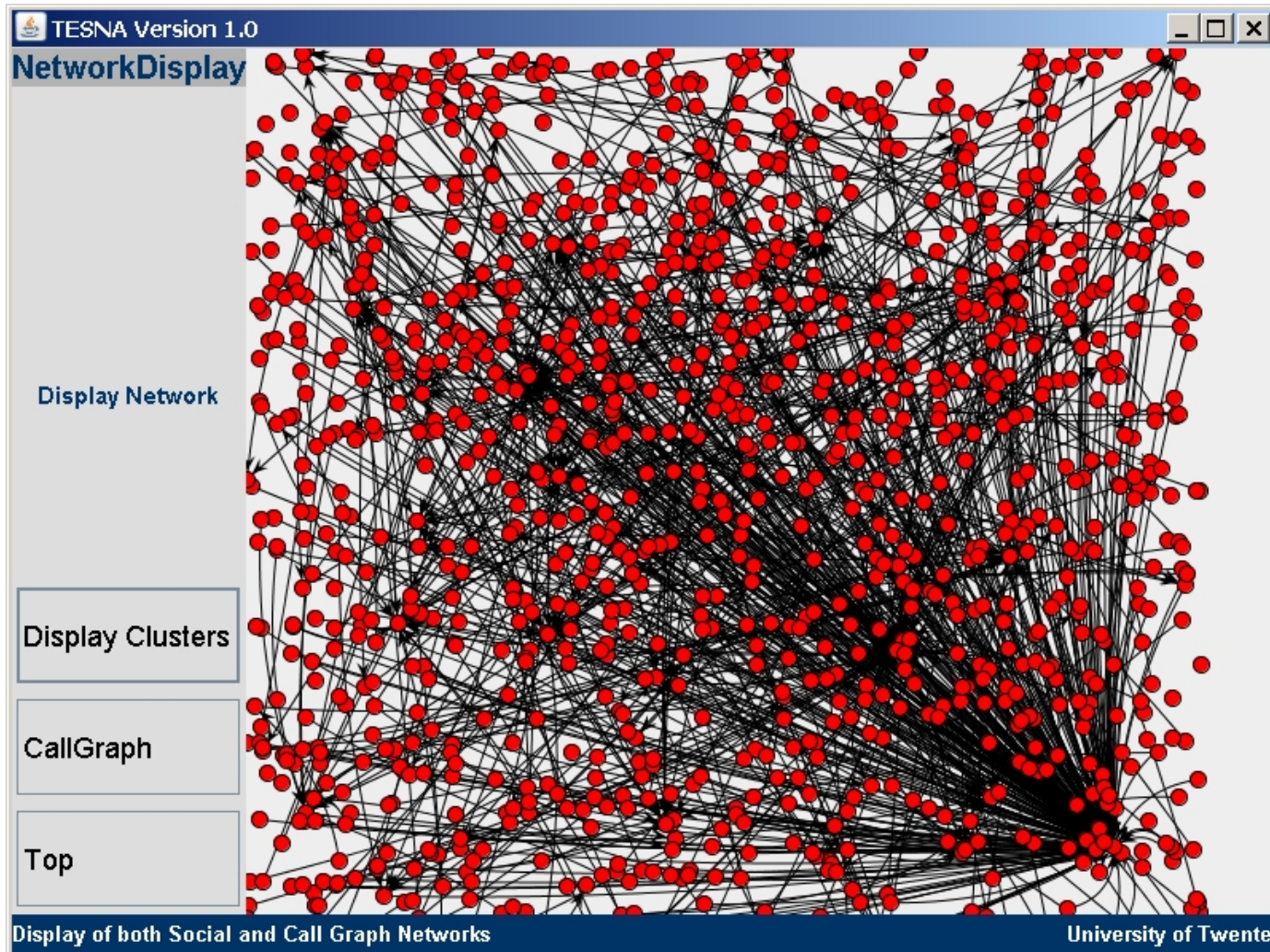


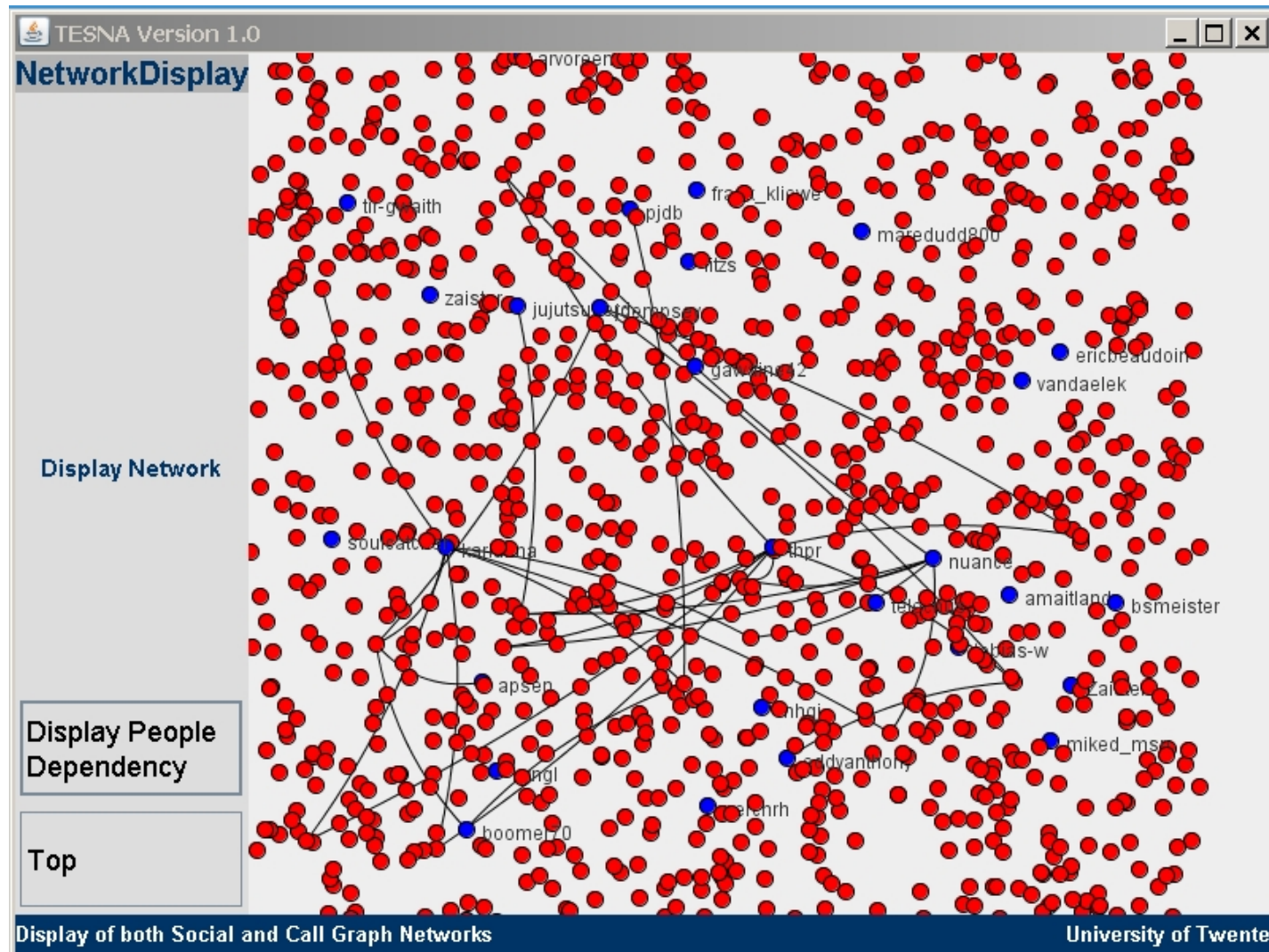


