HBO-ICT

hogeschool Windesheim

WIN NOVATION

Wintereditie 2020

Welkom!

Winnovation once started out as an experimental exam for the semester Concept and Creation. It couldn't have been more than eight groups that presented their concepts, mostly to each other and our coaches in the media café that isn't much larger than any lecture hall. The motto we then adopted was: be proud and show it!

I remember how proud we were as coaches, and how surprised we were by the visitors that came in! Parents, friends, business contacts and teachers from other studies and Windesheim domains came to see what these pioneer students had come up with! Their enthousiasm and pride had spread beyond our imagination.

Many editions later, Winnovation has grown up. It is now one of the biggest events @ Windesheim. We now celebrate our motto "Be proud and show it" together, since all higher year semesters of HBO-ICT participate and make it a semi-annual party people from around the globe look forward to and cancel their holiday for. The only boundary we experience now are the walls of the X-building, for as long as Winnovation will take place here.

This program is filled with projects and concepts that HBO-ICT students and organisations in and beyond Zwolle have worked on for the last 20 weeks. Some projects were technically challenging, others found their complexity in an Interdisciplinary, multi-cultural and/or multi-lingual project group or community setting.

Some projects are carried out together with employees of HBO-ICT's business contacts, other are completed solely by our students in a start-up that is ready to launch. I am glad to say that many of the concepts you are about to see are socially relevant. Some projects went beyond the groups wildest dreams, and some group dreams needed to be picked apart, reviewed and re-assembled to meet the requirements or reality.

Professionals and soon-to-be-professionals have worked hard, argued, struggled. Tears were shed and the freedom that comes with the community/coaching style of teaching that HBO-ICT Windesheim is so famous for might have been accursed by group members, more than once. There was also laughter, friendship and joy; we know for a fact that a few songs were sung and above all: much, very much has been learned. Within or outside the boundaries of judgement forms and exam requirements.

In this preface I would like to thank each and every one of our students who, as always, have been an inspiration to me and my formation of teachers and coaches. And thank yóu, business relations, clients and contacts for delivering authentic cases and projects that let our students and coaches learn and teach. Thank you, visitors, friends and parents for engaging in the projects and lives of all involved. And of course thank you, my dear colleagues for making all these projects happen and not in the least for making Winnovation the best party Windesheim has to offer.

Ilja Clabbers
Dean HBO-ICT

Concept & Creation

Foodprint: Sharing Food Preferences

Foodprint strives to improve the quality of life by making it easier to let others know about your allergies, preferences, dietary needs or religious restrictions. Furthermore, Foodprint can also be easily integrated into other business platforms to share your profile.

Our team consists of seven students. The project group is a multidisciplinary, English speaking team. The students are from different countries; Romania, France and The Netherlands. The different studies involved are; Journalism, Infrastructure Design & Security, Software Engineering and Business IT & Management.

This command has been executed by Angela Lonascu, Marius Korff, Dave Schepers, Theo Cherel, Bram Menning, Gerlof Koopman and Brian Brouwer.

Concept & Creation

Date Aid
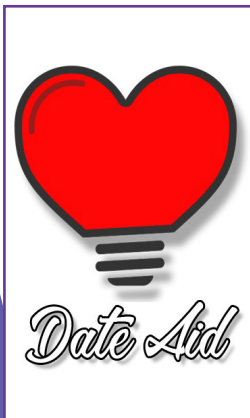
Date Aid is a mobile solution for people with or without a relationship. The application focusses on those who are insecure or have lack of inspiration. Date Aid helps people to find a unique and personalized date activity. Helping to boost their self esteem and improve their dating experiences. The application generates date suggestions based on age, type of date and shared interests. Date Aid, powered by Team Mestec.

This command has been executed by Timo Timmermans, Maikel Haarmans, Robin ten Hoven, Ander Guerra Canellada, Quentin de Ruiter and Gerald Newland.

WINNOVATION

Musicus by DaringConcepts

Musicus is a start-up business venture developed by a group of six persons under the name Daring Concepts. With Musicus we focus on giving beginning musicians a stage to perform while letting music enthusiasts enjoy intimate concerts from their favorite music genre.
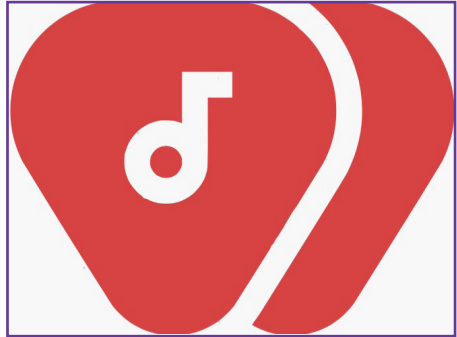
This command has been executed by Gerko Bökkers, Bram ten Brinke, Mark den Boer, Yvar van Oene, Roy Engelbertink and Ángela Tuduri Vila.

Dispaper

Dispaper is a Smart Paper device that can show anything the customer wants to show, whether it being an activity planning of a room, a social media channel, an image or a short message.

