reflection of this radiation from an object. The use of electromagnetic radiation illuminates the object and hence does not
5 require additional controlled illumination of the object for accurate measurements. An optical sensor embedded in the 3-D motion sensor captures the reflected radiation.

The visual generating device (103) of present invention is a device used for
10 displaying the recorded movements. The visual generating device (103) is an electronic visual display for presentation of images transmitted electronically, for visual reception. Examples of visual generating devices (103) comprise but not limited to, television sets, computer monitors and projectors. The visual generating device (103) in the present invention is able to display one or more images on a
15 same screen, whereby the images are superimposed over each other or displayed next to each other. The visual generating device (103) further comprises a selection tool for switching the display type of the recorded movements. The recorded movements are real-time recorded movements as well as pre-recorded movements. Hence, an option is available for the learner (111) to display real-time recorded
20 movements superimposed on a virtual image of the reference or to display the real-time recorded movements next to the virtual image of the reference.

The processor (105) is the most essential component of the present invention as it links the whole system (100) together. The recorded movements of both the learner
25 (111) and the reference using the movements recording device (101) are processed and analysed by the processor (105). The recorded movements are also stored in the processor (105). The first step is to track and record actions of an expert (201) for a pre-determined situation using the movements recording device (101). The pre-recorded actions of the expert (201) are also known as the reference. The
30 processor (105) then sends the image of the reference to be displayed by the visual generating device (103) for a learner (111) to emulate. As the learner (111) is emulating the image of the reference, the actions of the learner (111) is tracked and recorded then analysed by the processor (105). A comparison analytics between the reference and the action of the learner (111) is generated through analysis of the
35 deviation between 3-D coordinates (113) of the reference and 3-D coordinates (113) of the learner (111). Using percentage of deviation in the distance between both 3-D coordinates (113), a similarity score (203) is tabulated. In another embodiment of

the processor (105), the comparison analytics comprises colour illustration. The reference will be illustrated in red and as the learner (111) approaches an acceptable tolerance limit, the colour turns green, on a real time basis, so that the learner (111) is aware of the exact trajectory to adopt and practice.

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The feedback system (107) for suggesting further improvements, on an independent mode, is linked to the similarity scoring system of the processor (105). The feedback system (107) is customised to the performance of the learner (111). Therefore, when a pre-determined similarity score (203) is reached, the feedback system (107) sends an automated message to the learner (111) informing the learner (111) the specific inadequate area to be improved. Preferably, a trigger based on the pre-determined similarity score (203) is set whereby pre-recorded actions of the expert (201) or videos for improvement will be activated to address the specific discrepancies by the learner (111) in order to improve performance. The training is then repeated for the learner (111) to improve that specific skill. In addition, the feedback system (107) is capable of distinguishing multiple inadequate areas to be improved. Using as an example whereby the training is made of a sequence of five different action flows, and if the system (100) detects that the second and fifth actions are below the pre-determined similarity score (203), the videos for improvement for these two segments will be triggered for the learner (111) to view for improvement. By using an automated response system in conjunction with pre-recorded video, the training process becomes a self-directed learning programme. In addition, the training process becomes more cost-effective, flexible in terms of scheduling and less labour-intensive.

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A further embodiment of the system (100), the system (100) comprising the simulation generating device (109) to generate unprecedented scenario simulations (207) for further training (300). The response of the learner (111) in an unprecedented scenario simulation (207) is tracked and recorded without prior revealing the reference. The response of the learner (111) is then compared to the reference, generating a similarity score (203) which in turns provide automated feedback (205) for improvement. Use of the simulation generating device (109) to generate unprecedented scenario simulations (207) to train the response of the learner (111) will develop metacognitive skills in the learner (111). The simulation generating device (109) further comprises an input for amending and inserting unprecedented scenario simulations (207) into the system (100). The simulation generating device (109) empowers the system developers to develop customized

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scenario simulations (207) without the need for programmers and graphic artists. New scenario simulations (207) are added into the system (100) to trigger responses from the learner (111) for better work competence. Generating unprecedented scenario simulations (207) for further training (300) develop
 5 decision-making in action based scenarios, for example, nurses training to respond to patients' condition like hooking up a breathing apparatus, personnel training to prepare for contingency situations and deepening skillsets through use of error-based scenarios like blackout when moving a container of dangerous chemicals.

10 Referring to Figure 2, the figure illustrates a process flow of a method for providing a training comprising the steps of tracking and recording actions of an expert (201) in a pre-determined situation, displaying the pre-recorded actions of the expert (201) by means of a visual generating device (103) for a learner (111) to emulate, tracking actions of the learner (111) emulating the pre-recorded actions of the
 15 expert (201), displaying the actions of the learner on a same screen as the pre-recorded actions of the expert (201) and generating a score (203) between the actions of the learner (111) and the pre-recorded actions of the expert (201), characterized in that the method further comprises steps of providing feedback, on an independent mode (205), to the learner (111) based on the score (203)
 20 generated, adjusting the training based on the feedback (205) and executing scenario simulations (207) for further training (300).

