First Monday Lunch

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Outline

- My Path to Grad School
- Graduate Life
- My Research

Pre-Butler

- School #86
- Guion Creek Middle School
- Park Tudor School

Butler

- First EDDP Class. Choose CS/EE.
- Led first EPICS team at Crispus Attucks.
- Started Dawgnet with Chris Hoffman. We built the app, recruited the staff, wrote, etc.
- Worked with IR.

Raytheon

- 2002: Increased printer throughput, optimized document system, built app to evaluate employee training.
- 2003: F/A-18 radar test equipment, handheld barcode scanning tool.
- 2004: Digital magnetic anomaly detection, analysis and support for combat avionics, build to print spares, managed projects.

Anokwa Consulting

- Started at Park Tudor after suspension.
- Mostly Mac consulting. Web design, media services, repair, networking, instruction.
- Worked with both small business and multi-national corporations.

Applying to School

- Why are you going to grad school again?
- Make sure the program has the faculty and is where you want to be. PhD is long and frustrating.
- Spend lots of time writing your personal statements. Don't worry about GREs.
- Make sure recommendation letters are strong. Speaker to your writers early.

Funding

- Your tuition may be waived if you are a PhD.
- If you are in a technical field, you will most likely be fully funded.
- You can apply for fellowships and scholarships.
- Expect to teach or do research to pay the bills.

After graduation, Ph.D. salaries are higher than B.S. and M.S. salaries, but the difference doesn't make up for the income lost by staying in school longer. The M.S. has a better "bucks for the time invested" ratio than the Ph.D. does.

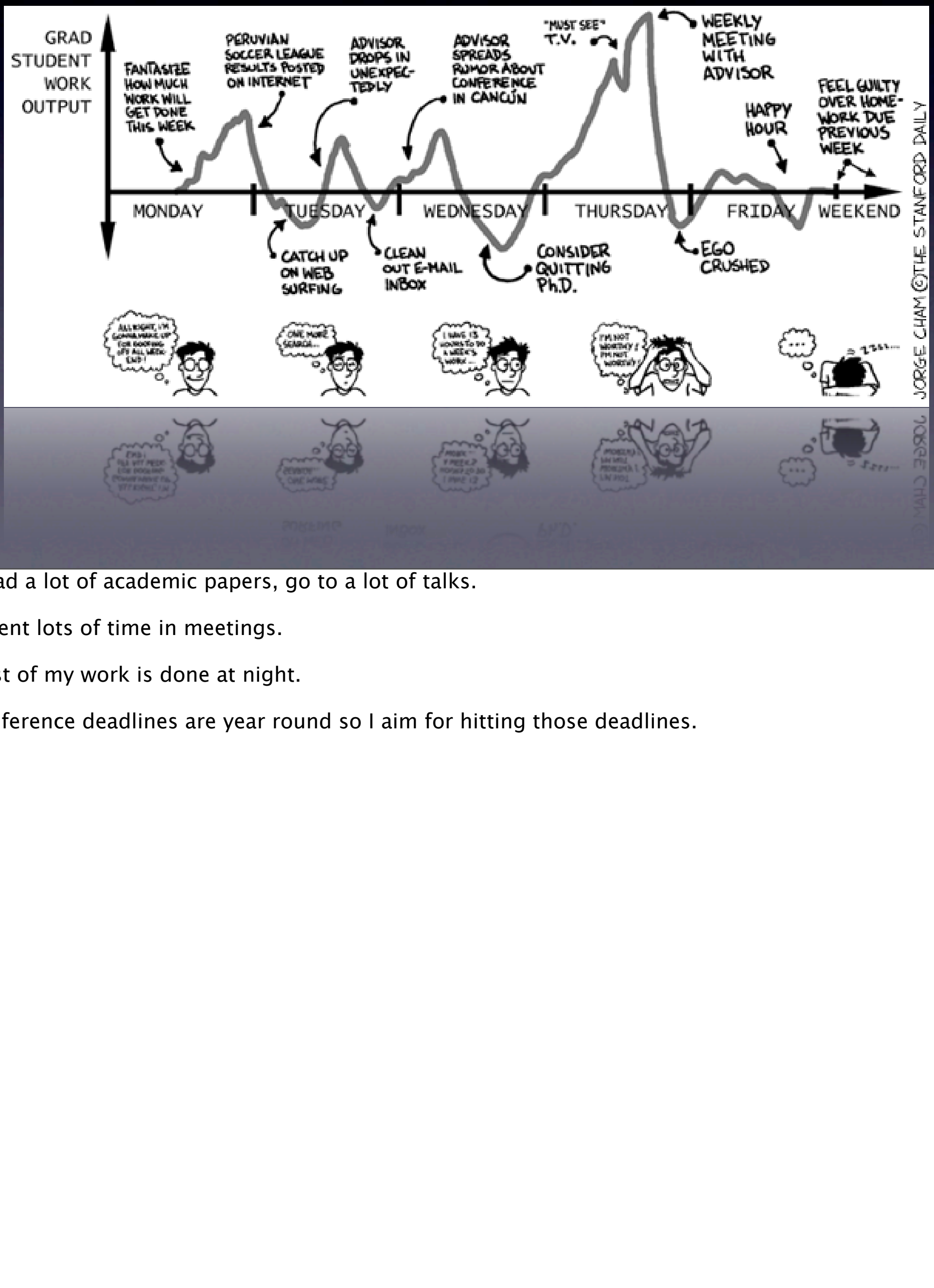
This is why it's important to apply into a PhD program sometimes. I'm funded by the Ford Motor Company this year, and the next three years the NSF funds me. That's about $30k a year, which is around the most you can make as a student.

