

Amendments to the Claims

Please amend Claims 1, 2, 8, 9, 15, 16, 22 and 23, as follows:

1. **(Currently Amended)** A method for generating a test case, the method comprising:
generating, by a processor coupled to a test bench configured to execute a test plan on a design under test, a first test case for the design under test (DUT), said generating the first test case comprising
traversing a first path through a hierarchy of goals from a start goal to an end goal, wherein
a first parent goal traversed in a first level of the hierarchy of goals comprises a first definition of one or more of a slot and a method, and
traversal of the first parent goal results in executing an action associated with the first parent goal and subsequently selecting a child goal of the first parent goal for evaluation, and
assuming the first definition of the slot or the method by a child goal in a second level of the hierarchy of goals, if the child goal requires the slot or the method, **wherein**
said assuming the first definition of the slot or method comprises searching the first path upstream to the first parent goal for the first definition of the slot or method.
2. **(Currently Amended)** The method of Claim 1 further comprising:
generating a second test case for the DUT, said generating the second test case comprising
traversing a second path through the hierarchy of goals from the start goal to a second end goal, wherein

a second parent goal traversed in the first level of the hierarchy of goals comprises a second definition of one or more of the slot and the method, and
assuming the second definition of the slot or the method by the child goal in the second level of the hierarchy of goals if the child goal requires the slot or the method, wherein
said assuming the second definition of the slot or method
comprises searching the second path upstream to the
second parent goal for the second definition of the slot
or method.

3. (Original) The method of Claim 1 wherein the second level of the hierarchy is below the first level of the hierarchy in the hierarchy.
4. (Original) The method of Claim 1 wherein a case analysis graph comprises the hierarchy of goals.
5. (Original) The method of Claim 1 further comprising:
linking the first parent goal to a plurality of goals in a next lower level of the hierarchy, wherein
the first parent goal is configured to select one goal of the plurality of goals in the next lower level as the next goal to traverse in said traversing.
6. (Original) The method of Claim 1 further comprising:
linking the first parent goal to a plurality of goals in a next lower level of the hierarchy of goals, wherein
the first parent goal is configured to select each goal of the plurality of goals in the next lower level in a defined order as the next goal to traverse in said traversing.

7. (Original) The method of Claim 1 wherein said generating the first test case further comprises:

assembling all slots and methods associated with the goals traversed along the first path in the hierarchy of goals.

8. (**Currently Amended**) A system for generating a test case, the system comprising:

a test bench configured to execute a test plan on a design under test (DUT); and
a processor, coupled to the test bench, and configured to

generate a first test case for a design under test (DUT) wherein the

processor is further configured to

traverse a first path through a hierarchy of goals from a start goal
to an end goal, wherein

a first parent goal traversed in a first level of the hierarchy
of goals comprises a first definition of one or more
of a slot and a method, and

**traversal of the first parent goal results in executing an
action associated with the first parent goal and
subsequently selecting a child goal of the first
parent goal for evaluation, and**

assume the first definition of the slot or the method by a child goal
in a second level of the hierarchy of goals, if the child goal
requires the slot or the method, **wherein**

**said assuming the first definition of the slot or method
comprises searching the first path upstream to
the first parent goal for the first definition of the
slot or method.**

9. (**Currently Amended**) The system of Claim 8 wherein the processor is
further configured to:

generate a second test case for the DUT wherein the processor is further
configured to

traverse a second path through the hierarchy of goals from the start goal to
 a second end goal, wherein
 a second parent goal traversed in the first level of the hierarchy of
 goals comprises a second definition of one or more of the
 slot and the method, and
 assume the second definition of the slot or the method by the child goal in
 the second level of the hierarchy of goals if the child goal requires
 the slot or the method, **wherein**
said assuming the second definition of the slot or method
comprises searching the second path upstream to the
second parent goal for the second definition of the slot
or method.

10. (Original) The system of Claim 8 wherein the second level of the hierarchy is below the first level of the hierarchy in the hierarchy.

11. (Original) The system of Claim 8 wherein a case analysis graph comprises the hierarchy of goals.

12. (Original) The system of Claim 8 wherein the processor is further configured to:

link the first parent goal to a plurality of goals in a next lower level of the
 hierarchy, wherein
 the first parent goal is configured to select one goal of the plurality of
 goals in the next lower level as the next goal to traverse in said
 traversing.

13. (Original) The system of Claim 8 wherein the processor is further configured to:

link the first parent goal to a plurality of goals in a next lower level of the
 hierarchy of goals, wherein

the first parent goal is configured to select each goal of the plurality of goals in the next lower level in a defined order as the next goal to traverse in said traversing.

