



IMAGINE...

**Adi Marom
Liangjie Xia**

**Sociable Objects
Workshop
Spring 2010**

Local Network for Group Intelligence



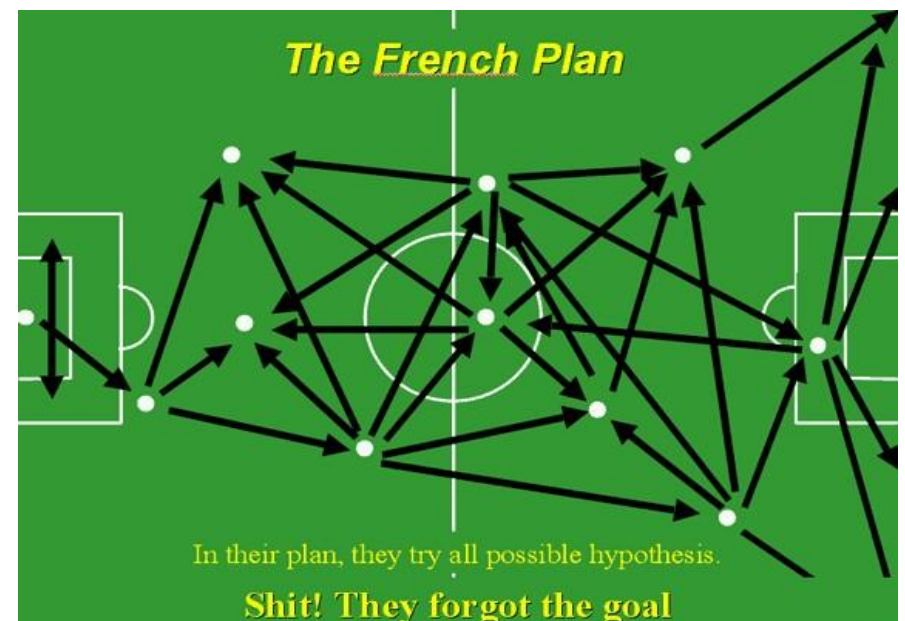
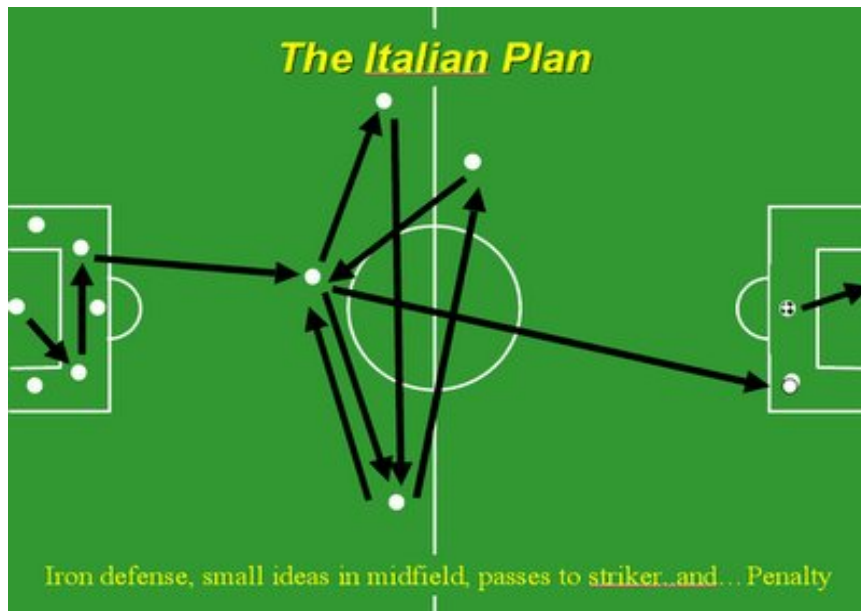
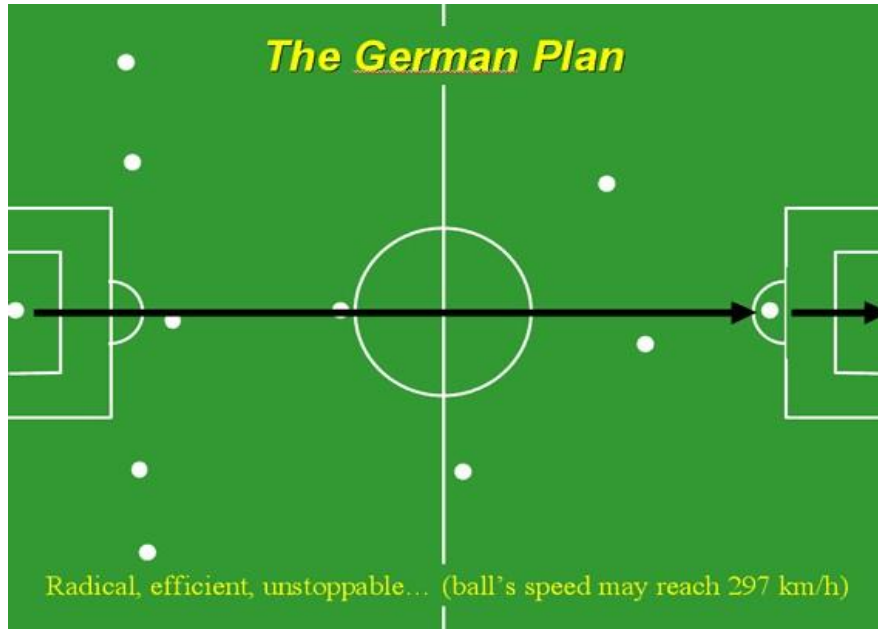
Group Intelligence Network