"Being a graduate student involves making a significant transition...from being a knowledge consumer to being a knowledge producer."

Ed Lazowska

When I was a first year, I heard this a million times, so might as well continue the trend.

Graduate Life



I read a lot of academic papers, go to a lot of talks.

I spent lots of time in meetings.

Most of my work is done at night.

Conference deadlines are year round so I aim for hitting those deadlines.

The Good

- Grades don't matter. You set your own pace.
- You are around really smart and interesting people. You will learn an enormous amount and start some great friendships.
- You will become an expert in $x.
- Lots of perks. Free equipment, free food, free travel.

The Bad

- During your first year, you will suffer from the Impostor Syndrome.
- There will be a lot of work. It will be hard (both the material and the mental aspects) and depression is likely.
- You will have lots of freedom to do what you want. This can be a problem.

Grad school is a lot of work, but it's also really fun. You will have to learn to cope with a lot of stress.
Impostor Syndrome. The acceptance committee didn't make a mistake. You do deserve to be here.
Getting used to be being average (or below average).
Most quals classes require lots of work. You have to decide how hard you want to work.
Procrastination is

General Advice

- You don't have to be a genius.
- You will be poor.
- There are politics in academia.
- Grad experience != Undergrad experience
- You have to own your career and it will be a very long road.
- Interpersonal communication, time management and flexibility are needed.

Grad school isn't for everyone...

You don't have to be a genius to do well in graduate school. You must be reasonably intelligent, but after a certain point, I think other traits become more important in determining success.

"Being a graduate student is like becoming all of the Seven Dwarves. In the beginning you're Dopey and Bashful. In the middle, you are usually sick (Sneezy), tired (Sleepy), and irritable (Grumpy). But at the end, they call you Doc, and then you're Happy." It's a good question. The hours are long. The pay is low, with minimal benefits. And in terms of social status, a graduate student doesn't rank very high on the ladder.

If you think of graduate school as an "Ivory Tower" free of politics, money problems, and real-world concerns, you are going to be severely disappointed

Graduate school is a whole new ballgame. The students who do well are the ones who learn this earlier rather than later and make the necessary adjustments.

No one will hold your hand. You own your career.

It's a long long long road. Really long. There will be lots of obstacles. You must be tenacious.

Flexibility means taking advantage of opportunities and synergies, working around problems, and being willing to change plans as required.

You must maintain interpersonal relationships with your adviser, your committee, your research and support staff and your fellow students.

Know how to manage your time.

Know how to commuicate well.

Research

- Ubiquitous computing (ubicomp) integrates computation into the environment, rather than having computers which are distinct objects.
- Human-computing interaction (hci) is the study of interaction between people and computers. It is an interdisciplinary subject, relating computer science with many other fields of study and research.

Ubiquitous computing integrates computation into the environment, rather than having computers which are distinct objects. Other terms for ubiquitous computing include pervasive computing, calm technology, things that think and everyware.