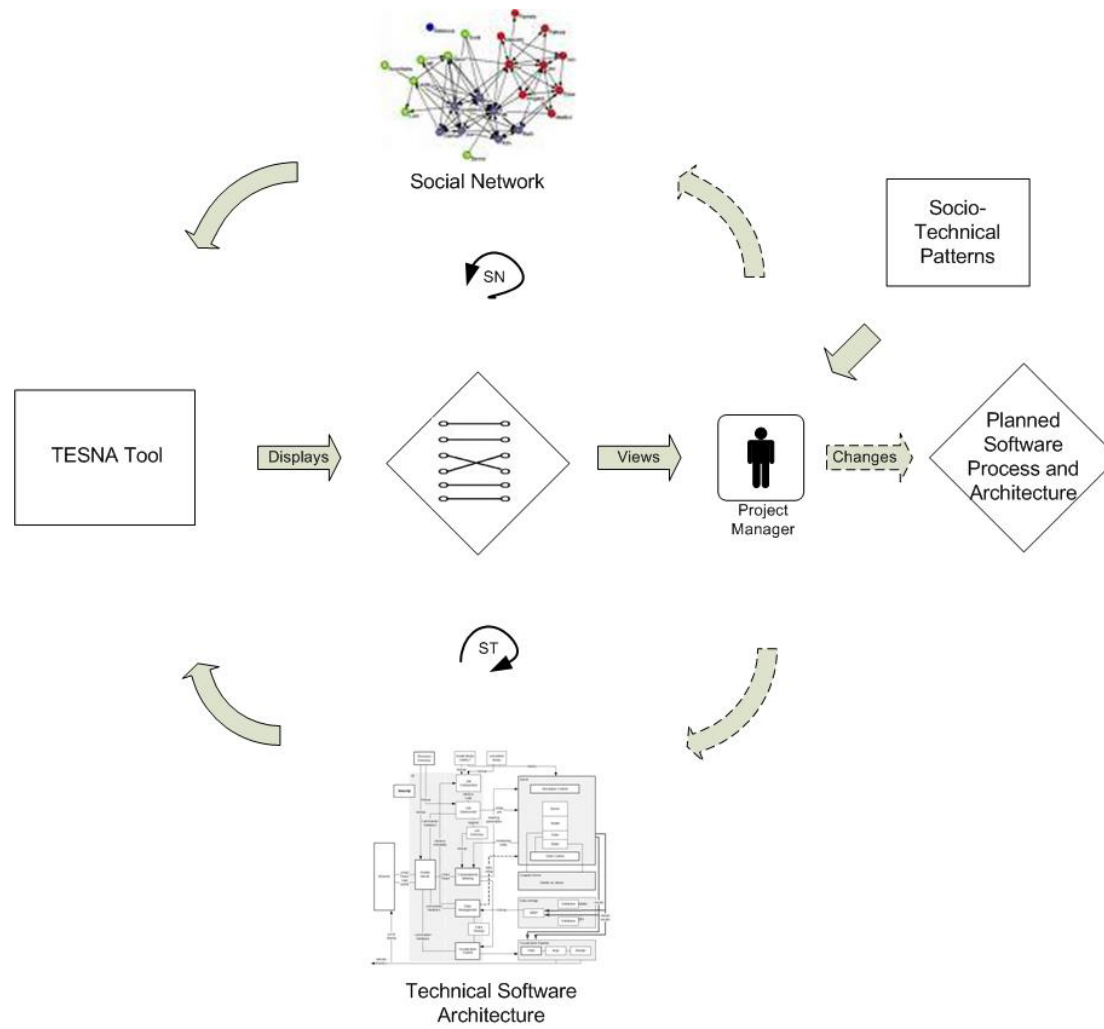
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TESNA Game: A Serious Game for Understanding Socio-Technical Coordination Problems