- A network of nanorobots inside the bodies of all people.
- The network controls these nanorobotic agents to maintain communication links, while obtaining information from the bodies via a wireless sensor network
- Collect/Distribute data through biological feedbacks to/from all members
- Can extend the sensory perception of people far beyond their normal range

Potential Applications

- Members can collaborate/find their way based on the data stored in the sensors or on the readings from the sensors
- Using maps of sensed data to:
 - * guide people to safety
 - * guide professionals to target/danger - for example guide firefighters
 - * monitor industrial processes

Our Case study: a Soccer Game



Soccer Game: Real-time Tactics

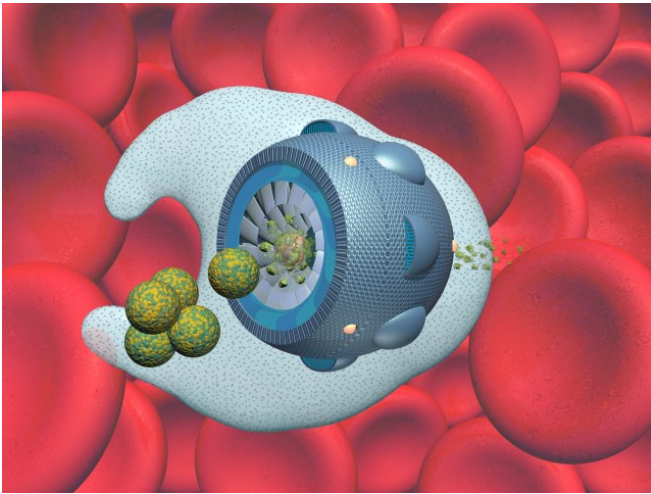
A player might ...

- make a decision to shoot or pass the ball based on a realtime snapshot view of the positions of other players
- pass the ball to a team member who has a better chance to attack
- reposition according to a tactic update from the coach
- Nanorobots check the network for any gap location on the field. The sensor network computes the locations of missing sensors/players, the player are located over to fix that gap

Enabling Technologies

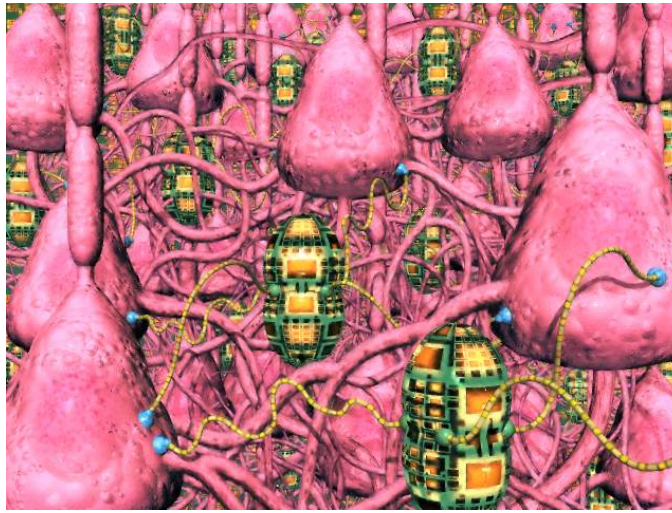
Nanotechnology:

Artificial White Blood Cell



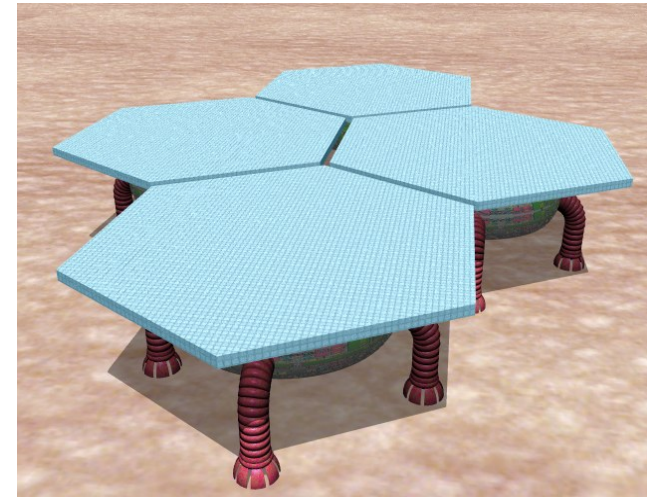
Robotic white blood cells swim through the circulatory system of the human body, ingesting and destroying harmful bacteria, viruses etc.