In other words: Dispaper delivers more functionality than your average room booking tablet at an even lower price! Rather than making a separate system for room booking, blogging or any other job, Dispaper integrates with existing applications like Google Calendar, Microsoft Office, Twitter, Facebook, Salesforce and Exact Online and makes their information visible at the desired locations!

This command has been executed by Maurice Schurink, Nick Hoogkamp, Jan van der Zee, Niels Harmelink, Kay Bannink, Maarten Zandbergen, Wim Nijsinkand Peter Pakkert.

WINNOVATION

Business

Data Science Platform

Demand for data science skills is growing exponentially, but hiring data science professionals can be very expensive, especially for smaller companies.

At Data Science Platform we strive to make data science affordable and available for everyone. This is done by offering a platform for companies on which they can discover their data potential and publish their data related problems/questions for our students to solve. For more in depth information, please visit our stand.

This command has been executed by Alex Damman, Leroy Korterink, Matthias Verweij, Marien Zwarts and Lennard Koning.

Management of IT

SucceedIT

We created a buisiness management system for our own consultancy firm.

This command has been executed by Nathan, Vincent, Frank and Matthijs.

WIN NOVATION

StudentLink

StudentLink wants to connect students to companies. The students can give courses or presentations in subjects they are good at. We hope that students will extend there network using our platform

This command has been executed by Wes van Dijk, Erhan Öztürk and Michel Pietersen.

WinSystems Management Systems

We made a application for our company. Every teammember made a applicatielandscape. We have a financial, project, teammeber and relation landscaps.

This command has been executed by Remco Kooiman, Matthijs Aartsma, Marco Timmerman and Marit Duisterwinkel.

WINNOVATION

Business

Promend

ProMend focusses on creating IT solutions for a more effective way of project management. We are an IT consultancy company that specializes in the improvement of the business and IT processes of its customers. Furthermore, we create working examples to help the customers with experiencing the way we envision the possible solutions.

This command has been executed by Stan ten Napel, Jimmy Scheer, Ronald van Benthem, Jelle Levering en Jelle van Staveren.

Management of IT

Codec
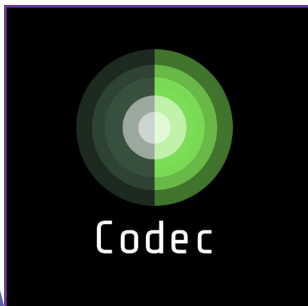
For our company, Codec, we have made an application with Mendix to support our business processes.

This command has been executed by Jens Vos, Thomas de Vries, Kay Kap, Wouter Hilberink and Aimee Kuin.

WIN**NOVATION**

Onboarding employees

For DUO we were instructed to speed up their registration process for a new employee. We also had to make the process more transparent. We have done this by looking at what was possible to adjust.

After this we prepared a recommendation for DUO and gave it to them. This allows them to do further research into what needs to be done with the process.

This command has been executed by Frank Teunissen, Dennis Maassen van den Brink, Guus Sloof and Joris Bosman commissioned by: Dienst Uitvoerend Onderwijs (DUO).

OurWay

OurWay has been designed with senior inhabitants of a little village. By connecting people to neighbours who are going the same way, anyone can carpool with a trusted driver at any time. It improves social cohesion for all age groups and prevents mobility issues and loneliness.

At Windesheim University, OurWay can beused to connect students and/or employees to travel together. It is a sustainable solution to the current parking issues at the campus. www.ourway-app.nl.

This command has been executed by Yannick Liefting, Jeffrey Kleine, Thomas Berton, Michael Huu and Mariëtte van Raalte.

WINNOVATION

Quality software development

KinderOpvangCalculator

Speak provides online calculators for childcare centres. The issue with these calculators however, is that they cannot be implemented in a flexible manner due to the calculators being hard-coded.

Consequently, packages provided by said childcare centres, pricing, and logic for calculating childcare benefits have to be altered manually by Speak, should one of their customers so desire.

Our solution is to build a calculator that is as generic as possible, so that making changes to the calculator takes little time and effort. This will also mean that the calculator can be made for completely different purposes, for example tax filing.

This command has been executed by Mohamed Essabani, Jelmar Raven, Niels Breuker, Hidde Beckers, Tycho Mensing and Ian Vredenburg commissioned by: Speak.

Quality software development

djurve
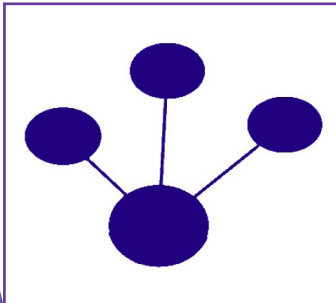
Exploring the possibilities to visualise the ecosystem of an organisation in a 3D model using various Web technologies.

