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Integrated Decision Making Platform

The Faculty of Automatic Control And Computer Science,
Politehnica University of Bucharest, România

PhD Candidate:

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Supervisor:

Prof.dr.ing. Nicolae TAPUS



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2. Components
3. Platform architecture and interface
4. Philosophy behind it
5. Conclusions



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1. Introduction

Purpose: alignment with the current paradigm shift from representative governance to self-governance (freelancing, crowdfunding, wikipedia, reddit, bitcoin)

Context: corrupt political and religious systems, the exploitation of people and natural resources in destructive ways by unwise leaders, the need for an organically developed global governance platform

Applications: provide a platform that facilitates self-representation in any form of social organization, collect and integrate distributed knowledge and tap into the collective wisdom with the purpose of solving common interest issues, accelerate the evolution of the human society by allowing an ecosystem of collaborative issue farming and solving to be formed, provide transparency managing resources, replace current key performance indicators, built around economic growth, with meaningful metrics that determine quality of life increase



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Quotes

“the kingdom of God is within you and it is outside you.” Luke 17:21/ Gospel of Thomas

“If you bring forth what is within you, what you bring forth will save you. If you do not bring forth what is within you, what you do not bring forth will destroy you.” Gospel of Thomas

“Just as each of us has one body with many members, and not all members have the same function, so in Christ we who are many are one body, and each member belongs to one another. We have different gifts according to the grace given to us.” Romans 12

Theological / Teleological

Theology is the study of religion and of gods. Teleology ((from Greek telos, “end,” and logos, “reason”) is the philosophical position that describes things in terms of their apparent purpose, directive principle, or goal, so the universe and everything in it has a cause and a purpose. A teleological biology is one that thinks each organism has a certain "end/purpose" (Aristotle believed this).



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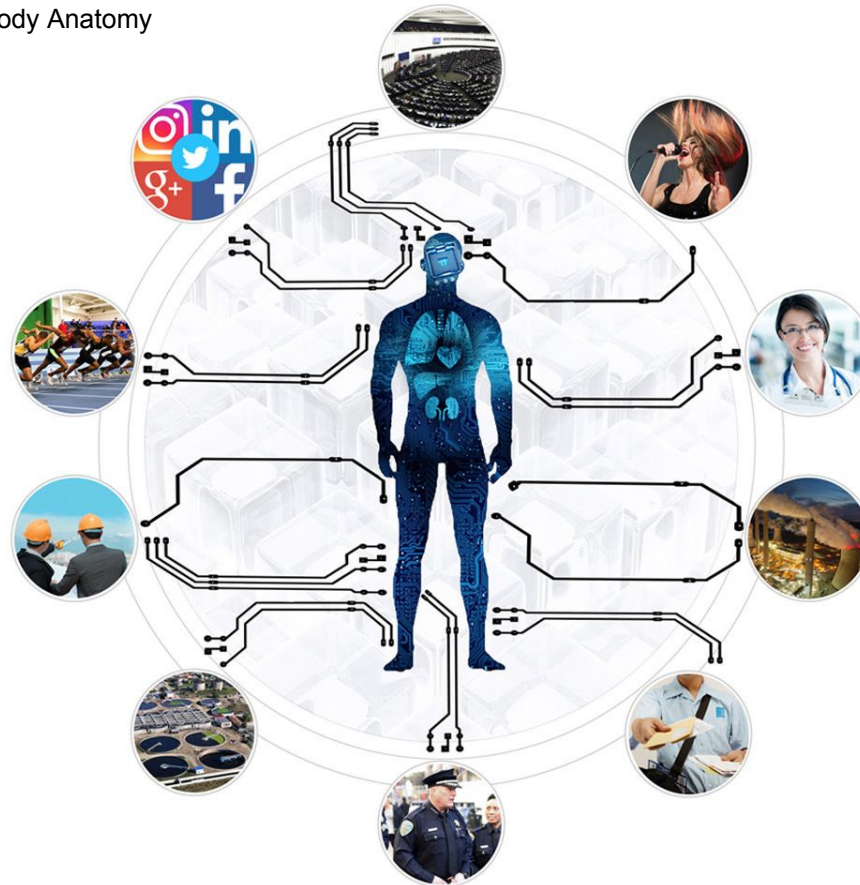
“No problem can be solved from the same level of consciousness that created it.” - **Albert Einstein**

“The day science begins to study non-physical phenomena, it will make more progress in one decade than in all the previous centuries of its existence.” - **Nikola Tesla**

“When wireless is perfectly applied the whole earth will be converted into a huge brain” - **Nikola Tesla**

Organizm.ro - Integrated Decision Making Platform

Modelled after the Human Body Anatomy





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Overview

The Integrated Decision Making Platform is modelled after the anatomy of the human body.

The most relevant biologic system in the human anatomy to decision-making is the nervous system.

The nervous system connects the brain, with its two hemispheres, to the rest of the body through the vertebral column and nervous ganglions located around the body. Ganglions, depending on their role, route and filter messages coming from individual cells.

A nervous ganglion is a nerve cell cluster or group of nerve cell bodies that has the purpose of intercepting signals coming from the neural cells located around the body, which have the role to sense external stimuli, and after filtering and prioritizing the signals, forwards them to the brain which decides on the action which will be taken according to the received signal.

The human nervous system is already built like the perfect decision-making system and all it's functions can be easily modeled and implemented into a real platform that humans can use to govern themselves as one heterogenous body regardless of the number of people involved or their individual peculiarities.

The different organs and systems that the human body contains can be found in real life as Departments, Organizations, Corporations, etc, but without a central point of governance these organs act against each other instead of cooperating.



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9. Components of the platform

Message prioritization algorithm (Reddit)

- algorithm used to identify high priority issues

Artificial Swarm Intelligence interface (UNU)

Trust ranking social network

Bayesian network for modeling decision outcome

Policy creation system

Electronic currency



10. Architecture Technology Stack

The architecture of the Integrated Decision Making Platform is based on micro-services built around a distributable data model similar to torrent technology, connected using PHPFox social network framework, custom built user interface using AngularJS/React/Redux/ framework, in the form of independent widgets, complemented by a REST API framework built in Symfony and a Graph database for long term storage and fast queries and MySQL for common operations.

The main technical components of the architecture:

Symfony – php framework and reusable components

Flight PHP - fast, simple, and extensible framework created for easily building RESTful web applications

Sparrow – PHP DB toolkit PHP that can link together multiple DBs.