Artificial Brain Cells



Brainbot house a computer that stores information & instruments for recording "surface thoughts". Billions of these nanobots are in communication with one another, & with the brain cells, creating a secondary brain.

Energy collectors



These energy bots can triple as "pixel bots" as solar energy collectors.

Enabling Technologies

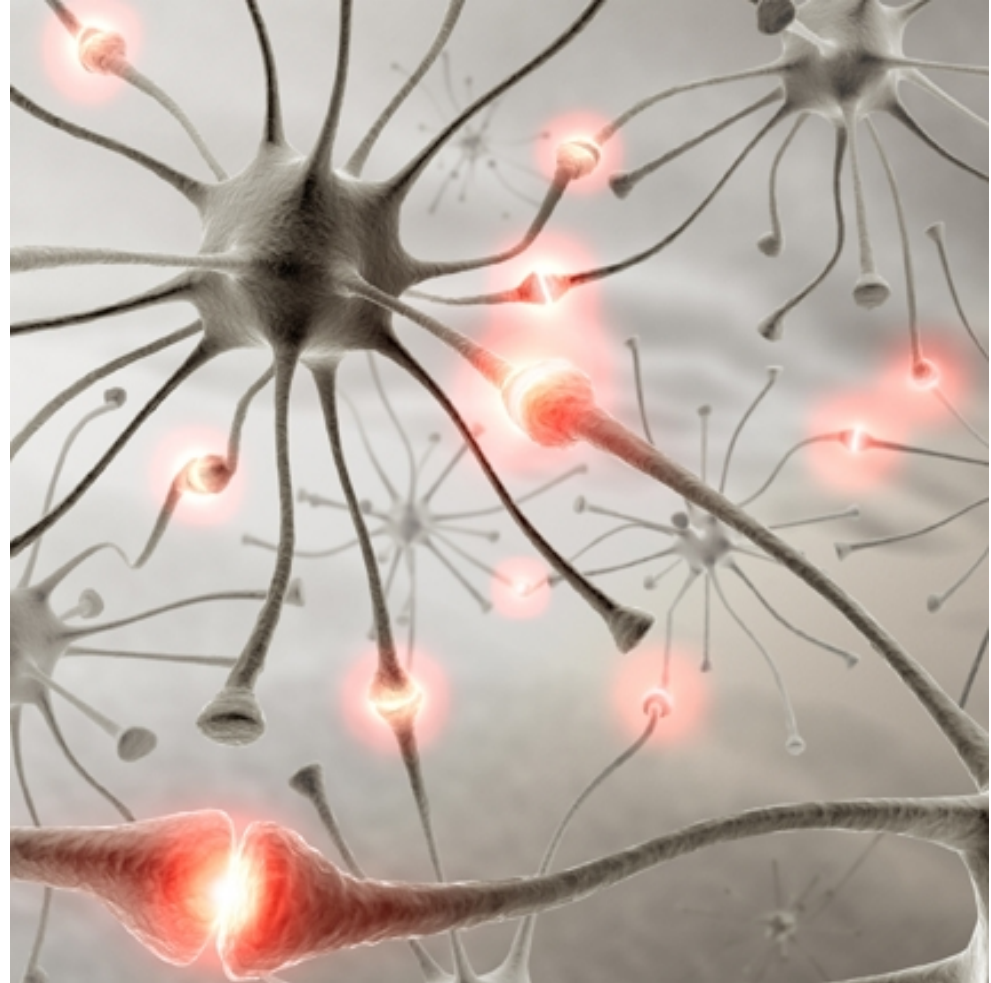
Neuroplasticity

The connections among the cells in our brains reorganize in response to our changing needs.

This dynamic process allows us to learn from and adapt to different experiences.

The brain can change how it interprets information from a particular sense, or take information from one sense and interpret it with another.

In other words, you can use whatever sensor you want, as long as you convert the data it collects into a form the human brain can absorb.



Issues

- Senses that one surrenders need to be configurable (limitations and rules on the information exchanged for the game) over time
- Abilities to rearrange the network setup
- Change of rules in sports involving team play
- Trainings required to master the new "feeling" and strategies on top of it (once it becomes legal as part of the sport)

Weird BUT Wired

