SMART BUILDINGS & THE QUANTIFIED STUDENT PROGRAM

Introduction
At Fontys University we run a Quantified Student Program. In this program we are doing different kinds of projects aimed at creating a better learning experience for students. In this article we zoom in on the relation between smart buildings and the program.

Smart Buildings
You hear a lot of talk about smart buildings. However most of the time you can substitute **smart** by **efficient**. For example, a sensor in a meeting room measures CO_2 in the air, and when levels become too high, the system starts to ventilate. That's efficient. A system that starts to sing really loud, so you become aware of the fact that you are in a meeting long enough to have consumed all oxygen. That's smart.

Really smart systems are not about sustainability or optimizing usage. These things are important but not smart the way we would like to see it. A truly smart building is making the people that use the building smarter.

Did you ever go to a Las Vegas casino and felt you were lost in a maze of endless rooms with aisles full of slot machines? Did you have a hard time finding the exit? Well, this is all by design.

In her book, Addiction by Design, Natascha Dow-Schüll describes how casinos are carefully designed to maximize time – on – device by the player. Every aspect of the casino, the lay-out (a maze), the sound, the lightning, the scent, the walls, the carpet is designed to make sure that players will get in the 'machine – zone'. There is 30 years of experience in this design and they are very successful. Just look at the immense industry of slot machines.

Now look at your university.

Do you see this as a place in which every detail is designed with the goal of creating the ultimate learning experience? Does every aspect (scent, temperature, sound, lightning, carpet, lay-out) contribute to learning? Well, at our university, the answer is no. No! Even simple questions, like what is the time students are spending on-campus and what are they doing, are pretty hard to answer.

That is why we run a project in the Quantified Student Program that is aimed at collecting data about the behavior of our students and the specifics of our building. Using WIFI data we (anonymously) track our students and combine that dataflow with other data like weather, indoor temperature, daylight, lux, water, electricity, coffee sales, and so on to find patterns that can help us better design our buildings.

By looking at the data, we can try and find patterns, change things in the building and find out what works and what does not work. This way, we slowly can design buildings that truly are designed to create an ultimate learning experience.