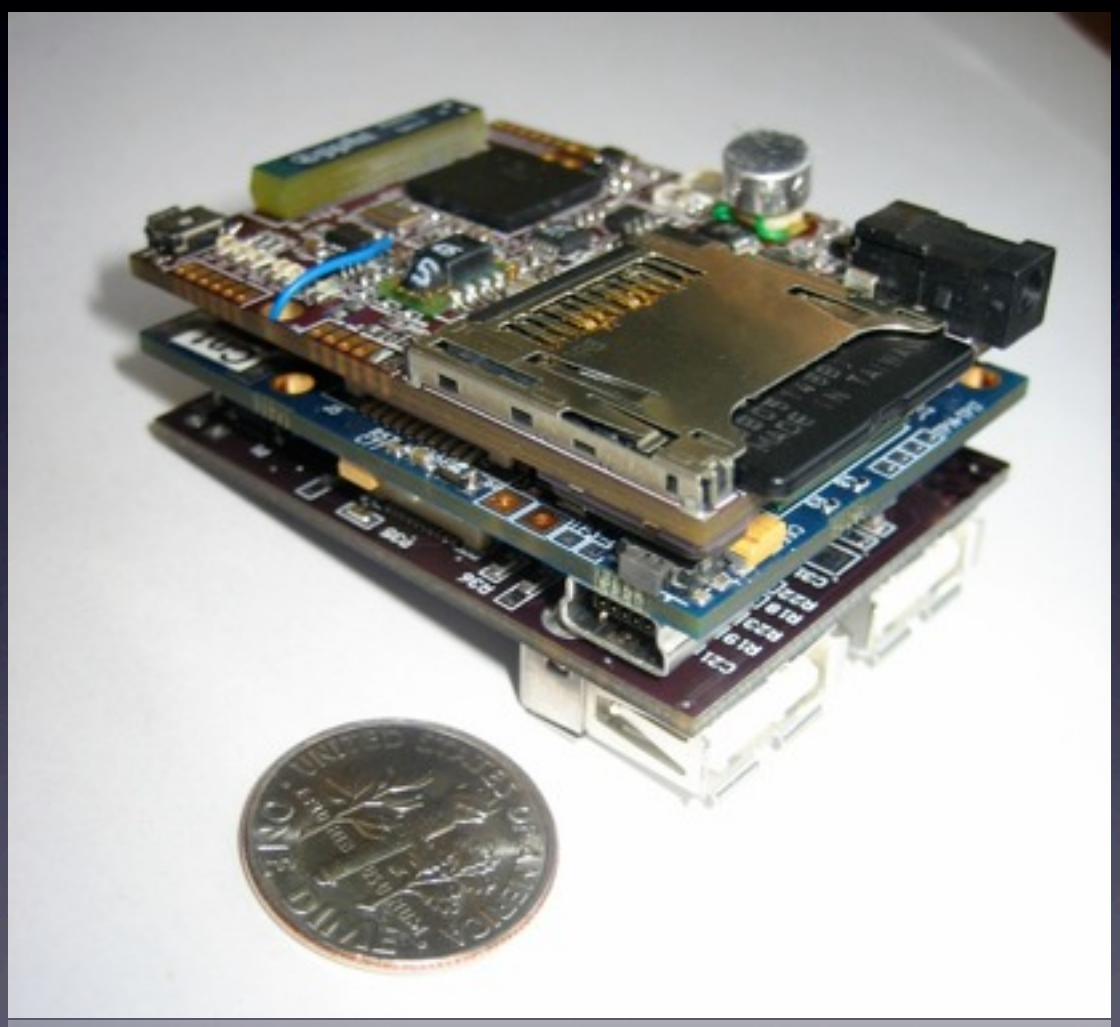
By embedding computation into the environment and everyday objects would enable people to interact with information-processing devices more naturally and casually than they currently do, and in ways that suit whatever location or context they find themselves in.

Ubicomp's central aim has been invisibility. Having learnt about its use sufficiently well, one ceases to be aware of it. It is "literally visible, effectively invisible" in the same way that a skilled carpenter engaged in his work might use a hammer without consciously planning each swing. Similarly, when you look at a street sign, you absorb its information without consciously performing the act of reading.