MySQL – common operations DB

OrientDB – graph DB used for long term data storage

Bootstrap – Javascript framework used for Widget creation

Jquery – Javascript framework used for HTML DOM manipulation

React – Javascript framework for modular widget template creation and data binding

AngularJS - Alternative javascript framework for widget creation and data binding.

NodeJS - for live socketio user communication and voting

Message prioritization algorithm

```

function confidence($ups, $downs)
{
    $n = $ups + $downs;

    if ($n == 0) return 0;

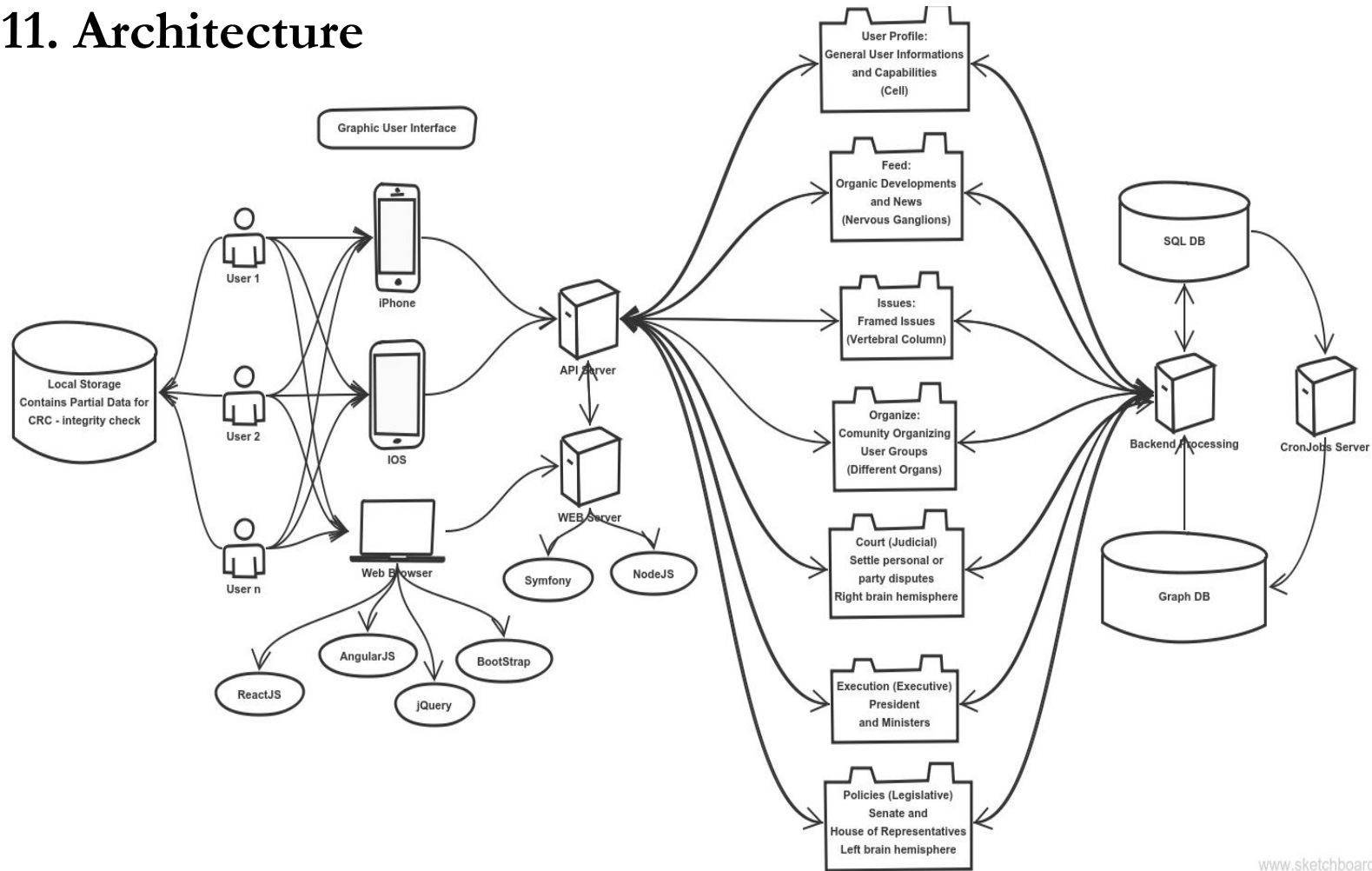
    $z = 1.281551565545; // 80% confidence
    $phat = $ups / $n;

    $left = $phat + 1/(2*$n)*$z*$z;
    $right = $z*sqrt($phat*(1-$phat)/$n + $z*$z/(4*$n*$n));
    $under = 1+1/$n*$z*$z;

    return ($left - $right) / $under;
}

```

11. Architecture



www.sketchboard.io




12. Platform structure

1. Profile
2. Feed (Organic Development + News)
3. Issues
 - 3.1 Followed Issues
4. Organize
 - 4.1 Campaigns
5. Policies
 - 5.1 Social Groups
 - 5.2 Live Issues
 - 5.3 My Groups
 - 5.4 Policy Creation







Feed page



Manuel Manolache

Trust level: 12
Supporters: 4,284,942

- Feed Home
- Feed Settings
- My Campaigns

Submit new thread

Organic Developments

- 1 282 [\(F20\) On "vacation" with my \(m20\) boyfriend and his friends...left alone.](#) Relationships
submitted 9 hours ago* by Moonprincessx
209 comments share save hide report
- 2 129 [Update 1: My parents \[54/55 M/F\] think that I'm \[26f\] stealing from them \(I'm not & I'd never\). Dad is installing cameras in the house now, which may include my bedroom. I can't afford to move out until I'm done w/ school, which is in another year. Help?](#) Updates
submitted 5 hours ago* by PattynSuicide
35 comments share save hide report
- 3 19 [I \(23f\) pass gas like every other human being, but my SO \(28m\) humiliates me when I do, and tells me stop. Self confidence and attractiveness is plummeting as a result. Help!](#) Relationships
submitted 2 hours ago* by GasPassed
54 comments share save hide report
- 4 26 [*Almost* positive my fiance\[29f\] is cheating. Do I\[29m\] confront her?](#) Infidelity
submitted 4 hours ago* by JonJon83
53 comments share save hide report
- 5 123 [UPDATE: I \[21 F\] cheated on \[26 M\] almost two years ago, and I never told him. \(this went crazy\)](#) Updates
submitted 13 hours ago* by stupidwhorethrowaway
385 comments share save hide report
- 6 57 [Do any of you long-term cohabitators have separate sleeping arrangements? Spending every night sharing a bed is killing me and I feel like I've failed at relationships somehow for needing to sleep on my own.](#) Relationships
submitted 10 hours ago* by katriatronica
134 comments share save hide report
- 7 24 [I'm\[18M\] gonna invite my best friend\[17F\] of 2 years out tomorrow. !UPDATE!](#) Updates
submitted 5 hours ago by Imonlynew
6 comments share save hide report