The step of displaying the actions of the learner (111) on a same screen as the pre-recorded actions of the expert (201) further comprises recording the actions of the
 25 learner (111) emulating the pre-recorded actions of the expert (201) by means of a 3-D motion sensor. The 3-D motion sensor is part of a component of the movements recording device (101) which stores 3-D coordinates (113) of the expert (201) and 3-D coordinates (113) of the learner (111). The step of displaying the actions of the learner (111) on a same screen as the pre-recorded actions of the expert (201)
 30 further comprises displaying an image of the actions of the learner (111) superimposed on a virtual image of the pre-recorded actions of the expert (201) or displaying an image of the actions of the learner (111) next to an image of the pre-recorded actions of the expert (201). The learner (111) has the flexibility to switch between the displays by means of the selection tool.

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The step of generating a score (203) of the present invention comprises a step of analyzing a deviation between 3-D coordinates (113) of the recorded movements of

the learner (111) and 3-D coordinates (113) of the pre-recorded actions of the expert (201). The 3-D coordinates (113) of the pre-recorded actions of the expert (201) are used as the reference for training. Upon reaching a pre-determined similarity score (203), an automated feedback (205) is provided to the learner (111).

5 The step of providing feedback (205) to the learner (111) further comprises the step of activating playbacks of the real-time actions of the learner (111), the response of the learner (111) to the scenario simulations (207) and the pre-recorded actions of the expert (201) for study by the learner (111). The step of activating playbacks further comprises displaying video links for improvements on inadequate areas.

10 Further, the step of adjusting the training based on the feedback (205) further comprises the learner (111) repeating the training, the learner (111) controlling video cues, the learner (111) amending difficulty level of the training, the learner (111) controlling speed of the video played and the learner (111) controlling dependency on the pre-recorded actions of the expert (201).

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Referring to Figure 3, the figure illustrates a process flow of a method for executing scenario simulations (207) for further training (300) comprising the steps of tracking and recording the actions of the expert (201) for the scenario simulations (207), displaying the scenario simulations (207) to the learner (111), tracking and

20 recording response of the learner (111) to the scenario simulations (207), generating a score (203) between the actions of the expert (201) and the response of the learner (111) to the scenario simulations (207), providing feedback, on an independent mode (205), to the learner (111) based on the score (203) generated and adjusting the training based on the feedback (205), wherein the scenario

25 simulations (207) are unprecedented and the training is initiated without prior revealing the actions of the expert (201) to the learner (111).

The abovementioned further training (300) method for executing scenario simulations (207) is initiated without prior revealing the actions of the expert (201)

30 to the learner (111) in order to test the response of a learner (111) when encountering new and novel scenario simulations (207). Comparison of the response of the learner (111) is subsequently made with the actions of the expert (201), and then an automated feedback (205) is provided to the learner (111). Therefore, the learner (111) is able to train his metacognitive skills. In addition, the automated

35 feedback (205) for scenario simulations (207) addresses the metacognitive considerations and blind spots which the learner (111) are not aware of. Feedback (205) in the form of pre-recorded videos by the expert (201) are triggered at critical

junctures in the scenario simulations (207) based on the decisions taken by the learner (111). The step of executing scenario simulations (207) for further training (300) further comprises an input method for amending existing scenario simulations (207) and inserting scenario simulations (207) into the system (100).

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The method of providing a training (200) further provides support for training of psychomotor, cognitive and character skills (400). Referring to Figure 4, the figure illustrates a process flow of a training of psychomotor, cognitive and character skills (400) comprising the steps of evaluating a preliminary skills (401) competency level of the learner (111), suggesting a skill set (401) to be improved based on the preliminary evaluation, providing training for the suggested skill set (401), providing feedback (205) to the learner (111), selecting a pre-customized training, on an independent mode, based on the feedback (205), monitoring and assessing improvements in the skills (401) competency level of the learner (111), and ensuring the skills (401) competency level of the learner (111) remains above the preliminary skills (401) competency level. The system for training of psychomotor, cognitive and character skills (400) analyses the learner's (111) profile before recommending an appropriate training in order to address the skill (401) to be improved or to train the learner (111) to achieve an improved level of competency. The training of psychomotor, cognitive and character skills (400) is also known as an integrated learning and performance system. In other words, the performance of the learner (111) is linked to the type of training received. There are three main stages that are apparent in the integrated learning and performance system, such as to customize a learning approach, use of an integrated learning practice and performance monitoring with feedback (205).