Human–computer interaction (HCI) is the study of interaction between people (users) and computers. It is an interdisciplinary subject, relating computer science with many other fields of study and research. Interaction between users and computers occurs at the user interface (or simply interface), which includes both software and hardware.

A basic goal of HCI is to improve the interaction between users and computers by making computers more user-friendly and receptive to the user's needs.Researchers in HCI are interested in developing new design methodologies, experimenting with new hardware devices, prototyping new software systems, exploring new paradigms for interaction, and developing models and theories of interaction.

Activity Recognition

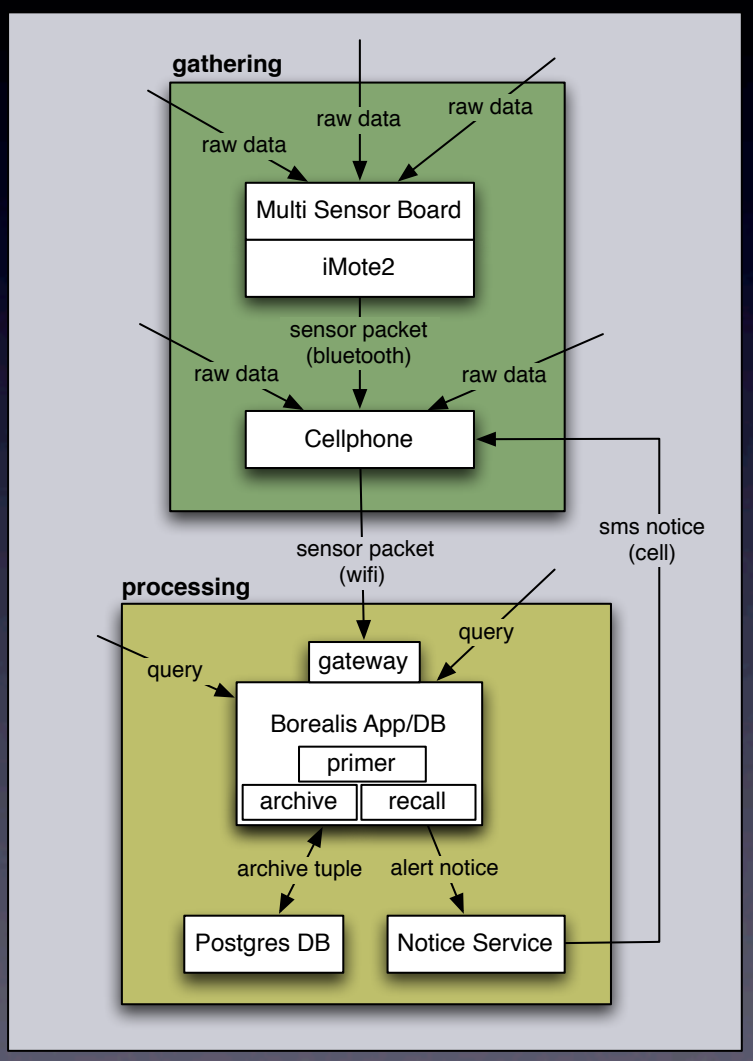


Glanceable Interfaces

User Interaction in NFC

Work done with Roy Want and Trevor Pering.