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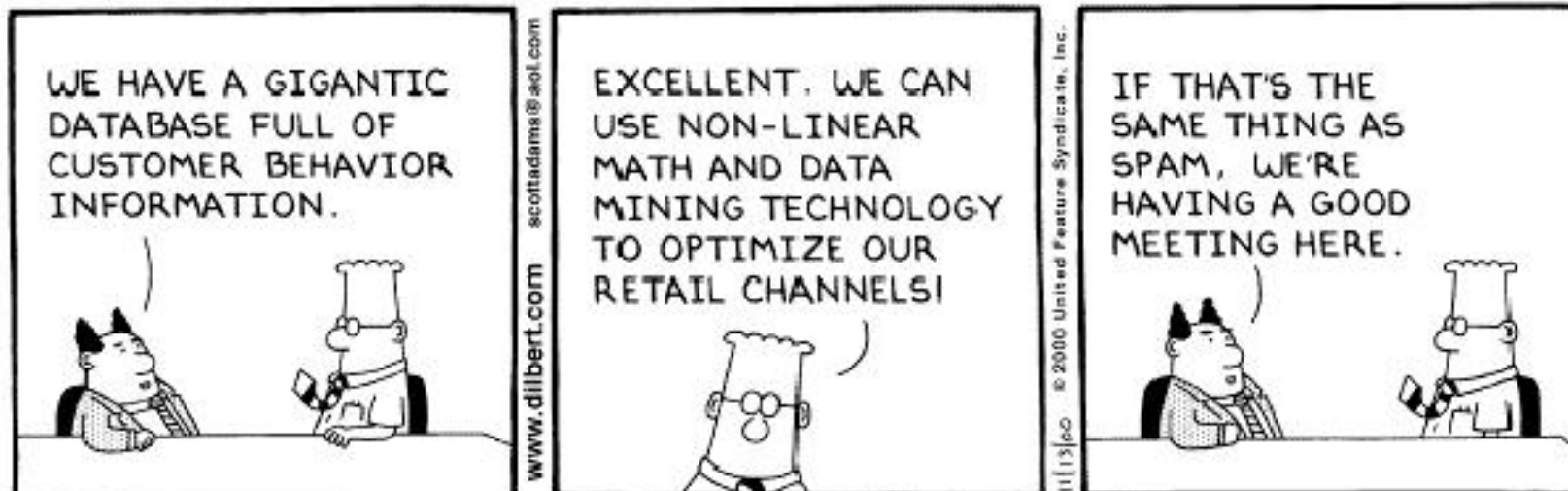


Pattern Name	Conway's Law (Conway 1968)	Code Ownership Pattern (Coplien 1994)
Problem: A problem growing from the Forces.	Aligning Organization and Architecture	A <i>Developer</i> cannot keep up with a constantly changing base of implementation code.
Context: The current structure of the system giving the context of the problem	An architect and development team are in place.	A system with mechanisms to document and enforce the software architecture, and developers to write the code
Forces: Forces that require resolution	Architecture shapes communication paths in the organization. Formal Organization shapes architecture.	Most design knowledge lives in the code; navigating unfamiliar code to explore design issues takes time. Not everyone can know everything all the time.
Solution: The solution proposed for the problem	Make sure organization is compatible with the architecture	Each code module in the system is owned by a single <i>Developer</i> . Except in exceptional and explicit circumstances, code may be modified only by its owner.
Resulting Context: Discusses the context resulting from applying the pattern. In particular, trade-offs should be mentioned	The organization and product architecture will be aligned.	The architecture and organization will better reflect each other.
Design Rationale/Related patterns: The design rationale behind the proposed solution. Patterns are often coupled or composed with other patterns, leading to the concept of pattern language.	Historical	Lack of code ownership is a major contributor to discovery effort in large-scale software development today.