This command has been executed by Dennis Holierhoek, Bart van de Leur, Mika van den Brink, Sander Boonstra and Tim Even commissioned by: djurve

WINNOVATION

Been There

Everyone has been to a place they found amazing but they haven't had the time to tell everyone they know about it. Which is a shame because you want to give your friends and relatives the same amazing experience. With the Been There application, you can. Pinpoint the location on the world map and give a review of the experience. Your friends and relatives will thank you later!
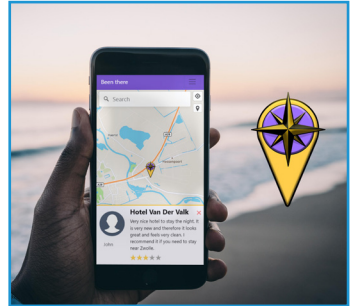
This command has been executed by Alex Post, Daan Toes, Annelotte Hooimeijer, Romain Huyvaert, Samantha de Ruiter and Enes Varinli.

Rate my Teacher

Don't Hate, Just Rate.

Rate my Teacher its goal is to improve education by transparent feedback. We aim to give students a voice by providing them a platform to anonymously rate their teachers in a public fashion. Additionally, we develop tools for teachers and schools to gather instant feedback after lessons or classes.

This command has been executed by Harmen van der Meijden, Paul Meppelink, Dominick Goslinga, Floris de Grip, Ewoud Pol and Ozan Yigitdogan.

Development

Concept & Creation

Trashable

With our app we stimulate and aid households into properly recycling everyday items and provisions. Every municipality in the Netherlands decides their own rules regarding recycling and it can be a real hassle to find the correct recycling information. With our app, you can scan products that have a barcode in order to see personalized recycling instructions, based on your location, to see in which bin you can properly dispose of your garbage. Besides scanning, you can easily see which product belongs in which bin, per waste stream, and you can see your recycling habits, real-time, in a pie chart.

This command has been executed by Romaysa Azzouz, Leroy van Dijk, Leroy Ecker, Ricardo Garcia, Kevin Geubels and Bart Schriever.

Concept & Creation

Prikkie

Find recipes that fit your budget with Prikkie. By entering your budget, you can find recipes and ingredients that suit you. Don't like what you see? Simply re-roll to get a whole new list of suggestions. When you settle on a recipe you can add the ingredients to a shopping list at the click of a button and immediatly see what it will cost you.

This command has been executed by Stefan Grebenar, Judit Huguet, Ilse Kalter, Kevin Hendriks, Benji Riegman and Thomas Oosterhoff.

WINNOVATION

AR-oplossing Brandweer IJsselland

In this project we are working towards an Augmented Reality solution that can be used for competence training of officers within the Fire Department. We are working towards a Proof of

Concept to demonstrate the possibilities of Augmented Reality technology, because the Fire Department is unfamiliar with this technology. Our solution focuses on the competence training that consists of scenario training. For this reason, our solution will contain little interactivity.

This command has been executed by Victor Reitsma, Bas Zandvliet, Christine Timmerman, Gerben van 't Ooster and Stijn van Kampen, commissioned by: Brandweer IJsselland.

Willy The Robot

Willy first saw light after a competition held by foundation Art of Robotics. The idea behind Willy was to create an autonomous trash-collecting robot. Willy was then bought by Windesheim University. Willy's goal has since been shifted to become an autonomous robot for promotional purposes. Willy has been worked on by different project teams. The end goal of Willy is to safely drive autonomously on expo's while interacting with the public.

This command has been executed by Bas Freriks, Dennis ter Haar, Dion Koster, Lars Assen and Thymen Bos, commissioned by: Windesheim.

WINNOVATION

Development

Internet of Things

Masa Reto - NMP Practical Demo
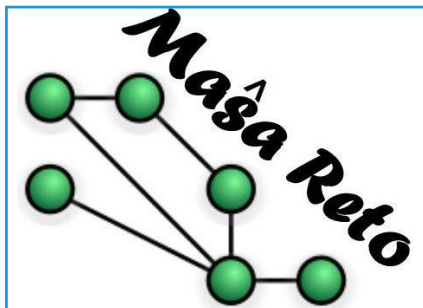
Practical implementation of the Networking Methods and Protocols subject lessons.

This command has been executed by Bianca van As, Bas Conrads, Miko Haarsma, Alexander Meijer and Niels Ruitenbeek commissioned by: Windesheim.

Mobile solutions

Move Your Mind
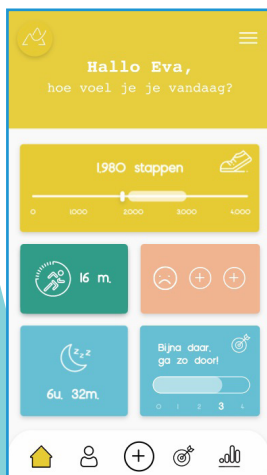
Move Your Mind is a fitness app that is specifically designed for people who are depressed or have chronic pain. This app helps them to realise that a workout will help them feel better.
Move Your Mind uses a fitness tracker to measure the workout. The patient then needs to state their feelings and pain level. These two things will indicate a relation and eventually show the patient that working out is helping them.

This command has been executed by Rik Bonhof, Gerwin van Beek, Lars Kolthof and Rienk Taborsky commissioned by: Lectoraat Personalised Digitalized Health, Hanzehogeschool Groningen.