News

Sort By: Popularity

Popularity

Date Liked


- 1 40 [Study finds evidence that stock prices can](#)
(now.siowa.edu) submitted 4 hours ago by nepi13
19 comments share save hide report
- 2 [What would the Earth be like if it was the s](#)
submitted 1 hour ago by heliumcraft
3 comments share save hide report
- 3 [Ferrofluid in Slow Motion - Sixty Symbols](#) (youtube.com)
submitted 1 hour ago by samloveshumus
comment share save hide report
- 4 [Coriolis Force on a Kicked Football](#) (wired.com)
submitted 2 hours ago by nastratin
comment share save hide report
- 5 318 [32 discordant metronomes on movable surface achieve synchrony in minutes](#) (youtube.com)
submitted 23 hours ago by adammac
58 comments share save hide report
- 6 5 [How to get involved with research as an undergraduate?](#) (self.Physics)
submitted 4 hours ago by longhornphysics
8 comments share save hide report
- 7 4 [I asked this on /r/askphysics a while ago but received no answers. A question about the derivation of the velocity in function of radius - Poiseuille flow in a pipe.](#) (self.Physics)
submitted 8 hours ago by FdeIV
2 comments share save hide report
- 8 310 [A temperature of only 100 pico-Kelvin will be created in the ISS to study the interference between two Bose-Einstein Condensates.](#)
(geek.com) submitted 1 day ago by spsheridan
69 comments share save hide report
- 9 1 [Learning programming for physics](#) (self.Physics)
submitted 46 minutes ago by OmOfAJeR
1 comment share save hide report

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-  Feed
-  Issues
-  Organise
-  Policies







Issues




Manuel Manolache

Trust level: 12
Supporters: 4.284.942

- Issue List
- Issues Settings



[Create New Issue](#)

Category ▾ Type: All ▾ Status: All ▾


1-50 of 408

T	Category	Summary		Assignee	Reporter	P	Status	Resolution	Created	Updated
	Education	British Education designed to polarize people	+ Follow	Rafael Antelo	Mihai Istrate		OPEN	Unresolved	04/Feb/14	04/Feb/14
	Healthcare	New anti AIDS vaccine	+ Follow	mher sargsyan	mher sargsyan		OPEN	Unresolved	03/Feb/14	03/Feb/14
	Healthcare	DNA manipulation for eye color changing	- Unfollow	Rodrigo Pinto	Mihai Istrate		OPEN	Unresolved	01/Feb/14	01/Feb/14
	Social	Happiness level dropped in New York	- Unfollow	Rodrigo Pinto	Mihai Istrate		OPEN	Unresolved	30/Jan/14	30/Jan/14
	National Security	Teleportation devices for police officers	- Unfollow	Rodrigo Pinto	Mihai Istrate		OPEN	Unresolved	29/Jan/14	29/Jan/14
	Technology	Time travel machine based on vortex physics	+ Follow	Mihai Istrate	Mihai Istrate		CLOSED	Fixed	29/Jan/14	29/Jan/14
	Entertainment	Extra terrestrial TV stations	+ Follow	mher sargsyan	Teodor Sandulescu		OPEN	Unresolved	29/Jan/14	03/Feb/14
	Environment	Artic Ice cap shrinking	+ Follow	mher sargsyan	Teodor Sandulescu		OPEN	Unresolved	28/Jan/14	29/Jan/14
	Lifestyle	Need more cinemas in Bucharest	+ Follow	mher sargsyan	Teodor Sandulescu		OPEN	Unresolved	28/Jan/14	29/Jan/14
	Transport	Intergalactic travel to Andromeda is too slow	+ Follow	mher sargsyan	Teodor Sandulescu		OPEN	Unresolved	27/Jan/14	29/Jan/14

- Feed
- Issues
- Organise
- Policies



Specific Issue



Manuel Manolache
Trust level: 12
Supporters: 4.284.942

[Issue List](#)

[Issues Settings](#)

☰
7
2
35%

Create New Issue

📍 [Transport](#) / [Parking space in Bucharest needed](#)

Car parking needed in front of Bucharest Mall

💬 Comment
🔄 Reopen Issue

Details

Type: 🔴 Enhancement

Priority: 🟢 Minor

Category: Travel


Labels: Maintenance Travel


Status: CLOSED

Organic Development ID: 235233

Resolution: Fixed

People

Assignee:  Manuel Manolache - Trust level: 12

Reporter:  Alice Birsan

Followers: 343 [Start following this issue](#)

Dates

Created: 04/Feb/14 4:25 AM

Updated: 02/Mar/14 5:58 PM


Resolved: 02/Mar/14 5:58 PM


Description

There aren't enough car parking spaces in front of Bucharest mall.


Activity

All
Comments
Work Log
History
Activity
Source
Reviews
Commits
+

 Anonymous created issue - 04/Feb/14 4:25 AM

 Luciano Panaro made changes - 03/Feb/14 6:32 PM

Field	Original Value	New Value
Labels		Maintenance

 Rodrigo Pinto made changes - 02/Mar/14 7:58 AM

Status	Open [1]	Closed [6]
Resolution		Fixed [1]

💬 Comment

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Followed Issues

The screenshot displays the Nation Application interface. On the left, a user profile for Manuel Manolache is shown with a trust level of 12 and 4,284,942 supporters. The main content area is divided into a sidebar with category filters (Entertainment, Transport, Environment, Lifestyle) and a main issue view. The issue, 'Car parking needed in front of Bucharest Mall', is categorized under Transport and is currently 'OPEN' with a 'Minor' priority. It was created on 01/Feb/14 and updated on 05/Feb/14. The interface also includes a search bar, navigation icons, and a footer with copyright information for the Nation Application.