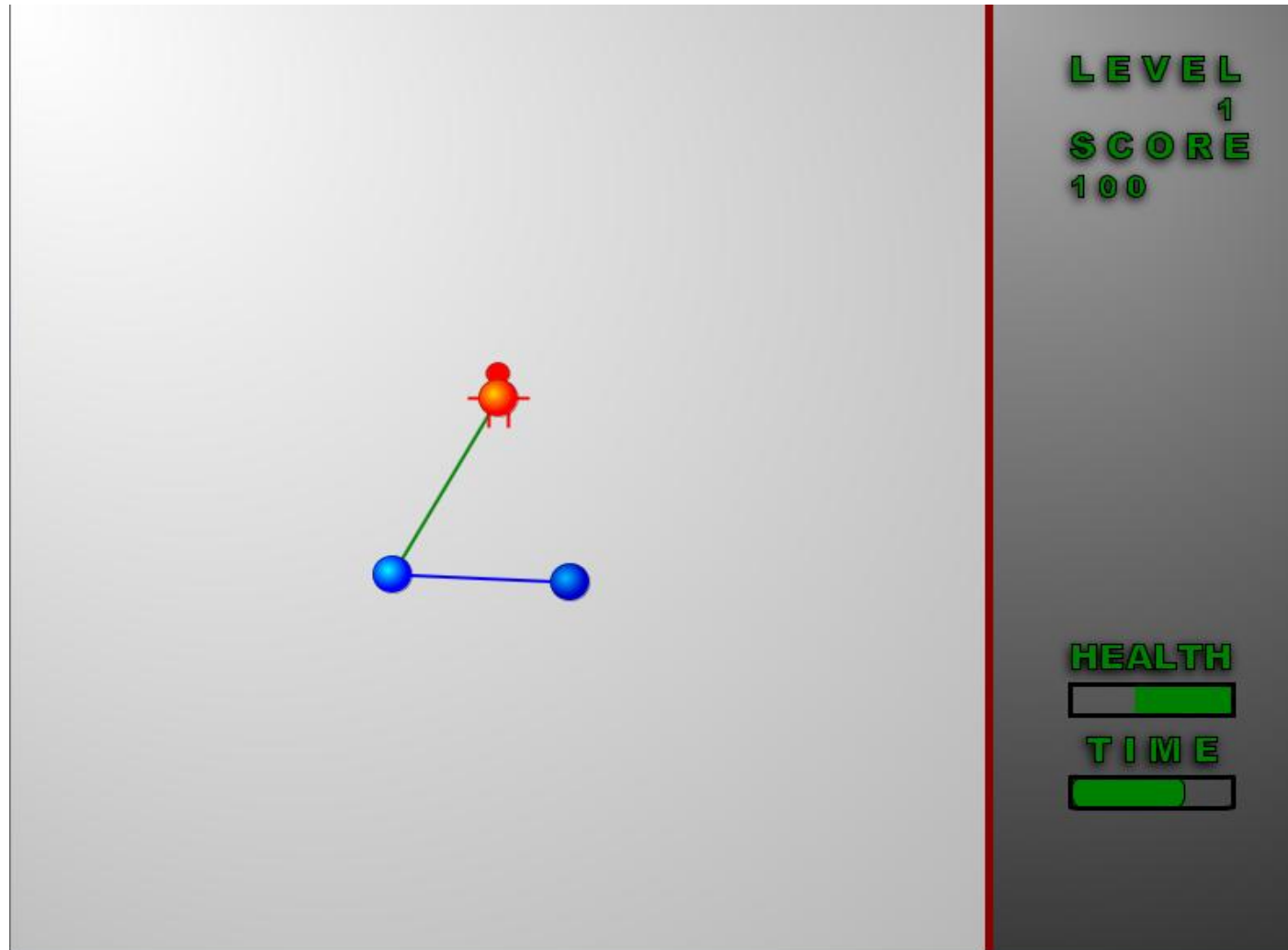


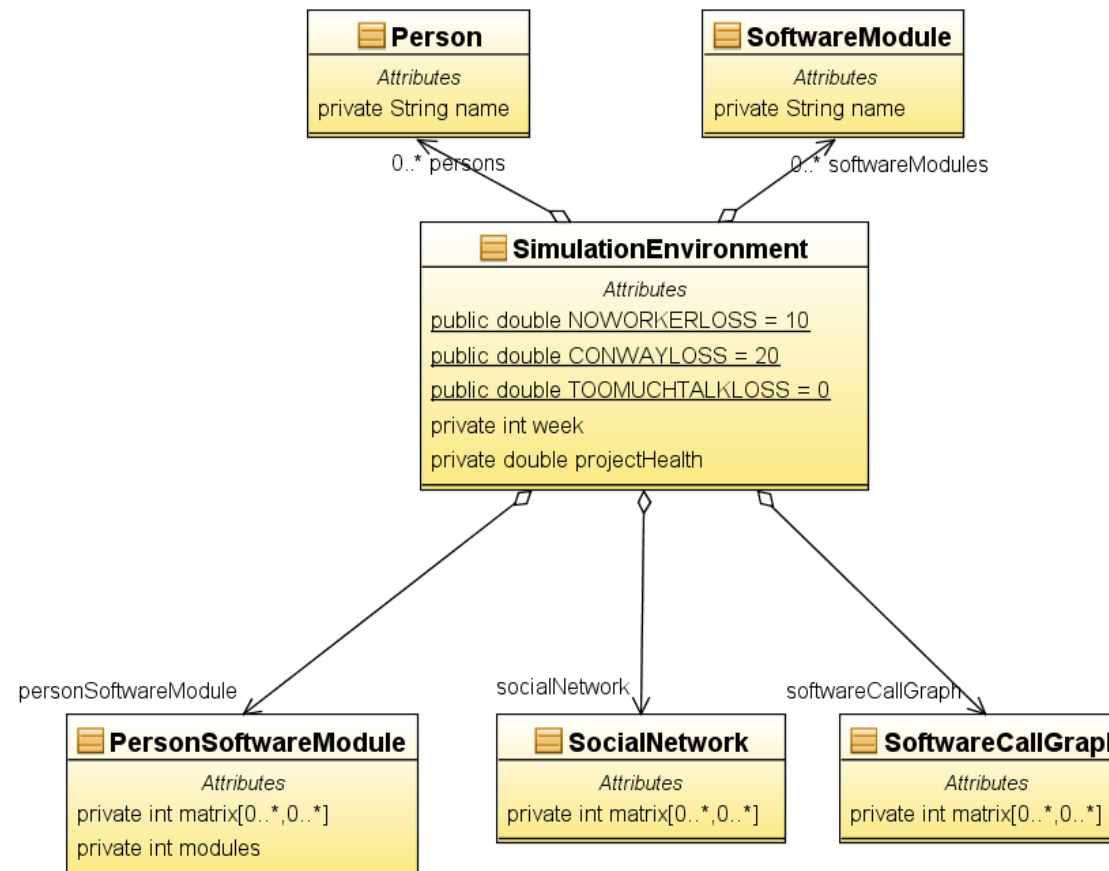
Problems with Socio-Technical Patterns

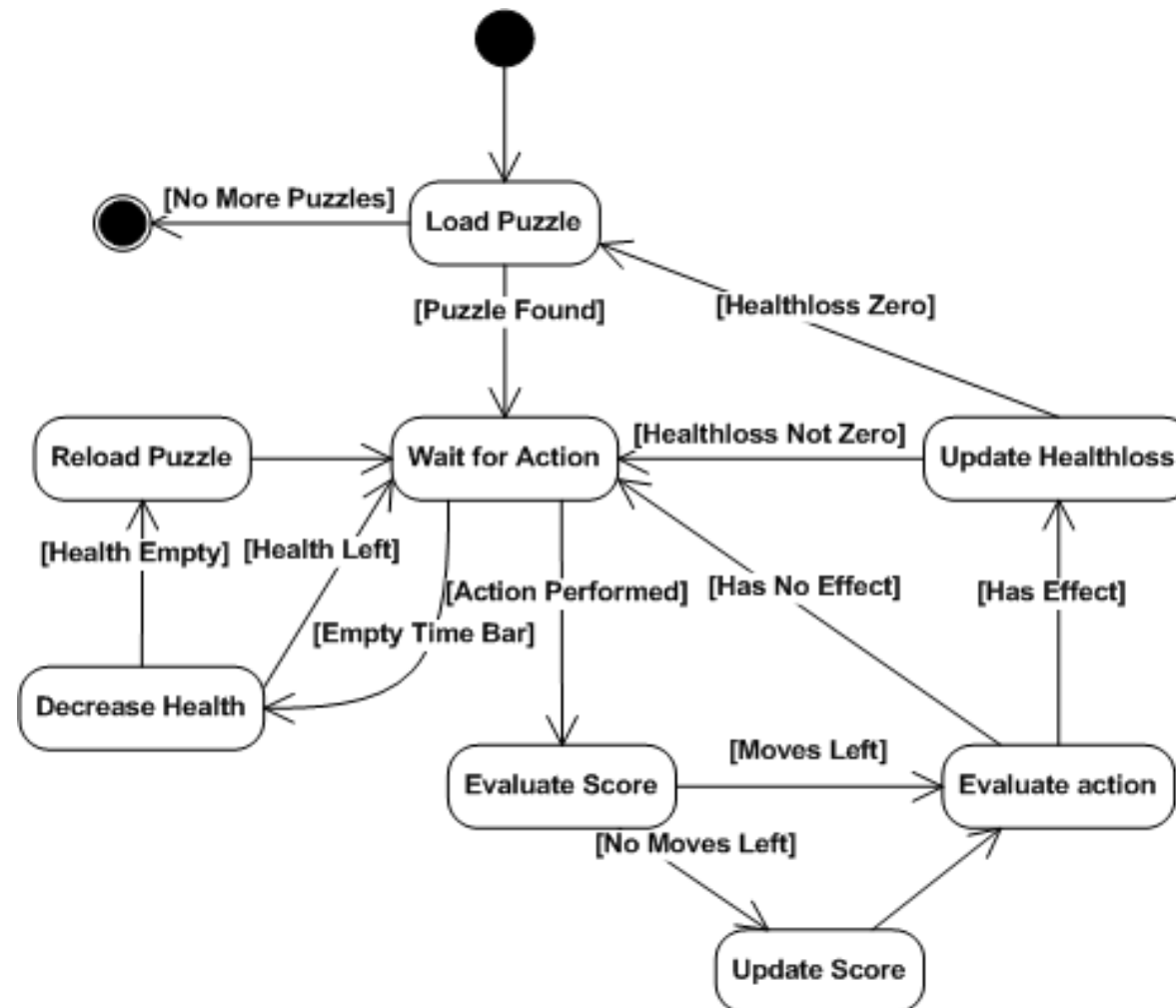
1. Hard to implement: as the problems are hard to find
How does the manager recognize the pattern problems?
2. Very little published research on their empirical validation



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Player	Question 1		Question 2		Cor	Ch	Imp	Wor	Diff
	1st	2nd	1st	2nd					