WIN**N VATION**

Authorisation tool

At the Dutch police, the employees of functional management are confronted with a problem which results in the authorization of employees taking quite some time. This is because for most authorizations training is required. Currently, this is checked manually, with a lot of extra time spent communicating between different people/departments.
To solve this problem, we have created a solution by developing one central source that combines the training results with the authorizations. Employees are then authorized based on the training results in this source.

This command has been executed by Pieter van Urk, Robin Dirksen and Max Boeve commissioned by: Nationale Politie.

Univé

Univé is an insurance company. The current version of their mobile app is not accessible to the public audience. Are job was to come up with and implement features that are attractive to non-clients.
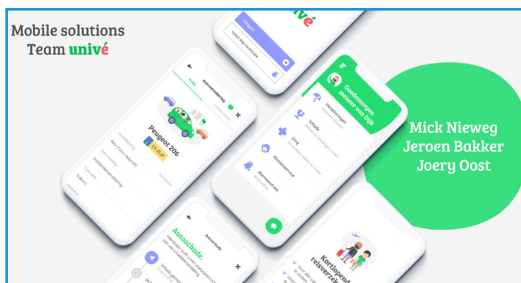
This command has been executed by Mick Nieweg, Joery Oost and Jeroen Bakker commissioned by: Univé.

Development

Mobile solutions

BlueNAV

For the last 6 months, we have been working on a new navigational system for police cars at the police station in Zwolle. This system allows police officers to not just navigate, but also get additional information to help them work more efficiently. The navigational system can show information about other police cars in the area, messages from the communications center, information about an incident, points of interest set by other officers and more. Come check it out at our booth.

This command has been executed by Wouter Wijsman, Bart van Zanten and Niels Vredeveldt commissioned by: Politie.

Mobile solutions

Roosterbuddy

Mobile application for police officers so they can see theyr schedule and swap a working shift with a colleague.

This command has been executed by Danny Hillebrand, Jelle de Graaf, Gulsah Kurnaz and Patrick Haas.

WIN**NOVATION**

Opname app

Our 'Opname app' is a mobile application that allows inspectors to ensure building safety by making a risk analysis. Building safety may include water safety, fire safety, anything can be possible with this app.

An inspector walks through the building to register points depending on the analysis he performs. These registration points can later be processed in a report so the user can have an overview of all the possible risks and actions that need to be performed to ensure building safety.
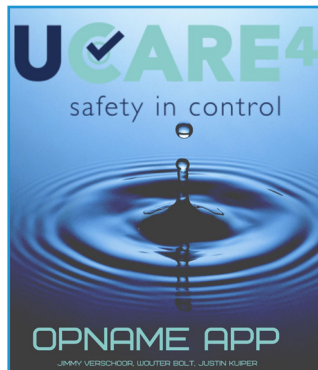
This command has been executed by Jimmy Verschoor, Wouter Bolt and Justin Kuiper commissioned by: Ucare4.

WindesHeart

Project Windesheart makes connecting and reading data from the Mi Band 3 activity tracker easy. In our user-friendly mobile-app we can do all kinds of stuff with this device and visualize data in graphs in an appealing way. We have created an open-source SDK that provides all the necessary logic to connect and read data from the Mi Band 3. This way, other projects do not have to worry about this logic and create awesome projects by using our SDK as a basis.

This command has been executed by Thijs Marschalk, Kevin van Sloten, Hielke van der Gugten and Ramon Abächerli commissioned by: Lectoraat ICT innovaties in de zorg.

WIN**N**OVATION

Development

WinMVI

MVI AudioVisual is a leading solution provider in the automation of conference and camera systems. Modernizing the core API's of MVI's Voting and Control application with the use of JSON, REST and HTTP. Exposing it to the web and any programming language that is web capable. Exposing the feel of a native application to the web, using cutting edge web features such as WebSockets and modern scalable Javascript.

This command has been executed by Gavin Peek, Erik Louwerse and Jens Jonkman commissioned by: MVI AudioVisual.

Quality software development

AWL 3D-Print Management Tool

Management web tool used for managing and automating a number of 3D printers.

This command has been executed by Bob Taekema, Chris Westerhuis, Henrik Dons, Jacco Douma, Jeffrey Kolkman, Stijn de Koning and Martijn Hamstra commissioned by: AWL.

WINNOVATION

Quality software development

devcake 2

The DEVCake2 application is an app to be used by various organizations to foster the acquisition and upkeep of knowledge. Through implementation of gamification elements end users are stimulated to stay up-to-date on the changing times within their field. They are incentivised to answer questions and polls to keep their knowledge up to snuff and earn points that signify their informational prowess. The application forms a platform for users to stay informed and compare their informational progress with others within their organization. Through this e-learning platform every client will be armed to stay current in the new age of information.

This command has been executed by Ruben van de Kamp, Youri Dekker, Milan Weiss, Xiaumay Eysink, Pascal Zoet and Wout Mulder commissioned by: Devcake.