Social Groups

The screenshot displays the Nation Application interface. On the left, a user profile for Manuel Manolache is shown with a trust level of 12 and 4,284,942 supporters. The main content area is titled "Social Groups" and lists two groups:

- Group Name: PSD - Democratic party**
Description: description of the party
Number of member: 25323
Trust Level: 7
- Group Name: PRM - Romanian Party**
Description: description 2 of the party
Numbe of members: 2311
Trust Leve: 8


The detailed view for the PSD group shows:

- PSD (TL: 7 | 25323 members)
- Owner: John Smith
- Managers: Manuel Manolache, Bill Gates
- Members: John Smith, Luke Skywalker, Mark Twain, more...
- Latest policies:
 - Policy 1 (issue ID: 2123)
 - Policy 2(issue ID: 2423)
- In progress policies:
 - Free energy (issue: 223)
 - Universal harmony (issue: 1)
- Political Views | Social Views | Economic View
 - Party Social views:
 - view 1
 - view 2
 - view 3

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Live Issues



Manuel Manolache

Trust level: 12
Supporters: 4.284.942

- Social Groups
- Live Issues
- My Groups
- Policy Creation

Category ▾
Type: All ▾
Status: All ▾
Nation: All

Issue 2 Voted: 43435

5 Ongoing Campaigns for this issue

Creator: John Smith

Issue 53 Voted: 42221

2 Ongoing Campaigns for this issue

Creator: Manuel Smith

Issue 2 (43435 votes)

Description: we are having issue number 2 in Bucharest

Any experienced party are welcome to help us develop the proper policy to deal with the situation.

Policy List:

- 3426 Policy 1 (PNL)
-
- 2371 Policy 2 (PSD)
-

Public Forum
Live Campaigns
Supporters

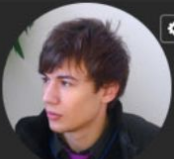
1. Fax campaign - manager Mark Twaing
2. Email campaign - manager John Smith

Feed
 Issues
 Organise
 Policies

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My Groups



Manuel Manolache

Trust level: 12
Supporters: 4.284.942

- Social Groups
- Live Issues
- My Groups**
- Policy Creation

News search....

Category: PSD - Democratic Party | Type: All | Status: All | Nation: All

Party Name: PRM - Romanian Party TL: 4 | Owner: Vadim Tudor | Members: 33332


Policy 1 | Policy 24 | Policy 245 | [Join/Create Policy](#)

<p>Conditions:</p> <ol style="list-style-type: none"> IF a AND b OR c (edit) IF e AND d or F (edit) IF b OR c (edit) 	<p>Procedures:</p> <ol style="list-style-type: none"> Execute A and B (edit) Execute B and D (edit) Stop A and Stop B and execute D (edit) 	<p>Top Members:</p> <p>Vadim Tudor Trust Level : 8 Mark Twaing Trust Level: 4 John Williams Trust Level: 3</p>
<p>Comments:</p> <p>[-] begbudii 3 points 1 hour ago Nice Subaru Impreza wrx permalink report give gold reply</p> <p>[-] anotherapostrophe 2 points 1 hour ago but not sti permalink parent report give gold reply</p> <p>load more comments (1 reply)</p> <p>[-] madlogic 3 points 1 hour ago Gotta be Canada. permalink report give gold reply</p> <p>load more comments (2 replies)</p> <p>add comment</p>		<p>Policy Action Plan (add)</p> <ol style="list-style-type: none"> create a - done (edit) create b - done (edit) create d - done (edit) design execution a (edit) design execution b (edit) design execution c (edit)

- Feed
- Issues
- Organise
- Policies



Policy Creation



Manuel Manolache

Trust level: 12
Supporters: 4.284.942

- [Social Groups](#)
- [Live Issues](#)
- [My Groups](#)
- [Policy Creation](#)

☰
🗨️ 7
🔔 2
★ 35%

News search....

🔍

Category ▾
Type: All ▾
Status: All ▾
Nation: All

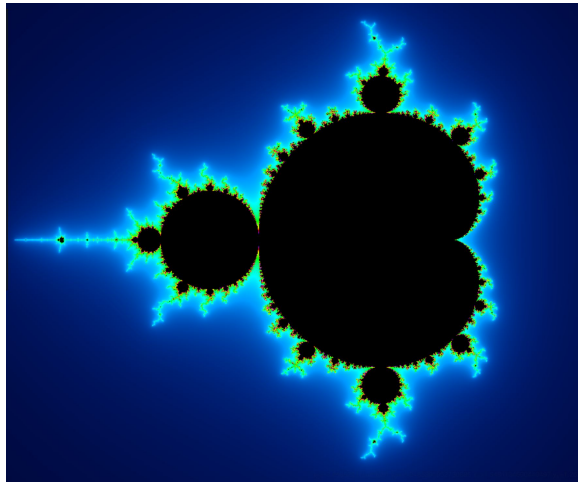
<div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;">Policy 24 (PRM)</div> <div style="border: 1px solid black; padding: 2px;">Policy 232 (PSD)</div>	<p>Issue Description: the issue description goes here</p> <p>Nation: Romania</p> <p>Category: Transport (add)</p>
<p>Conditions: (add)</p> <ol style="list-style-type: none"> 1. IF a AND b OR c (edit) 2. IF e AND d or F (edit) 3. IF b OR c (edit) 	<p>Procedures: (add)</p> <ol style="list-style-type: none"> 1. Execute A and B (edit) 2. Execute B and D (edit) 3. Stop A and Stop B and execute D (edit)
<p>Discussions: add message</p> <p>John Smith (02/02/2014 12:11PM): what is the status on the first point?</p> <p>Dexter Morgan(02/02/2014 12:14PM): Everything is going according to plan.</p>	<p>Policy Requirements (add)</p> <ol style="list-style-type: none"> 1. cheap (edit) 2. fast(edit) <p>Top Contributors:</p> <ol style="list-style-type: none"> 1. John Nash - TL: 2 2. Vadim Tudor TL: 3 <p>Status:</p> <p>In Progress for Issue: 2324</p> <p>Date started: 01/02/2014 (change)</p> <p>Completion Date: 20/05/2014 (change)</p>

- 🏠 Feed
- 📍 Issues
- 📅 Organise
- 👑 Policies

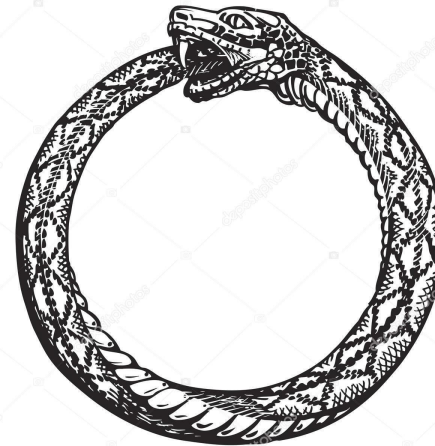
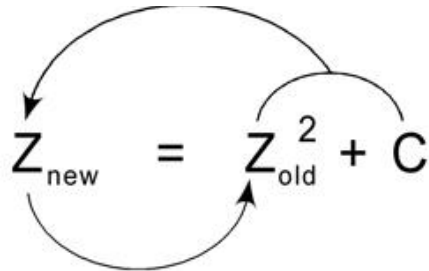
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3. Fractals

