

CLAIMS

1. A system for providing an artificial intelligence (AI) powered response to user inputs in an environment, comprising:
 - a non-player character (NPC) module storing a plurality of non-player characters (NPCs) found within the environment;
 - a NPC command module linked to the NPC module and configured to provide commands to individual NPCs to affect behaviors and actions of the NPCs within the environment;
 - a player command and control (CnC) module configured to:
 - offer CnC suggestions to an individual player; and
 - receive discrete user inputs; and
 - an AI powered engine configured to:
 - train each NPC to perform a set of actions within the environment according to a set of functional boundary conditions;
 - train the NPC module to command the plurality of NPCs; and
 - train the player CnC module to learn a plurality of CnC suggestions according to individual player actions; and
 - infer an in-environment response based on the discrete user inputs received by the player CnC module according to the learned plurality of CnC suggestions.
2. A system for providing an AI powered response to user inputs in an environment according to claim 1, further comprising a user interface displayed to the user and configured to:
 - display in-environment action to the player;
 - capture the discrete user inputs; and
 - communicate the captured discrete user inputs to the player CnC module.

3. A system for providing an AI powered response to user inputs in an environment according to claim 2, wherein the AI powered engine is further configured to:
infer a first in-environment response for a first discrete user input according to a first contextual situation within the environment; and
infer a second in-environment response for the first discrete user input according to a second contextual situation of the environment.
4. A system for providing an AI powered response to user inputs in an environment according to claim 1, wherein the AI powered engine is further configured to infer the in-environment response according to a contextual situation of the environment.
5. A system for providing an AI powered response to user inputs in an environment according to claim 1, wherein training each NPC comprises:
performing a first series of iterations where a first NPC is taught to perform a first set of actions;
determining a measure of success for each iteration in the first series of iterations;
ranking the measure of success for each iteration in the first series of iterations against previous iterations with the AI powered engine to achieve higher level results;
performing a second series of iterations where the first NPC is taught to perform a second set of actions that are conditioned on the first set of actions;
determining a measure of success for each iteration in the second series of iterations;
ranking the measure of success for each iteration in the second series of iterations against previous iterations with the AI powered engine to achieve higher level results.
6. A system for providing an AI powered response to user inputs in an environment according to claim 5, wherein the first and second series of iterations are constrained by a set of negative and positive values assigned to various NPC attributes.
7. A system for providing an AI powered response to user inputs in an environment according to claim 5, wherein training the NPC command module comprises:
performing a first series of events according to the first and second set of actions; and
performing a first series of objectives that are conditioned on the first series of events.

8. A system for providing an AI powered response to user inputs in an environment according to claim 7, wherein the AI powered engine is further configured to include received discrete user inputs into the first series of events and the first series of objectives.
9. A system for providing an AI powered response to user inputs in an environment according to claim 7, wherein training the NPC command module further comprises incorporating training metrics that include feedback external to the environment.
10. A system for providing an AI powered response to user inputs in an environment according to claim 1, wherein training the player CnC module comprises:
receiving a first discrete user input;
comparing a current in-environment situation to known similar in-environment situations trained into the NPC command module;
determining a set of available behaviors and actions relating to the current in-environment situation;
comparing the set of available behaviors and actions to known inputs for causing each behavior and action from the set of behaviors and actions; and
selecting a desired in-environment response according to the known inputs for causing each behavior and action that best relates to the received user input.
11. A system for providing an AI powered response to user inputs in an environment according to claim 10, wherein the AI powered engine is further configured to incorporate player feedback of the selected in-environment response into the known inputs.
12. A system for providing an AI powered response to user inputs in a environment according to claim 10, wherein training the player CnC module further comprises incorporating alternate viewpoints into the environment following the inference of the in-environment response.