Quality software development

PoliceCoin

PoliceCoin is a cryptocurrency running on a private Ethereum blockchain, which we created for the Dutch Police. PoliceCoin can be spent on a private crowdfunding platform for innovative police ideas.

This command has been executed by Jesse de Gans, Steffan Verlaan, Pascal Bouwhuis, Christiaan Goslinga, Bas Oosterhuis and Sven Oortwijn commissioned by: Dutch Police.

WINNOVATION

Development

Fighting Epidemics

It's late 2020 and Windesheim is plagued by an epidemio, an experimental digital viral infection.

Fortunately, students and staff can use an app to gain useful insight and protect themselves against the spread of the disease.

Last semester, the Epidemio project group laid the groundwork for the Epidemio Engine which simulates the disease and powers the protection app. Faster than real time computations can calculate the origin and spread of several diseases and provide insight into the efficacy of preventive measures. Come and see for yourself how you can be a part of future disease prevention and help us fight Epidemics!

This command has been executed by Mees Altena, Koenraad Drost, Judith Kaptein, David Kruider, Melissa Landwerd and Hidde Schultze commissioned by: Lectoraat ICT-innovaties in de zorg.

Quality software development

Plant Reality

For our project we are making a VR plant auction where people from all over Europe can attend the auction without having to travel to the Netherlands. In the VR app you can buy the plants that are on display and communicate with other buyers.

This command has been executed by Alexander, Diana, Jonas, Koen, Martijn and Sven commissioned by: Infosupport.

WINNOVATION

Winfection

Nowadays, we carry our mobile phones everywhere. These phones know exactly where we have been. If you compare these locations with other people's locations, you can figure out which people have met. You might be able to use this data when a virus breaks out to determine who infected whom. Winfection is about predicting how a virus will spread based on proximity of people and the communicability level of a virus. We have made a simulation to show what such a virus-spread tracking system would look like and how effective it could be.

This command has been executed by Rixte de Wolff, Brend Kazemier, Justin Altena, Niels te Bogt, Wilmar Jongkind and Martijn Leferink.

IDesign

IDesign is an Visual Studio extension that can recognize design patterns in the source code of your projects. The tool shows a list of patterns that are applied to your code. The tool provides feedback for the recognized patterns and will help you implement a pattern correctly. The tool can be used to give insight into your code and helps you write more SOLID code.

This command has been executed by Nick Chen, Shanna van Grevengoed, Tristan Heizenberg, Henrico Pops, Jacq Wattel.

Development

Quality software development

Ned Air Selection Tool

Ned Air is a seller of roof ventilation systems that meet high standards. These ventilation solutions are capable of satisfying the customers needs. In order to improve the selection proces for customers we created an online tool that does just that. By entering the given parameters of a specific environment we return the most fitting products with detailed information about sound emission, power usage and efficiency curves. Getting the best fit within a matter of seconds.

This command has been executed by Remy van Lis, Omar Mazher, Tim Salomons, Roel de Vries, Christian van Schubert, commissioned by: Ned Air.

Quality software development

DEVCake Locatietracker
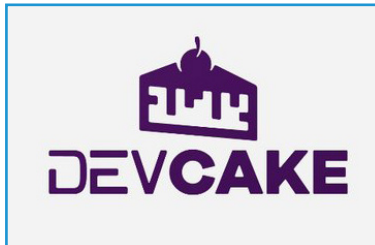
DEVCake is a company creating a product for a logistics company. They gave us the assignment to create a dashboard that optimizes the internal process of its customer. This is achieved by analyzing location data retrieved from hardware inside the company using AI and algorithms.

This command has been executed by Koen Willemse, Ramon van Heerde, Stijn Kluiters, Lars Nefkens and Robin Lugies commissioned by: DEVCake.

WINNOVATION

idetector

idetector is a Visual Studio plugin for detecting design patterns within C# code. It's intended to help students in learning design patterns by providing information and tips on the design pattern(s) within submitted code.

This command has been executed by Justin Booij, Kjell Kanis, Jeroen Tissink, Mart Schilthuis, Martijn Sikkema and Sybren de Vries.

jAPK Kadaster

The jAPK is a quality software tool for continuous inspection of code quality to perform automatic reviews with static analysis of code to detect bugs, code smells, and security vulnerabilities. It does this through integration with SonarQube, another quality assessment tool.

This command has been executed by Jan, Marijn, Christiaan, Rick and Ossama commissioned by: Kadaster.

WINN**O**VATION

Development
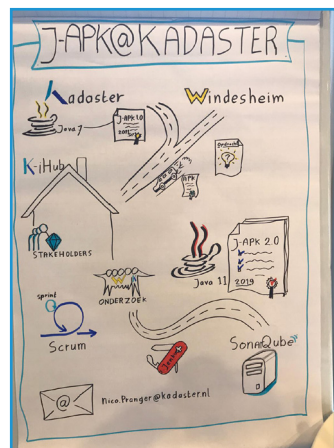
HBO-ICT Keuzewijzer

HBO-ICT has a wide variety of studypaths and minors to choose from. While the variation of semesters gives a lot of choice for the students, this can still prove to be very challenging for the student to know which path suits him/her the best.

