Being green... It's easy!

Why do we recycle at home and try to save energy but don't do this at the University? That's the question that bothered Faris Nizamic and Tuan Ahn Nguyen. They decided to act on it and applied for the Green Mind Award.

By Saminna van den Bulk / photo Jeroen van Kooten

'Look!' says a frustrated Faris Nizamic. He smiles, and pointing at the ceiling of the restaurant at the Bernoulliborg says: 'It's only open from 12 to 2, but the lights are on from 8 till 8. There's enough light coming in from outside and there's no one here, so why are the lights on?'

It was this frustration that made PhD students Nizamic and Nguyen apply for the first ever Green Mind Award. Their idea was to use their knowledge of computers and distributed systems to make some simple changes so that they could really make a difference in saving energy – and they were successful with their application.

Green mind Award

The Green Mind Award was inaugurated in 2012. The RUG awards €100,000 in prize money to the team that comes up with the best idea to make University buildings and processes within the University more sustainable. Faris Nizamic and Tuan Ahn Nguyen were the first to win this prize with their 'Sustainable Bernoulliborg' project. Are you interested in this challenge? You can apply for the 2014 award already!

So there they were in November 2012, with €100,000 in their pockets and a year to produce results. With a tight schedule and a lot of ambition, Nguyen and Nizamic started their project to try to save energy and water, and explore smart ways of waste disposal.

Energy savings

Their journey started in what Nguyen calls 'their lab', a small office on the 5th floor of the Bernoulliborg, which was packed with at least six monitors and some spare computer parts. Nizamic picks up a small box from between the room's plugs and sockets. 'It all started with this measuring device', says Nizamic. The box collects data on energy use in the Bernoulliborg, which gives the pair a good idea of which devices use the most energy. 'The main culprits are computers', says Nizamic as a dashboard appears on the screen.

'You don't want to annoy people in accounts'

Maybe that's not particularly surprising, but their solution is. With the aid of some homemade software they can control all the computers on the 5th floor and with a single click of the mouse all the monitors go to sleep. 'An energy saving of 96%', Nguyen says.
They researched how often people use their mouse and calculated how much time should pass before the computers switch to sleep mode. 'We computer guys generally use the mouse every two minutes, but people working in finance or administration may take longer. Their average time-out is 15 minutes. You don't want to annoy people in accounts', Nizamic laughs.

PhD in the roof

Nizamic and Nguyen's ambitions extended even higher, with Nguyen spending so much time on a ladder with his head in the roof that people started asking if he was still a PhD student! The reason for this was to explore the results of a motion detector. 'Why do you place a motion detector above the office door when it should be placed where the movement is actually happening – the desk?', Nguyen asked.

Playing with taps and waste

The second target of their savings was water, but how can you make people use less of it in toilets?

'Hello?' Nizamic knocks on the door of the ladies. 'Just checking', Nizamic smiles. 'Installing measuring devices to save water can put you in some awkward situations.'

'We will be able to fill a ACLO swimming pool with water we didn't waste'

He enters and shows me a small aerator. 'These are going to be placed on the taps so that less water will be released.' That sounds simple, but it produces some major results. Nizamic explains: 'In one year we will be able to fill a large swimming pool at the ACLO with all the water we didn't waste.'

Finally, their last objective to make the Bernoulliborg more sustainable was to look at the waste... of waste. Nizamic explains: 'We placed separate boxes for plastic, paper and other waste on all six floors to make it easier to recycle.'

No time to waste

Predictions for 2023

45% water saving
7.98% energy saving
20% waste reduction

7 years payback time

'It takes up 200% of our time', says Nizamic. Their tight schedule, shown on a whiteboard in their office, is proof of that. However, Nizamic and Nguyen can't do it all. 'You can't trust a computer science PhD student to cut wires', he laughs. They need a lot of help from others and that takes a lot of time, time the pair don't have since they need to present the results of their project in May for the University's 400th anniversary celebrations. 'We get a lot of support from the University, but we're on a really tight schedule to get things done', says Nizamic. 'Everyone at the top level is aware of our project, but we often have to explain again what we're doing to lower levels of authority.'

Mentality change

To be completely sustainable isn't only a job for Nizamic and Nguyen, it's something everyone at the Bernoulliborg should do together. Therefore, they have placed a glass cupboard in the corner of the cafeteria. Green bars on the monitor indicate how much energy is being used every hour of the day. It makes people more aware. 'The team are going to start with a promotional programme to send out positive messages to the public about saving electricity and water.'

Nizamic and Nguyen hope that not only the Bernoulliborg will be affected by their enthusiasm to treat energy, water and waste as sustainable, but also that their approach will spread to other University buildings. They then start to think big, adding: 'Maybe even to other universities, we don't know.' Nguyen not only calls it their 'homegrown product', but also 'our baby'. Nizamic adds: 'It's like a kind of marriage. We're completely in sync, we know what we're doing all day and we don't complain much.'