The body of being(God) speaks in fractals, infinite complexity and meaning expressed in simple forms/formulas.



the Mandelbrot set

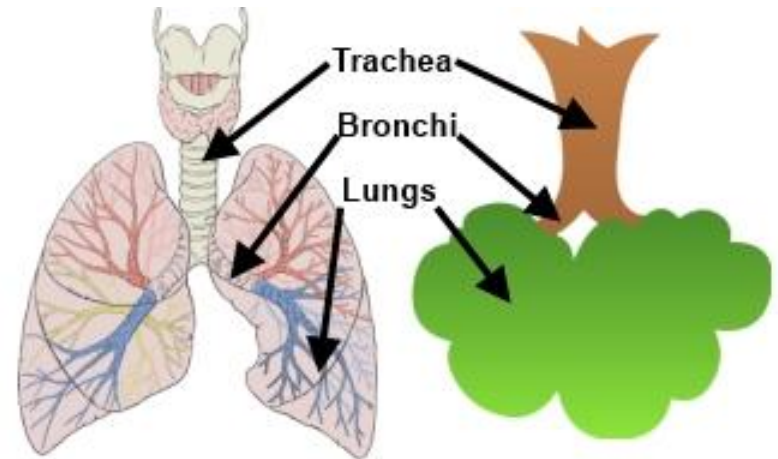
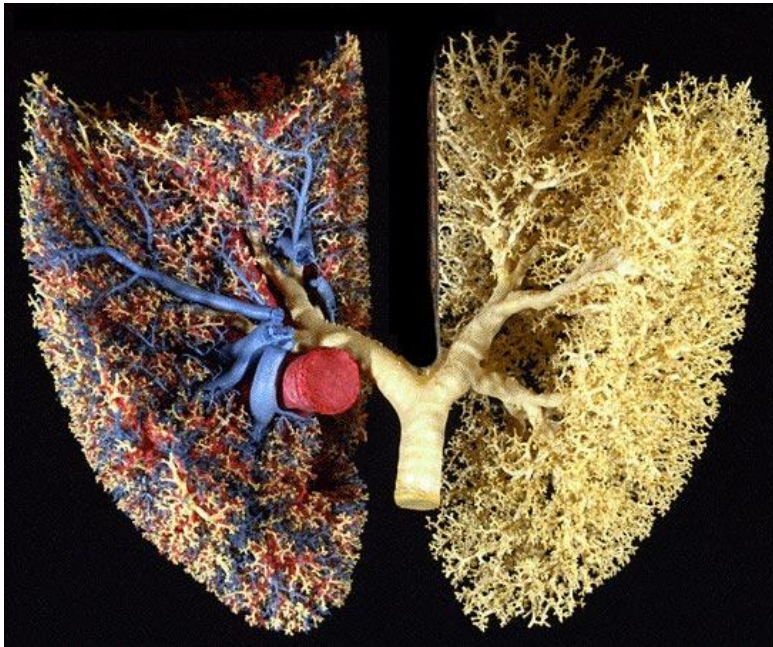


depositphotos Image ID: 13326942 | www.depositphotos.com

- The ouroboros an ancient [symbol](#) depicting a [serpent](#) eating its own tail
- Recursion (the snake feeds itself to itself), the result of the previous iteration become the parameters of the new iteration
 - Self similarity
 - Evolving symmetry

3. Fractals

The lungs are an excellent example of a natural fractal organ. You can see that the lungs share the same branching pattern as the trees. And it is for good reason! Both the trees and lungs have evolved to serve a similar function - respiration. Since they perform a similar function, it should not be surprising that they share a similar structure. This common concept in science is known as the Structure-Function Relationship



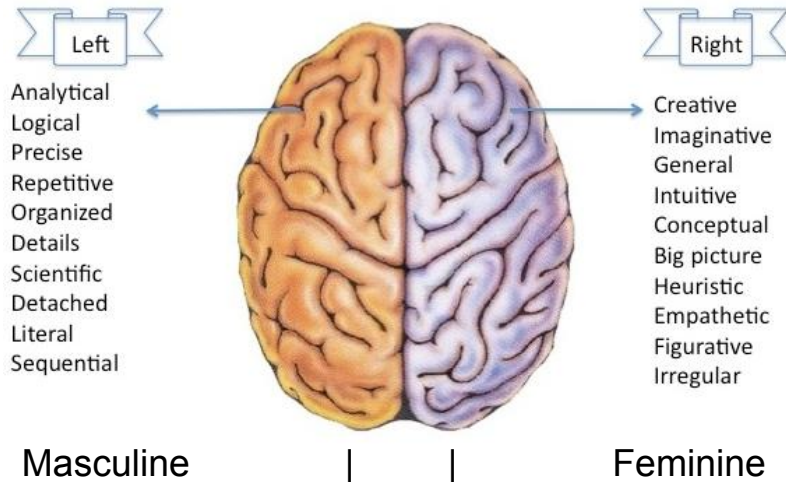
3. Fractals

Primordial distinctions (male / female), seen in our body's anatomy, inspired algorithms and the organization of society, without distinctions identity would have no meaning.

We have intuitively applied our anatomical structure and functions into organizing our society, both being the expansion of the same conscious homeostatic fractal.

We only recently learned about the different functions of the hemispheres of our brain but our governance system used these distinctions since it was created.

Three Branches of Government



Left hemisphere

Backbone

Right hemisphere



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4. Collective consciousness

<http://noosphere.princeton.edu> - The Global Consciousness Project Meaningful Correlations in Random Data

The Global Consciousness Project is an international, multidisciplinary collaboration of scientists and engineers

Coherent consciousness creates order in the world

Subtle interactions link us with each other and the Earth.

When human consciousness becomes coherent, the behavior of random systems may change. Random number generators (RNGs) based on quantum tunneling produce completely unpredictable sequences of zeroes and ones. But when a great event synchronizes the feelings of millions of people, our network of RNGs becomes subtly structured. We calculate one in a trillion odds that the effect is due to chance. The evidence suggests an emerging noosphere or the unifying field of consciousness described by sages in all cultures.