14. (Original) The system of Claim 8 wherein, in generating the first test case, the processor is further configured to:

assemble all slots and methods associated with the goals traversed along the first path in the hierarchy of goals.

15. (**Currently Amended**) A computer-readable storage medium storing instructions for generating a test case, the instructions comprising:

a first set of instructions, executable by a processor, configured to generate a first test case for a design under test (DUT), said first set of instructions comprising

a second set of instructions, executable on the processor, configured to traverse a first path through a hierarchy of goals from a start goal to an end goal, wherein a first parent goal traversed in a first level of the hierarchy of goals comprises a first definition of one or more of a slot and a method, and

traversal of the first parent goal results in executing an action associated with the first parent goal and subsequently selecting a child goal of the first parent goal for evaluation, and

a third set of instructions, executable on the processor, configured to assume the first definition of the slot or the method by a child goal in a second level of the hierarchy of goals, if the child goal requires the slot or the method, **wherein**

said assuming the first definition of the slot or method comprises searching the first path upstream to the first parent goal for the first definition of the slot or method.

16. (**Currently Amended**) The computer-readable storage medium of Claim 15 further comprising:

a fourth set of instructions, executable on the processor, configured to generate a second test case for the DUT, said fourth set of instructions comprising a fifth set of instructions, executable on the processor, configured to traverse a second path through the hierarchy of goals from the start goal to a second end goal, wherein a second parent goal traversed in the first level of the hierarchy of goals comprises a second definition of one or more of the slot and the method, and a sixth set of instructions, executable on the processor, configured to assume the second definition of the slot or the method by the child goal in the second level of the hierarchy of goals if the child goal requires the slot or the method, **wherein**
said assuming the second definition of the slot or method
comprises searching the second path upstream to the
second parent goal for the second definition of the slot
or method.

17. (Original) The computer-readable storage medium of Claim 15 wherein the second level of the hierarchy is below the first level of the hierarchy in the hierarchy.

18. (Original) The computer-readable storage medium of Claim 15 wherein a case analysis graph comprises the hierarchy of goals.

19. (Original) The computer-readable storage medium of Claim 15 further comprising:

a fourth set of instructions, executable on the processor, configured to link the first parent goal to a plurality of goals in a next lower level of the hierarchy, wherein the first parent goal is configured to select one goal of the plurality of goals in the next lower level as the next goal to traverse in said traversing.

20. (Original) The computer-readable storage medium of Claim 15 further comprising:

a fourth set of instructions, executable on the processor, configured to link the first parent goal to a plurality of goals in a next lower level of the hierarchy of goals, wherein the first parent goal is configured to select each goal of the plurality of goals in the next lower level in a defined order as the next goal to traverse in said traversing.

21. (Original) The computer-readable storage medium of Claim 15 wherein said generating the first test case further comprises:

a fourth set of instructions, executable on the processor, configured to assemble all slots and methods associated with the goals traversed along the first path in the hierarchy of goals.

22. (**Currently Amended**) An apparatus for generating a test case, the apparatus comprising:

a test bench configured to execute a test plan on a design under test (DUT); and means for generating a first test case of the test plan for the design under test (DUT), said means for generating the first test case comprising means for traversing a first path through a hierarchy of goals from a start goal to an end goal, wherein a first parent goal traversed in a first level of the hierarchy of goals comprises a first definition of one or more of a slot and a method, and

traversal of the first parent goal results in executing an action associated with the first parent goal and subsequently selecting a child goal of the first parent goal for evaluation, and

means for assuming the first definition of the slot or the method by a child goal in a second level of the hierarchy of goals, if the child goal requires the slot or the method, **wherein**

said means for assuming the first definition of the slot or method comprises means for searching the first path upstream to the first parent goal for the first definition of the slot or method.

23. **(Currently Amended)** The apparatus of Claim 22 further comprising:
means for generating a second test case of the test plan for the DUT, said means
for generating the second test case comprising
means for traversing a second path through the hierarchy of goals from the
start goal to a second end goal, wherein
a second parent goal traversed in the first level of the hierarchy of
goals comprises a second definition of one or more of the
slot and the method, and
means for assuming the second definition of the slot or the method by the
child goal in the second level of the hierarchy of goals if the child
goal requires the slot or the method, **wherein**
said means for assuming the second definition of the slot or method comprises means for searching the second path upstream to the second parent goal for the second definition of the slot or method.