

**WHAT IS CLAIMED IS:**

1. A method comprising:  
generating a first test case for a 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  
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.
2. 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.
3. The method of Claim 1 wherein the second level of the hierarchy is below the first level of the hierarchy in the hierarchy.
4. The method of Claim 1 wherein a case analysis graph comprises the hierarchy of goals.

5. 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. 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. 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. A 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  
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.

9. 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.
10. The system of Claim 8 wherein the second level of the hierarchy is below the first  
level of the hierarchy in the hierarchy.
11. The system of Claim 8 wherein a case analysis graph comprises the hierarchy of  
goals.
12. 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. 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. 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. A computer-readable storage medium 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  
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.

16. 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.

17. 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. The computer-readable storage medium of Claim 15 wherein a case analysis graph comprises the hierarchy of goals.

19. 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. 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. 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. An 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  
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.

23. 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.