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5. Swarm intelligence

“**swarm**” - cohesive groupings of individual members, all working together as a *unified dynamic system*, their collective behavior tightly coordinated by real-time feedback loops. Unlike discordant groups (i.e. crowds), swarms behave as unique entities, operating as a coherent unit that displays emergent intelligence, even emergent personality.

Certainly humans didn't evolve the ability to swarm, for we lack the innate connections that other species use to establish feedback-loops among individual members. Ants use chemical traces. Fish detect vibrations in the water around them. Bees use high speed gestures. Birds detect motions propagating through the flock.

We don't possess the natural ability to form real-time swarms, but can we design technologies that fill in the missing pieces, using artificial means to form the critical interstitial connections? And if so, will swarming allow us humans to achieve the same types of *intelligence amplification* that other species have attained via synchrony? If we consider the leap in intelligence between an individual ant and a full ant colony working as one, can we expect the same level of amplification as we go from single individual humans to an elevated *'hyper-mind'* that emerges from real-time human swarming?

Humans can swarm only if we develop technologies that fill in missing the pieces evolution hasn't yet provided. More specifically, swarming can occur among groups of online users by “*closing the loop*” around populations of networked individuals such that they behave as a real-time synchronous system.

Synchrony gives people an emotional and physiological rush whether they're jamming in a band or executing a double-play. Similar effects are seen across the animal kingdom, especially in social animals like primates and whales, which use synchronous group behavior as shows of strength, solidarity, and cohesion.



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5. Swarm intelligence

The whole is (infinitely) greater than the sum of its parts.

- emergent properties

- synergism - the interaction of elements that when combined produce a total effect that is greater than the sum of the individual elements, contributions, etc.;

If you have all the components to create a car but don't assemble them, are they of any use to you, if their only purpose for being created was to be part of the car? The satisfaction of using the car is infinitely greater than playing around with the individual parts.

The **Omega Point** is a spiritual belief and a scientific speculation that everything in the universe is fated to spiral towards a final **point** of "divine" unification. The term was coined by the French Jesuit Catholic priest Pierre Teilhard de Chardin (1881–1955).

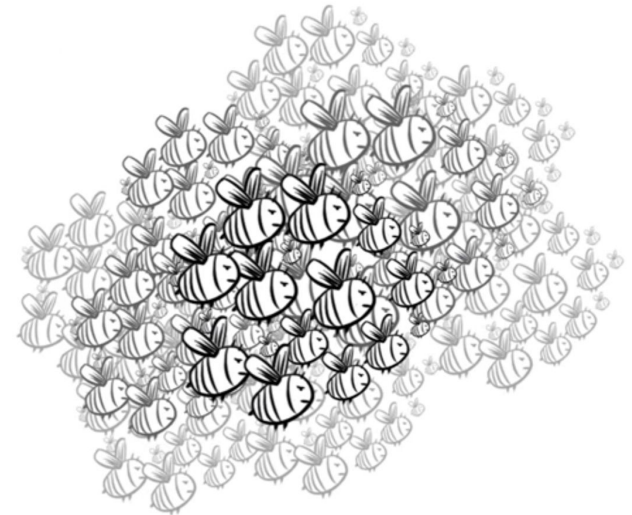
How do we achieve heterogeneity?

5. Swarm intelligence

What is Swarm Intelligence?

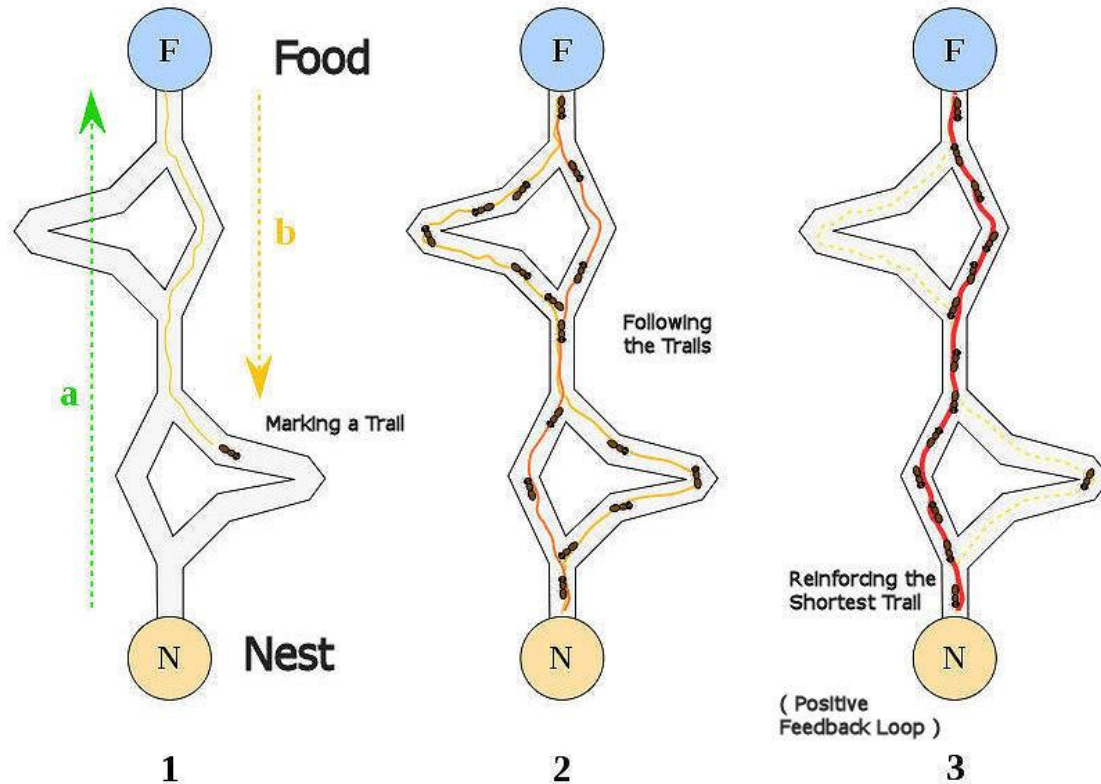


- “any attempt to design algorithms or distributed problem-solving devices inspired by the collective behavior of social insect colonies and other animal societies” [Bonabeau et al.]
- Swarm
 - A loosely structured collection of interacting agents
 - Agents:
 - Individuals that belong to a group (but are not necessarily identical)
 - They contribute to and benefit from the group
 - They can recognize, communicate, and/or interact with each other
 - The instinctive perception of swarms is a group of agents in motion – but that does not always have to be the case.