The Keuzewijzer gives the students the opportunity to assemble their own study-path and discover which semesters are available and also provides information about them. The assembled studypath can be shared with others or saved for later usage.

This command has been executed by Allan, Lars, Bünyamin and Mike commissioned by: Windesheim.

Web & analytics

Allinq Monteursportaal

In-home mechanics at Allinq will be outsourced in 2020. Because of this, Allinq is looking to find a new purpose for their "Mechanics Portal".

Our goal is to make the work of a teamcoach easier and to make the portal safer. We made the portal into a central hub for coaches and the other group of mechanics. The coaches will give mechanics feedback via this portal, and the mechanics will be able to view their given feedback without the trouble of excel sheets.

This command has been executed by Mitch Dorrestijn, Erik van Elten, Jurjen ten Hove and Patrick de Koning commissioned by: Allinq.

WINNOVATION

PinkRoccade Elasticsearch

Nowadays it is crucial to support substantial decisions with data, but where does this data come from? For PinkRoccade Healthcare it is important to understand how their employee portal is used by its 90,000 users. Two months of analyzing the needs and wishes of multiple stakeholders and the security requirements regarding personal data, led to the decision to implement the Elastic stack. This solution provides access to the required data to visualize click paths, error messages, most visited pages and loading times in an appealing dashboard.

This command has been executed by Judith Bregman, Jeroen Dekker, Michael Semper and Rowan van der Zande commissioned by: PinkRoccade Healthcare.

Games

Concept & Creation

EduAR

EduAR brings augmented reality into the educational world. Children can use their devices to answer questions asked by realistic 3D models rendered in the real world. This innovation motivates them to learn and explore new things through the lens of their device's camera.

This command has been executed by Tim Meermans, Conor Murphy, Wesley Pleijsier, Henrico Nagelhout, Robert Bisschop and Ainhoa Abad.

Game studio

VR Escape Room

The firefighters need to practice how to deal with different accidents, but it's impossible to train with dangerous hazards in real life. That's why we are creating a virtual escape room to let them practice their skills and knowledge in a realistic and safe environment.

This command has been executed by Hendrik Provily, Bas de Boer, Willmar Knikker, Perry Verduijn and Lex van der Stap, commissioned by: Fire Department.

WIN**NO**VATION

Game studio

Code4

Code4 is a serious game which helps police officers with learning how do deal with armed and dangerous people in indoor situations. To immerse the user as much as possible, a combination of Virtual Reality and 3D scans of real buildings are used. A supervisor is able to control the actions of the NPCs, which will make sure that there will be an interesting dynamic between the player and the environment.

This command has been executed by Marijn Blank, Lisa Boks, Roeland Draayer, Gijs Gerritsen, Nicander Mohrmann and Chiel Smit commissioned by: Dutch Police.

Game studio

BART!VR

A vitual reality game that creates awareness about BART!. BART! is a system the national police has been working on for a long time and wants to implement in society. You can play as a everyday citizen to experience how BART! can benefit us all or you can play as the control room and see for yourself how BART! works.

This command has been executed by Marnix Annema, Kevin Wagenvoort, Miranda Jansen, Erwin van den Bor, Matthijs Beld and Floor de Koning commissioned by: Nationale politie.

Games

Circular economy

Our project is a serious game for the company Waterschap Zuiderzeeland. In our game we have to introduce 1st year MBO students to the subject which is circular economy. Our game is a 2.5D platformer in which you explore a flooded city in order to get information about circular economy and save your world.

This command has been executed by Christy Zandhuis, Niels van Warmerdam, Jean Poree, Jorik Sonneveld, Bram Paschedag and Sietse van der Zee commissioned by: Waterschap Zuiderzeeland.

Game studio

Climate Escape Room: Adapt or be Trapped
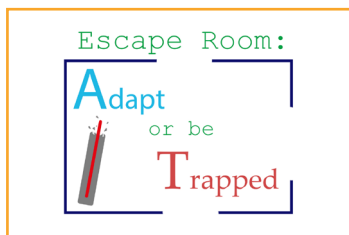
We're building a mobile climate escape room to make people aware of the climate change. You have 20 minutes to escape the room. Doing all sorts of puzzles that teach you how to adapt at your own house and neighbourhood to put an end to climate change.

This command has been executed by Wesley Bosman, Romy van Marion, Bastien Trichereau, Bernd Kolkman and Rick Geersing commissioned by: Municipality of Zwolle

WINNOVATION

Vrehab

Feeding chickens, milking cows and rehabilitating at the same time while staying in the comfort of your own home? Thanks to the wonderous world of VR this is not just some dream, but reality.

VRehab is a project designed to motivate people to do their rehabilitation exercises from home.

This command has been executed by Lisa Albers, Amjada Ladhani, Luc Nusmeier, Jelle van Ommen and Kevin Wedman commissioned by: Vogellanden.