Nokia SensorPlanet

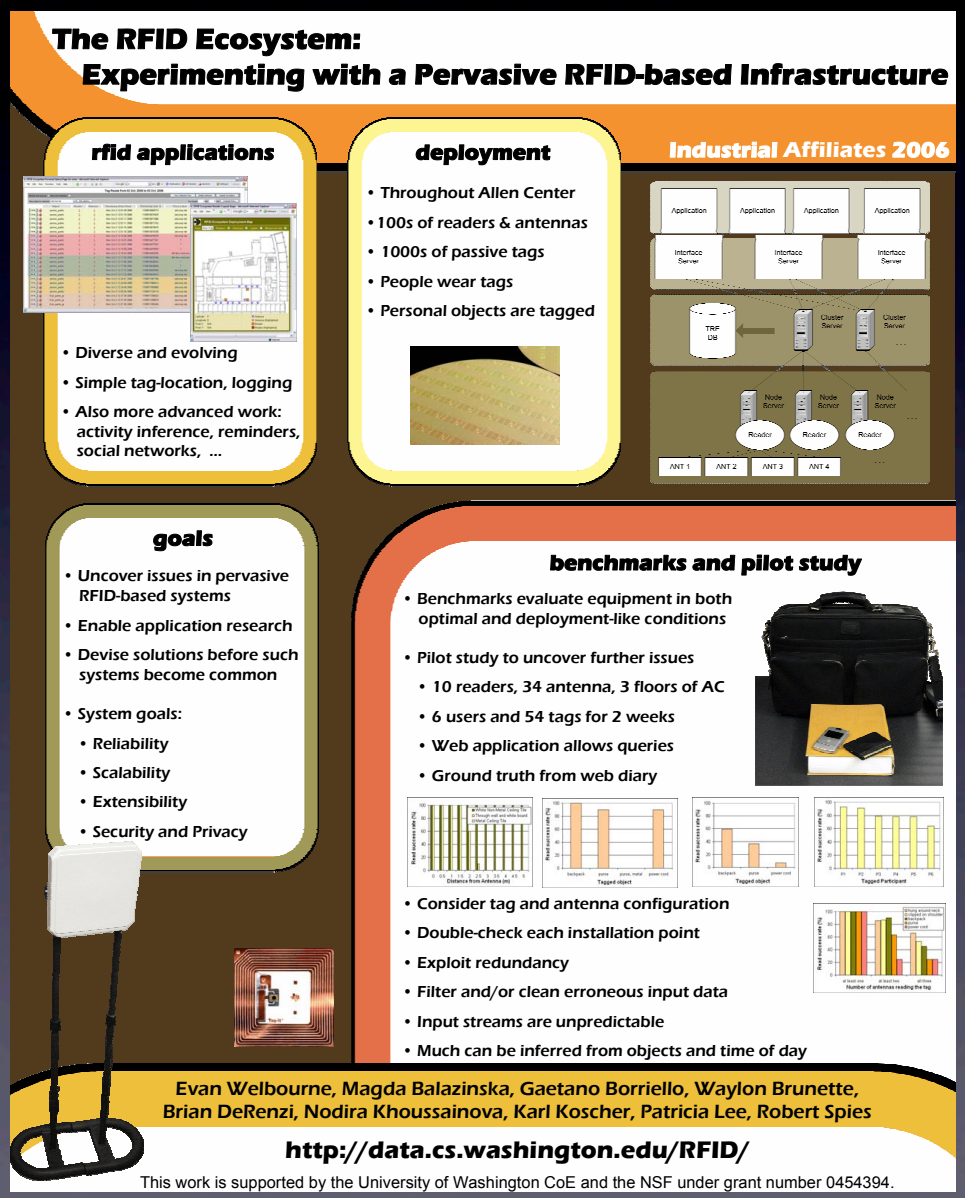


The SensorPlanet project builds an open global mobile device centric research platform for wireless sensor network research, akin to somewhat analogous platform for backbone network services called PlanetLabs.

The distributed platform will provide the necessary infrastructure for world's top research labs to perform innovative research on wireless sensor networks, where the mobile devices can be seen both as gateways to the mesh sensor networks and also as sensor nodes themselves.

This open innovation initiative will allow Nokia to collaborate with the best teams in the field around the world, and direct the academic Wireless Sensor Network research globally towards a mobile device centric innovation.

RFID Ecosystem



To effectively design and evaluate RFID-based pervasive computing systems.

Involve 100s of RFID readers and antennas and 1000s of tags. Our intent with this ”RFID Ecosystem” is to explore the benefits of such deployments while identifying and addressing their challenges, before this technology becomes widely adopted in other public settings, where problems may have more serious implications.

First, consumer RFID applications are likely to evolve and grow over time. Already, we see use of RFID in elder care and object finding and each of these applications requires a flexible infrastructure that makes provisioning easy.

Supply-chain applications are likely to be longer-lived and explore a smaller range of uses for the technology, mostly focusing on inventory tracking.

Second, because we are considering tracking people and their belongings rather than cases of items, privacy issues must be considered much more carefully.

Finally, people are less predictable than goods moving over established distribution patterns in a supply-chain. We must thus develop fundamentally new ways to deal with the variable-rate, partial, and noisy data likely to be generated by people.

Questions?