1	B	C	C	C	1	1	0	0	0
2	A	D	C	C	2	1	1	0	1
3	D	C	C	C	1	1	0	1	-1
4	A	A	B	B	0	0	0	0	0
5	C	D	C	C	2	1	1	0	1
6	D	C	C	D	0	2	0	2	-2
7	C	A	B	C	1	2	1	0	1
8	C	C	C	C	1	0	0	0	0
9	A	D	B	B	1	1	1	0	1
10	C	C	B	B	0	0	0	0	0
11	C	C	C	C	1	0	0	0	0
12	A	D	B	C	2	2	2	0	2
13	D	D	C	B	1	1	0	1	-1
14	D	D	C	C	2	0	0	0	0
15	C	D	B	C	2	2	2	0	2
16	B	C	D	C	1	2	1	0	1

Player	Question 1		Question 2		Cor	Ch	Imp	Wor	Diff
	1	2	1	2					
16	B	C	D	C	1	2	1	0	1
17	C	D	C	D	1	2	1	1	0
18	C	D	A	C	2	2	2	0	2
19	C	C	C	C	1	0	0	0	0
20	C	C	C	C	1	0	0	0	0
21	D	D	C	C	2	0	0	0	0
22	C	D	C	C	2	1	1	0	1
23	D	A	C	B	0	2	0	2	-2
24	D	A	C	C	1	1	0	1	-1



Results

- On an average 0.96 questions were answered correctly the first time
- On average, players answered 1.17 questions correctly after playing the game



The Game URL

<http://www.tesna.org> -> TESNA Game

OR

<http://tesnatool.googlepages.com/tesnagame>



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Questions ?