Code Hero

Code Hero is an educative application that uses gamification to help students with programming. The game features two modes: Campaign and Code Arena. The campaign features a story line that revolves around you and several

teachers from Windesheim. You will have to solve programming puzzles to progress.
In Code Arena you can queue up to battle other players. You and your rival have to solve lines of code. Who solves the most in the least amount of time wins!

This command has been executed by: Roderik Rasterhoff, Manuel Zuurman, Jens Kresse and Jeroen Kwee.

WIN**NOVATION**

Quality software development

Innovation applied Virtual Reality for paralysis rehabilitation treatment

Vogellanden has started a gamification project to make rehabilitation a bit less daunting for clients. Over a two year period, multiple groups of students will participate in the project, each group tackling a different part of the project. For our part of the project, we created an algorithm to recognize incoming data, add additional data on top of the incoming layer to calculate progress and then send it all to a database where an occupational therapist can see the results of the client's efforts.

This command has been executed by Marco van Oosten, Rutger Hol, Roy Oosterik, Thomas Vuister, Hotse van der Meer and Jeffrey Norder commissioned by: Lectoraad.

WINN**O**VATION

DICTU IAM

One of the largest IT service providers in the central government which support primary processes of the likes of Ministry of Economics Affairs and Climate Policy, and the Ministry of Agriculture, Nature and Food Quality. That service provider is called DICTU (Dienst ICT en Uitvoering).

The tasks at hand contains a research that needs to be conducted about the decoupling of authentication and authorization in a cloud environment. Requiring a set of protocols to be researched and tested, to result in a proof of concept. Curious to see what this all entails? Come by our stand for more information!

This command has been executed by Wernard Verwey, Martijn Bouw, Sander Tervoert, Jeffrey Hoek, Lex Krijnen and Justin Cageling commissioned by: DICTU.

Applying machine learning to network monitoring

We have done researched if there are any existing open source solutions to implement machine learning on network monitoring. To implement theoretical solutions, we have developed work-flows to assist businesses in making decisions on network security and machine learning.

This command has been executed by Robin ter Haar, Sven van Veen, Remco Stoelwinder and Dyon Ramselaar.

Security

Applied IT security

SOC in the Box

IT is expanding and changing rapidly, and with these changes, the security requirements changes as well.

Companies need to focus on security, one of the ways to accomplish this is by implementing a Security Operation Center (SOC). Implementing a SOC is one of the requirements to be ISO27001 compliant. Which is a certification that shows that companies handle data in a secure and responsible manner.

This project focuses on implementing a single box which can analyse data for possible security threats. The goal is to realise a generic SOC in the Box solution which can be implemented in different companies.

This command has been executed by Marvin van Dalen, Daan van Zijl, Nawied Goelab, Joey van Gelder, Ryan Brugman and Seyfullah Kafali.

Applied IT security

Anoniem internetten

For the belastingdienst we created and designed an environment in which researchers can perform anonymous online and social-media research. For this we had to overcome problems such as canvas fingerprinting, cookies and other tracking technologies. Besides the technical challenge we also had to deal with GDPR-compliance and other regulations.

This command has been executed by Jerry van Beek, Twan Veldhuis, Bart Bosman, Nick Meulman and Jacco Rieks.

WINNOVATION

Akula

We have developed a Security Operations Center for use at home. This device is named Akula. Akula is a security and monitoring device for home networks. Our user interface requires no prior technical knowledge

and helps users learn about their cybersecurity. We would describe the device as compact and inexpensive. Akula scans the whole network and gives visual insight in the vulnerabilities of your home network.

The number of devices in our networks keeps increasing and cybersecurity is becoming ever more relevant.

This command has been executed by Martijn Koopman, Elisa Sleking, Danny Grootjen, Maarten Smits, Roland Kasteel and Leonoor Slijfer.

ICS Forensics: A deep dive into the forensic possibilities of Industrial Control Systems

With industrial systems being connected to the Internet, the danger of cyberattacks to the workflow of industrial processes keeps

increasing dramatically. While there is a big push towards prevention and detection of cyberattack, there is yet to be a structured approach to forensic gathering, processing and analysis of industrial systems. The focus of this study is to explore the forensic possibilities of Industrial devices and to realize a procedural approach.

This command has been executed by Arjan Kleefman, Bram Pierweijer, Daan Kloetstra, Joppe Oostenrijk, Jurgen Kamp and Michael Willemsen commissioned by: Actemium.

WINNOVATION

Security

MatrixMind

We find out how virtual machine images can be deployed securely by making use of hardened images. These images will be hardened according to the standards set by the Center for Internet Security (CIS).

This command has been executed by Alwin Eizema, Alex de Haan, Jimmy Fredriksz, Erik Hofman and Pieter Hakvoort commissioned by: MatrixMind.

Applied IT security

CIS Security Automatisation

The goal of this project is to create a system which will automatically apply CIS guidelines to existing VM's in a multi-cloud environment and provide hardened images for new VM's and containers. This is integratable in a centralized customer GUI page where they can inspect, manage, and change their current situation based on the available data and analytics.