5. Swarm intelligence

Ant Colony Optimization



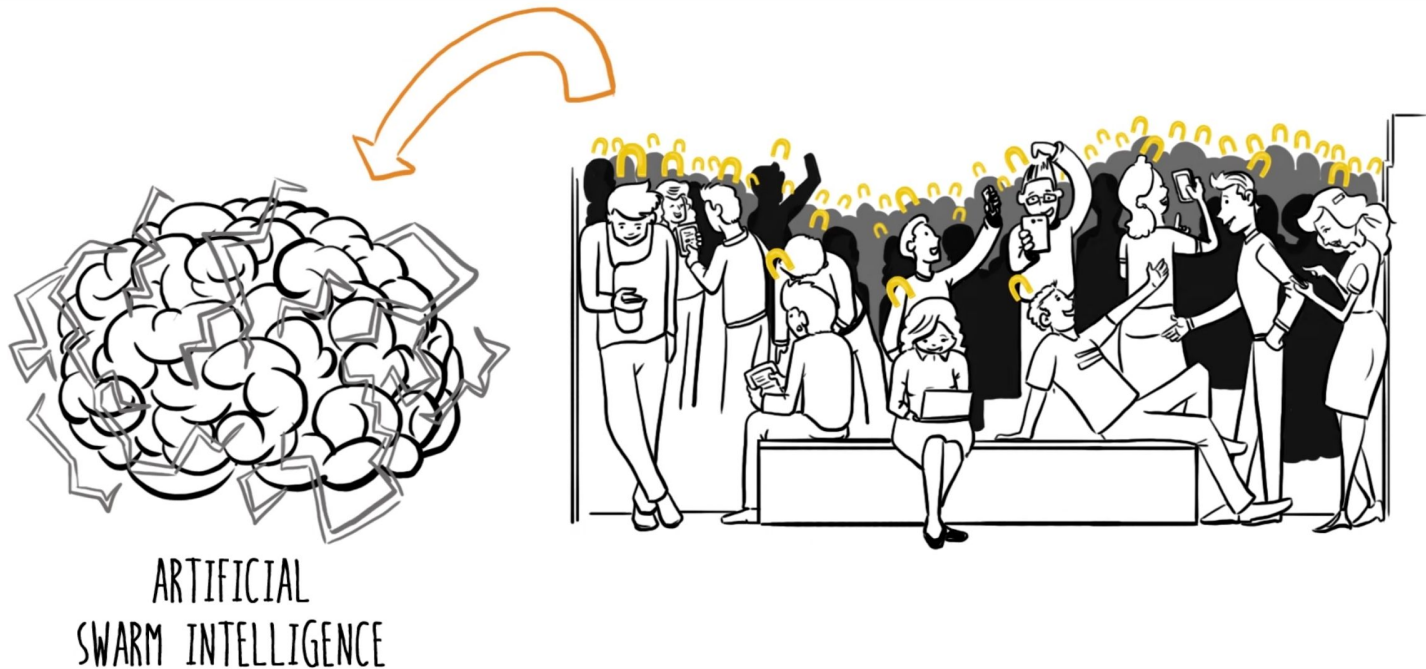
http://en.wikipedia.org/wiki/Ant_colony_optimization

5. Swarm intelligence

Can humans swarm?

Yes, humans can swarm. New technology is the key.

We don't have wings but we have mobile phones.

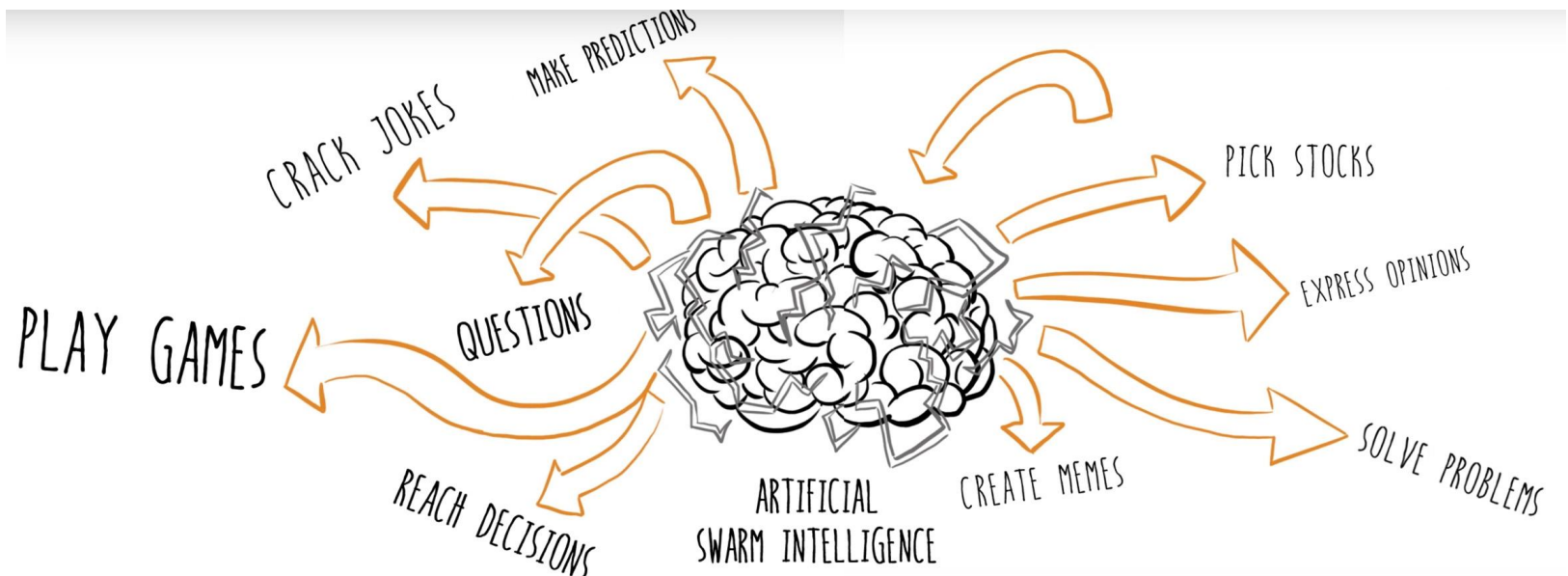


5. Swarm intelligence

UNU - THINK TOGETHER - <http://unu.ai/>

The technology is called **Artificial Swarm Intelligence™** (or *Swarm A.I.™* for short) and it enables groups to form real-time systems online, connecting as ‘human swarms’ from anywhere in the world. A combination of real-time human input and A.I. algorithms, a *Swarm A.I.* system combines the knowledge, wisdom, opinions, and intuitions of live human participants as a unified emergent intelligence that can generate optimized predictions, decisions, insights, and judgments

UNU unleashes the brainpower of groups, combining their knowledge, opinions, and instincts into a Swarm Intelligence that is often smarter and more insightful than the individuals would be alone.