13. A system for providing an AI powered response to user inputs in an environment according to claim 10, wherein training the player CnC module further comprises incorporating training metrics that include feedback external to the environment.
14. A method for providing an artificial intelligence (AI) powered response to user inputs in an environment, comprising:
 - storing a plurality of non-player characters (NPCs) found within the environment in a non-player character (NPC) module;
 - providing commands to individual NPCs to affect behaviors and actions of the NPCs within the environment with a NPC command module linked to the NPC module;
 - offering command and control (CnC) suggestions to an individual player with a player CnC module;
 - receiving discrete user inputs with the player CnC module;
 - training each NPC within the environment to perform a set of actions within the environment according to a set of functional boundary conditions with an AI powered engine;
 - training the NPC module with the AI powered engine to command the plurality of NPCs;
 - training the player CnC module with the AI powered engine to learn a plurality of CnC suggestions according to individual player actions; and
 - inferring an in-environment response with the AI powered engine based on the discrete user inputs received by the player CnC module according to the learned plurality of CnC suggestions.
15. A method for providing an AI powered response to user inputs in an environment according to claim 14, further comprising a user interface displayed to the user and configured to:
 - display in-environment action to the player;
 - capture the discrete user inputs; and
 - communicate the captured discrete user inputs to the player CnC module.

16. A method for providing an AI powered response to user inputs in an environment according to claim 15, wherein the AI powered engine is further configured to:
infer a first in-environment response for a first discrete user input according to a first contextual situation of the environment; and
infer a second in-environment response for the first discrete user input according to a second contextual situation of the environment.
17. A method for providing an AI powered response to user inputs in an environment according to claim 14, wherein the AI powered engine is further configured to infer the in-environment response according to a contextual situation of the environment.
18. A method for providing an AI powered response to user inputs in an environment according to claim 14, wherein training each NPC comprises:
performing a first series of iterations where a first NPC is taught to perform a first set of actions;
determining a measure of success for each iteration in the first series of iterations;
ranking the measure of success for each iteration in the first series of iterations against previous iterations with the AI powered engine to achieve higher level results;
performing a second series of iterations where the first NPC is taught to perform a second set of actions that are conditioned on the first set of actions;
determining a measure of success for each iteration in the second series of iterations;
ranking the measure of success for each iteration in the second series of iterations against previous iterations with the AI powered engine to achieve higher level results.
19. A method for providing an AI powered response to user inputs in an environment according to claim 18, wherein the first and second series of iterations are constrained by a set of negative and positive values assigned to various NPC attributes.
20. A method for providing an AI powered response to user inputs in an environment according to claim 18, wherein training the NPC command module comprises:
performing a first series of events according to the first and second set of actions; and
performing a first series of objectives that are conditioned on the first series of events.

21. A method for providing an AI powered response to user inputs in an environment according to claim 20, wherein the AI powered engine is further configured to include received discrete user inputs into the first series of events and the first series of objectives.
22. A method for providing an AI powered response to user inputs in an environment according to claim 20, wherein training the NPC command module further comprises incorporating training metrics that include feedback external to the environment.
23. A method for providing an AI powered response to user inputs in an environment according to claim 14, wherein training the player CnC module comprises:
 - receiving a first discrete user input;
 - comparing a current in-environment situation to known similar in-environment situations trained into the NPC command module;
 - determining a set of available behaviors and actions relating to the current in-environment situation;
 - comparing the set of available behaviors and actions to known inputs for causing each behavior and action from the set of behaviors and actions; and
 - selecting a desired in-environment response according to the known inputs for causing each behavior and action that best relates to the received user input.
24. A method for providing an AI powered response to user inputs in an environment according to claim 23, wherein the AI powered engine is further configured to incorporate player feedback of the selected in-environment response into the known inputs.
25. A method for providing an AI powered response to user inputs in an environment according to claim 23, wherein training the player CnC module further comprises incorporating alternate viewpoints into the environment following the inference of the in-environment response.

26. A method for providing an AI powered response to user inputs in an environment according to claim 23, wherein training the player CnC module further comprises incorporating training metrics that include feedback external to the environment.