The step of evaluating a preliminary skills (401) competency level of a learner (111) further comprises the step of profiling the learner (111) and establishing performance parameters to be achieved by the learner (111). It is essential to first establish the level of psychomotor, cognitive and character skills (401) of a learner (111) as well as the performance parameters the learner (111) wishes to achieve before determining which skills (401) to train. The step of suggesting a skill set (401) to be improved comprises suggesting improvements on one of the psychomotor, cognitive and character skills (401). The training focuses on developing one skill at a time so as to ensure the learner (111) concentrates on training the weakest skill first. Hence, the learner (111) will address the inadequate skill to improve or to achieve an increased level of competency.

When the system and method carries out cognitive skills (401) training, video cases are shown to the learner (111) to drive learning in an interesting manner followed by active experimentation where the learner (111) attempts to respond based on what the learner (111) thinks an expert (201) would do. Follow-up discussions with supervisors and peers will reinforce the training of cognitive skills (401).

Referring now to psychomotor and character training, video of an expert (201) performing a skill is shown for the learner (111) to emulate. The action of the learner (111) is tracked and recorded and feedback (205) is provided and the learner (111) modifies and repeats the actions until a satisfactory level is achieved. After which, the learner (111) is presented with unprecedented scenario simulations (207) where the learner (111) attempts to respond based on what the learner (111) thinks an expert (201) would do. Follow-up discussions with supervisors and peers will reinforce the training of psychomotor and character skills (401).

The step of providing feedback (205) to the learner (111) further comprises the step of getting feedback (205) by peers and supervisors, getting feedback (205) through the learner (111)'s self-reflection and getting feedback (205) based on a performance rating system. The step of selecting a pre-customized training, on an independent mode, based on the feedback (205) further comprises adjusting contents of the training according to pre-determined requirements. The step of monitoring and assessing improvements in the skills (401) competency level of the learner (111) further comprises the step of getting interim feedbacks (205) from peers and supervisors.

The invention described herein is susceptible to variations, modifications and/or additions other than those specifically described and it is to be understood that the invention includes all such variations, modifications and/or additions which fall within the scope of the following claims.

Claims:

1. A system (100) for providing a training comprising:
 - a movements recording device (101) for recording movements;
 - 5 a visual generating device (103) for displaying the recorded movements;
 - and
 - a processor (105) for processing the recorded movements and a reference, then providing an analysis of the recorded movements and the reference;
 - characterized in that the system (100) further comprises a feedback
 - 10 system (107) for suggesting further improvements, on an independent mode, based on the analysis; and
 - a simulation generating device (109) to generate unprecedented scenario simulations (207) for further training (300).
- 15 2. The system (100) of claim 1 wherein the training comprises psychomotor and metacognitive skills training.
3. The system (100) of claim 1 wherein the movements recording device (101) further comprises a three-dimensional motion sensor for tracking
- 20 movements to be recorded in a three-dimensional coordinates (113) format.
4. The system (100) of claims 1 to 3 wherein the processor (105) analyses the deviation between the three-dimensional coordinates (113) of the recorded movements and the three-dimensional coordinates (113) of the reference.
- 25 5. The system (100) of claim 4 wherein the analysis comprises a similarity scoring system based on the percentage of deviation between the three-dimensional coordinates (113).
- 30 6. The system (100) of claims 1 and 4 wherein the reference comprises pre-recorded actions of an expert (201).
7. The system (100) of claims 1 wherein the feedback system (107) for suggesting further improvements, on an independent mode further
- 35 comprises a trigger for activating pre-recorded videos based on a pre-determined similarity score (203).

8. The system (100) of claim 1 wherein the simulation generating device (109) further comprises an input for amending and inserting unprecedented scenario simulations (207) into the system (100).
- 5 9. The system (100) of claim 1 wherein the visual generating device (103) further comprises a selection tool for switching display type of the recorded movements.
- 10 10. The system (100) of claim 9 wherein the display type of the recorded movements comprises a real-time recorded movements superimposed on a virtual image of the reference.
- 15 11. The system (100) of claim 9 wherein the display type of the recorded movements comprises the real-time recorded movements displayed next to the reference.
12. A method for providing a training (200) comprising the steps of:
 - tracking and recording actions of an expert (201) in a pre-determined situation;
 - 20 displaying the pre-recorded actions of the expert (201) by means of a visual generating device (103) for a learner (111) to emulate;
 - tracking actions of the learner (111) emulating the pre-recorded actions of the expert (201);
 - displaying the actions of the learner (111) on a same screen as the pre-
 - 25 recorded actions of the expert (201); and
 - generating a score (203) between the actions of the learner (111) and the pre-recorded actions of the expert (201);
 - characterized in that the method further comprises steps of providing feedback, on an independent mode (205), to the learner (111) based on the
 - 30 score (203) generated;
 - adjusting the training based on the feedback (205); and
 - executing scenario simulations (207) for further training (300).
- 35 13. The method (200) of claim 12 wherein the step of executing scenario simulations (207) for further training (300) comprises the steps of:
 - tracking and recording the actions of the expert (201) for the scenario simulations (207);
 - displaying the scenario simulations (207) to the learner (111);