5. Swarm intelligence

Which of these horses do we pick to WIN?

Mohaymen

Nyquist

Mor Spirit

Gun Runner

UNU™

0:59

5. Swarm intelligence

The allegory of the long spoons is a parable that shows the difference between heaven and hell by means of people forced to eat with long spoons. It is attributed to Rabbi Haim of Romshishok, as well as other sources



Dualism / Division / Competition



Unity / cooperation / collective wisdom



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6. Bayesian networks

A **Bayesian network** (belief **network**) is a probabilistic graphical model that represents a set of random variables and their conditional dependencies via a directed acyclic graph (DAG).

Bayesian statistics, named for Thomas **Bayes** (1701–1761), is a theory in the field of **statistics** in which the evidence about the true state of the world is expressed in terms of degrees of belief known as **Bayesian** probabilities.

Statistical models

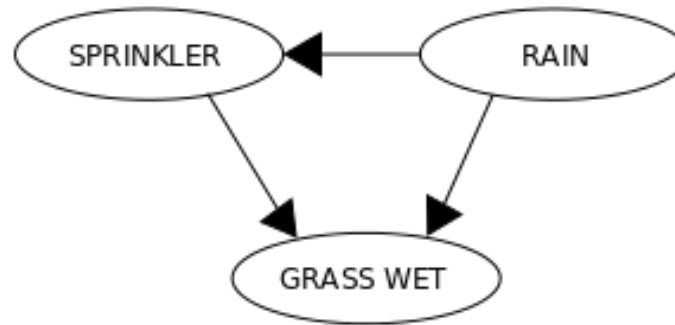
Frequentism Frequentists state that the probability of an event is its relative frequency over time, i.e., its relative frequency of occurrence after repeating a process a large number of times under similar conditions. This is also known as aleatory probability. The events are assumed to be governed by some random physical phenomena, which are either phenomena that are predictable, in principle, with sufficient information; or phenomena which are essentially unpredictable. Examples of the first kind include tossing [dice](#) or spinning a [roulette](#) wheel; an example of the second kind is radioactive decay.

Subjectivism

Subjectivists, also known as **Bayesians** or followers of **epistemic probability**, give the notion of probability a subjective status by regarding it as a measure of the 'degree of belief' of the individual assessing the uncertainty of a particular situation. Epistemic or subjective probability is sometimes called **credence**, as opposed to the term **chance** for a propensity probability.

6. Bayesian networks

		SPRINKLER	
		T	F
RAIN	F	0.4	0.6
	T	0.01	0.99



		RAIN	
		T	F
		0.2	0.8

		GRASS WET	
		T	F
SPRINKLER	F	0.0	1.0
	T	0.8	0.2
RAIN	F	0.9	0.1
	T	0.99	0.01



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6. Bayesian networks

Bayesian decision theory refers to a decision theory which is informed by Bayesian probability. It is a statistical system that tries to quantify the tradeoff between various decisions, making use of probabilities and costs. An agent operating under such a decision theory uses the concepts of Bayesian statistics to estimate the expected value of its actions, and update its expectations based on new information. These agents can and are usually referred to as estimators.

A Bayesian network is used for calculating the the probability of a solution to succeed based on the belief factors of the people involved in finding the solution.

Collaboratively adjusting the the solution to reach the highest probable rate of success.



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7. Quantum consciousness

1. Science/Materialism, with consciousness having no distinctive role
2. Dualism/Spirituality, with consciousness (etc.) being outside science
3. Science, with consciousness as an essential ingredient of physical laws not yet fully understood

In quantum mechanics, particles are treated differently from the objects of classical mechanics. Particles are described by wave functions that evolve according to the Schrödinger equation. Non-stationary wave functions are linear combinations of the eigenstates of the system, a phenomenon described by the superposition principle. When a quantum system interacts with a classical system—i.e. when an observable is measured—the system appears to collapse to a random eigenstate of that observable from a classical vantage point.

If collapse is truly random, then no process or algorithm can deterministically predict its outcome. This provided Penrose with a candidate for the physical basis of the non-computable process that he hypothesized to exist in the brain. However, he disliked the random nature of environmentally-induced collapse, as randomness was not a promising basis for mathematical understanding. Penrose proposed that isolated systems may still undergo a new form of [wave function collapse](#), which he called objective reduction (OR)

Hameroff-Penrose

Orchestrated objective reduction (Orch-OR) is a hypothesis that consciousness in the brain originates from processes *inside* neurons, rather than from connections *between* neurons (the conventional view). The mechanism is held to be a quantum physics process called objective reduction that is orchestrated by molecular structures called **microtubules**. Objective reduction is proposed to be influenced by non-computable factors embedded in spacetime geometry which thus may account for the Hard Problem of Consciousness. The hypothesis was put forward in the early 1990s by theoretical physicist and mathematician **Roger Penrose** and anaesthesiologist and psychologist **Stuart Hameroff**.



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7. Quantum consciousness

Conscious Observers are emitters and receivers of reality

Your beliefs are the parameters fed to the fractal that unfolds from your consciousness and manifests in the creation and perception of your reality to create a feedback loop.

The quantum superposition is packed with probabilities generated by the derivations of your beliefs, and it manifests at both microscopic and macroscopic levels if such probabilities exist.

The number of parameters (held individual beliefs that can be modeled using a bayesian network) influence your depth/density of perception. Parameters that affect the present moment(now) propagate forward(projecting possibilities) and backward(reiterating history) in time because your awareness becomes attuned to perceiving and interpreting them as being part of your feedback loop, you identify with people that feel like you and share your beliefs. It's like when you buy a new car and all of a sudden you see it everywhere around you.



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8. Consensus decision making

Consensus decision making is a creative and dynamic way of reaching agreement between all members of a group. Instead of simply voting for an item and having the majority of the group getting their way, a group using **consensus** is committed to finding solutions that everyone actively supports, or at least can live with.

Meaningful voting can be achieved by using organically generated decision trees and modelling outcomes using bayesian networks, so that each member feels that their beliefs are taken into consideration.

In a field where beliefs generate reality the only way for general coherence is if all decisions are made by reaching a consensus. The tools needed for that already exist in natural form, inside and outside our body, in the central nervous system, nerve ganglions, hormones, animals, insects, fish, bacteria, etc.



38th slide