**General Questions**

**What is your main application/use for the BTnodes?**

- Local Positioning System (LPS)
- Core for Virtual Human Interface optical devices

**How many applications/cornerstones have you implemented on the BTnodes? And with how many nodes?**

- LPS
- A number of test applications, one major application, on 5 nodes.

**What is your experience with the architecture of a smaller/fewer resource platform?**

- No, less is okay, no more is okay,
- Problems or inexplicable errors that are not showstoppers?
- None currently, we have only evaluated the hardware. We expect to be using this more frequently in the near future

**How fast did you get your first application running? How much effort was this?**

- I would need a dozen more, I’d like the price to be at most CHF100. CHF20 would be great for core developers as in LPS we could only use RSSI to measure distance. It was not possible to gain access to inside signals, i.e. Before demodulation.
- User, Main interest is a hardware platform for experimenting with Bluetooth on a tiny system.

**Why do you use BTnodes and not something else?**

- Ease of use, cost, availability
- It was available.

**Have you been using the BTnode software? Or something else? Have you contributed to the BTnode software with bug fixes or enhancements?**

- We just used the standard code and built a app code
- ported/used TinyOS (implementation part of the TinyOS CVS rep in contrib/build). We have not contributed to the btnode tree.

**What is your main application/use for the BTnodes? Technology or as a core developer? What are your main interests in this platform?**

- I am not sure I am qualified to comment. You should ask Michal.
- We have not suspected any hardware problems. We have a faulty node, but I have no idea why it is faulty.

**Is it a reliable platform? Are you seeing stability problems or inexplicable errors that are real showstoppers?**

- No prob on our side that I can remember, but Michel should be more specific.
- Not yet

**Have you used any of the low-power features on the BTnodes?**

- We have not evaluated the smart-its communication platform and sensor board.

**What are the main drawbacks you see in this platform? What should be improved?**

- Only the sleep mode of the CPU. It would be good to be able to “somehow” have the CPU power almost completely down, and have it wake up, on activity on the serial port. I suspect this is not possible?
- It seems appropriate.

**Would you be interested in having**

- Multiple radio frontends?
- A low power full custom (Chipcon,RFM12-based) type radio (instead of or additional to Bluetooth)?
- More memory?
- More interfaces?
- More processing capabilities?

**Your personal wishlist for BTnode Rev 3**

- Multiple radio frontends?
- A low power full custom (Chipcon,RFM12-based) type radio (instead of or additional to Bluetooth)?
- More memory?
- More interfaces?
- More processing capabilities?
I want to receive and send lots of data over Bluetooth and talk to an MP3 decoder/encoder chip.

!!! interesting is not whether I want more/less interfaces, more/less memory, but the relation between number of interfaces <-> size <-> energy <-> memory, etc do any necessary programming.

Sorry, I have to little experience yet.
prototype ubicomp applications, using bt-nodes as communicating embedded device. Collection and processing of soil and ground-water data for water management in the agricultural area. developed sensor, data logger.

small play applications with two to four nodes.

first: I had to write the bleeding bt-stack and scheduler... about a year or two ;) very fast, but sometimes underterministic failures to program the device. Not applicable now yet complete.

100 devices would be nice.

30-100 nodes. Up to 5000 CHF.

100, US$100/each.

up to 15, depending on the future of ps-mindstorms, other projects interested in lego-robotics (mics?)

core developer up to some point, then user.

core developer, developing system software.

Both. We want to use as many off-the-shelf components as possible, but we will do any necessary programming. developer.

because of bluetooth (standard wireless interface), open source (can give away, others help developing)

open source, flexible design for bluetooth sensor node. personal contact, free and know-how readily available within our work group.

yes, no, yes

BT Trade software

writing our own mostly. yes, contributed soft-uart driver

both: it is appropriate for my work but it has some severe flaws!

It is more or less reliable. The BT Stack is unstable, and not able to recover. The BT Module crashes. This is not addressed.

no reliability problems.

software needs improvement (error model, stability), also documentation needs improvement

incomplete implementation of bluetooth stack. Board could be a bit smaller and use the more popular CSR based radios

software needs improvement (error model, stability), also documentation needs improvement

yes. no.

Indicator Reference Volume should be lower SW: Clean up API, Robust USB Driver for Mac & Linux. Clean up implementation (e.g. duplicated code, remove code in comments)

yes, terminal (bt-cmd) could be more comfortable (backspace, history, ...)

there are a few stability problems that need fixing (softwarewise), hardwarewise it’s fine!

It is more or less reliable. The BT Stack is unstable, and not able to recover. The BT Module crashes. This is not addressed.

developers are the few stability problems. BT Stack is unstable, and not able to recover. The BT Module crashes. This is not addressed.

no. no. no

software needs improvement (error model, stability), also documentation needs improvement

incomplete implementation of bluetooth stack. Board could be a bit smaller and use the more popular CSR based radios

software needs improvement (error model, stability), also documentation needs improvement

yes, especially the option to use 300/900MHz range radio to interface with Mica nodes.

yes, power down of bluetooth

must keep bluetooth.

Yes - in addition to BT

More Memory (1 MB) if this doesn’t lead to much higher power consumption. Exp. much Flash Memory = 1 MB for data collections and/or Java Classes.

more memory, but obviously this isn’t supported in AVR. Almost fine yet

memory is fine, especially with 296 KB

more memory, but obviously this isn’t supported in AVR. Almost fine yet

good

it’s perfect the way it is.

good

again, perfect.

good

Size is ok. Radio need controlled power supply.

possibly as option, but it is fine as is. No, it’s very good as is. Although we found it very useful to have a third adjustable power supply to generate 3v, 12v, 3.3v, etc. for power hungry peripherals such as GPS receiver.

standard battery changing unit would be great.

That would be great. Following the USB adapter idea, power can taken from the USB while developing.

I think I covered everything. :-)