tracking and recording response of the learner (111) to the scenario simulations (207);

generating a score (203) between the actions of the expert (201) and the response of the learner (111) to the scenario simulations (207);

5 providing feedback (205), on an independent mode, to the learner (111) based on the score (203) generated; and

adjusting the training based on the feedback (205);

wherein the scenario simulations (207) are unprecedented and the training is initiated without prior revealing the actions of the expert (201) to
10 the learner (111).

14. The method (200) of claims 12 wherein the step of providing a training further provides support for training of psychomotor, cognitive and character skills (400).
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15. The method of claim 14 wherein training of psychomotor, cognitive and character skills (400) comprises the steps of:

evaluating a preliminary skills (401) competency level of the learner (111);

20 suggesting a skill set (401) to improve based on the preliminary evaluation;

providing training for the suggested skill set (401);

providing feedback (205) to the learner (111);

25 selecting a pre-customized training, on an independent mode, based on the feedback (205);

monitoring and assessing improvements in the skills (401) competency level of the learner (111); and

ensuring the skills (401) competency level of the learner (111) remains above the preliminary skills (401) competency level.
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16. The method (200) of claim 12 wherein the step of displaying the actions of the learner (111) on a same screen as the pre-recorded actions of the expert (201) further comprises recording the actions of the learner (111) emulating the pre-recorded actions of the expert (201) by means of a three-
35 dimensional motion sensor.

17. The method (200) of claim 12 wherein the step of generating a score (203) comprises a step of analysing deviation between three-dimensional coordinates (113) of the recorded movements and three-dimensional coordinates (113) of the pre-recorded actions of the expert (201).
- 5 18. The method (200) of claim 12 wherein the step of providing feedback (205), on an independent mode, to the learner (111) further comprises the step of activating playbacks of the real-time actions of the learner (111), the response of the learner (111) to the scenario simulations (207) and the pre-
- 10 pre-recorded actions of the expert (201) for study by the learner (111).
19. The method of claim 18 wherein the step of activating playbacks further comprises displaying video links for improvements on inadequate areas.
- 15 20. The method (200) of claim 12 wherein the step of adjusting the training based on the feedback (205) further comprises the learner (111) repeating the training, the learner (111) controlling video cues, the learner (111) amending difficulty level of the training, the learner (111) controlling speed of the video played and the learner (111) controlling dependency on the
- 20 pre-recorded actions of the expert (201).
21. The method (200) of claim 12 wherein the step of executing scenario simulations (207) for further training (300) further comprises an input method for amending existing scenario simulations (207) and inserting
- 25 scenario simulations (207) into the system (100).
22. The method (200) of claim 12 wherein the step of displaying the actions of the learner (111) on a same screen as the pre-recorded actions of the expert (201), comprises displaying an image of the actions of the learner
- 30 (111) superimposed on a virtual image of the pre-recorded actions of the expert (201).
23. The method (200) of claim 12 wherein the step of displaying the actions of the learner (111) on a same screen as the pre-recorded actions of the
- 35 expert (201), comprises displaying an image of the actions of the learner (111) next to an image of the pre-recorded actions of the expert (201).

24. The method (400) of claim 15 wherein the step of suggesting a skill set (401) to be improved, comprises suggesting improvements on one of the psychomotor, cognitive and character skills (401).
- 5 25. The method (400) of claim 15 wherein the step of evaluating a preliminary skills (401) competency level of a learner (111) further comprises the step of profiling the learner (111) and establishing performance parameters to be achieved by the learner (111).
- 10 26. The method (400) of claim 15 wherein the step of providing feedback (205) to the learner (111) further comprises the step of getting feedback (205) by peers and supervisors, getting feedback (205) through the self-reflection by the learner (111) and getting feedback (205) based on a performance rating system.
- 15 27. The method (400) of claim 15 wherein the step of selecting a pre-customized training, on an independent mode, based on the feedback (205) further comprises adjusting contents of the training according to pre-determined requirements.
- 20 28. The method (400) of claim 15 wherein the step of monitoring and assessing improvements in the skills (401) competency level of the learner (111) further comprises the step of getting interim feedbacks (205) from peers and supervisors.
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