

Subj: **Joint Patent with Matrics - From John Peeters**
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File: **PATENT OUTLINE 2.doc** (29184 bytes) DL Time (28800 bps): < 1 minute

Bill:

Attached is my first cut at the outline for the joint patent. This is shared with you under our NDA. As you will see I have come up with several novel ideas (e.g. to have a separate ID built in each RFID for the pulsing time required by the cell phone to get a full read for each given sensor technology). This ID also serves as the ID for the sensor type itself and we can build tables of references for the thousands of different types of sensors that will eventually be built. I am sure that we will refine this even further at our meeting tomorrow and beyond. Mike Lovejoy will help me refine the technology on the cell phone side. The key is to make the patent sufficiently robust to build upon it for sub-market applications (for example for my disposable band-aid diagnostics technology).

To allow Gentag to raise funding we need an upfront and clear profit sharing formula with Matrics for the joint technology. The markets are huge and if we structure this right we will both benefit. My view is that Matrics wins anyway since you will increase tremendously the market for your chips.

John

Tuesday, August 19, 2003 America Online: Scinet

PATENT OUTLINE
Gentag – Matrics Technology

August 19, 2003

Contributors

Prior Art. AWID ?

Gentag patents
Matrics patents

Technologies provided by a cell phone:

- Geolocation
- Two way communication
- Battery / power
- Microprocessing and programming capabilities
- Unique ID
- Access to the Internet / remote data storage / remote data processing capabilities
- Ubiquitous technology

What is lacking ?

On phone sensing abilities (Gentag technology)
Remote sensor analysis capabilities (Gentag – Matrics)
Low cost power up and read capabilities for an RFID chip (Gentag – Matrics)

Technologies provided by an RFID chip:

- ID
- Storage
- Small Size / cost

What is currently lacking (Bill and Michael to complete)

- Sensing ability
- Continuous variable measurement (A/D converter)
- Programmable memory
- Temperature monitoring on chip
- Data processing capabilities
- Multiple sensor ports/ channels

Costs of the Technology:

Combination of the two technologies provides:

- • Low cost remote sensing for anything, anywhere
- Remote analysis / retrieval capabilities
- • Sophisticated processing capabilities (on phone or on Internet)
- Geolocation combined with sensing
- Ultra low cost technology available to anyone
- Ability to network sensors, provide a low cost on-person, home, industry wide, regional, State or Nationwide monitoring system

Technical Approach

Modified cell phone: (Mike Lovejoy to complete)

Add on chip (swappable technology - Gentag)
Build in chip
Frequency shift technology
Call in to RFID chip (unique non-network number)
Software approach

Provisions for new phones:

Triband phones
Use of Bluetooth
Use of Walkie -Talkie Technology (Nextel / Verizon)

Press on read button (tags activation)
Pre-Storage of RFID numbers (sensor training / recognition)
Sequential / multiple tag read feature
Dial-in feature for remote tag activation / analyses
Analyses on phone
→ Analyses via the Internet / remote storage of tag data
Programmable time pulsing feature (sequential activation of a given tag)
Automated time pulsing feature (required pulsing time for each sensor type based on time ID on RFID chip)
Ability to read multiple RFID tags at the same time
Storage of sequential RFID values / analyses
Storage of ID tables for RFID tag class identification
Ability to network / program multiple cell phones
Overlay of sensing and GPS/ geolocation data
Ability program an RFID chip directly from a cell phone

Enhanced RFID chip: (Bill and Michael to complete)

On chip A/D converter

- Frequency shift capability
- Storage on chip of parent cell phone number/ID
- Multiple sensor pads
- Built-in thermistor
- Unique signal / ID for continuous read sensors with time stamp required for each sensor
- On chip built-in sensors
- Sensors attached to chip / use of polymers / connectors
- Dual use antenna / sensors

Biomedical Applications / sensors (John Peeters to complete)

Applications of the technology

- Medical diagnostics
- Food and water safety
- Home monitoring
- Shopping aid
- Homeland Security
- Environmental monitoring
- Detection of physical changes
- Tracking applications
- Consumer gadgets
- Other

Claims