This command has been executed by Koen Diender, Floris van den Hoogen, Berend van der Velde, Rob Holterman, Erik Neuenfeldt and Jeremy Gerding commissioned by: Matrixmind.

WIN NOVATION

AWS Security Monitoring System

A security monitoring system for Amazon Web Services(AWS).

In this project we have researched different security risks and scenarios by doing this we can make a AWS Cloud environment that is safe to use and easy to monitor. Using systems like Security Hub, GuardDuty, CloudWatch, Inspector and Web Application Firewall(WAF).

This command has been executed by Pieter Barelds, Floris Kikkert, Patrick de Kruijf, Frank Wijmans, Tim Peters and Deborah Bruins commissioned by: Quintor.

Modular Forensics Lab

Cracking passwords can be a tedious routine, until you try our solution. With our Modular Forensics Lab, we utilize external computing and specialized tools to massively increase effectivity. We will be proud to show you how, at the Winter Edition of Winnovation.

This command has been executed by Jens van de Vis, Richard Leusink, Cihan Özbilir, Jason Kartodimedjo and Bert Jan Otten.

WINNOVATION

Security

Log analysis

Improve your IT-Security by integrating Log analysis into your corporate network! Get valuable insight in activity of clients, devices, servers, and more. Generate alerts when unexpected activity occurs anywhere on the network. Support your IT-staff by automating, auditing and logging. Act proactively on potential events and prevent them from happening by analyzing logs in real-time.

Team Hurricane is designing an open-source solution with generic documentation which can be rapidly transformed to meet your business needs. Are you curious what log analysis can do for your IT-security? Visit the Team Hurricane stand!

This command has been executed by Melvin Winia, Aaron Kuilman, Patrick Schoot, Krissy van den Berg, Dana de Weerd and Christiaan Bergstra commissioned by: Windesheim.

## Applied IT security

DNS Threat Blocker

Every organization has to deal with the protection of connected network devices. We've designed a solution using only opensource, free software so that the only cost is the hardware it runs on. Our system uses the domain name system (DNS) to filter out traffic connection to domains that are known for malware or other dangers. Because we use DNS it works on every device that is connected to the internet without installing any additional software on it. This is the ideal scalable free and opensource solution to defend your devices against malware without any hassle.

This command has been executed by Noah Venema, Erik Liibaan, Kjell Arendsen and Remco Mulder commissioned by: Windesheim University of Applied Science.

WIN**NOVATION**

Security Awareness Programma

The weakest link in security is humans. That is why having proper security awareness within a company is important. Team Madras has been tasked with finding out the current level of security awareness in a predetermined department within Windesheim and see where and how improvements can be made, as well as inform teachers on how they can be more aware in how they treat data.
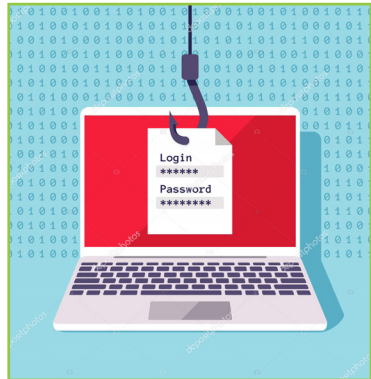
This command has been executed by Nadia Peereboom, Jasper Slatius, Ben van Ommen, Preetwie Bhagali and Ricardo Brouwer, commissioned by: Windesheim.

Automated vulnerability scanning

Our client has an interest in using a tool that helps them identify and remediate vulnerabilities inside their network. Therefore they instructed us to research the different possibilities concerning an automated vulnerability scanner. These vulnerabilities can appear on switching devices, like routers and switches, but also on intermediate devices, like laptops, desktops and smartphones.

Almost any device you can think of. Our goal is to select and implement a product that fits our clients needs.
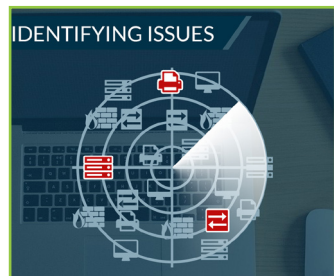
This command has been executed by Melvin Drost, Matthew Martens, Jeremy Van der Veen, Leslie Schoolderman and Gerson Mendoza Fuentes commissioned by: Windesheim.

WINNOVATION

Security

Security Solutions in an Azure (hybrid)-Cloud environment

A research had been done as a result of the Info Support assignment, about securing Microsoft Azure. This research focuses on two different (hybrid) Cloud environments in Microsoft Azure. Security issues is the main subject , but other aspects are also investigated if necessary.

The goal of this research is to answer the main question:

"What best practices and / or options are there to protect an Azure (hybrid) Cloud environment?"

This command has been executed by Rick Paassen, Tom Schelhaas, Max Pathuis, Julian Branderhorst and Siro Fernández-Roos commissioned by: Info Support.

Security Engineering

Vulnerabilities of Operational Technology Systems in cyberspace
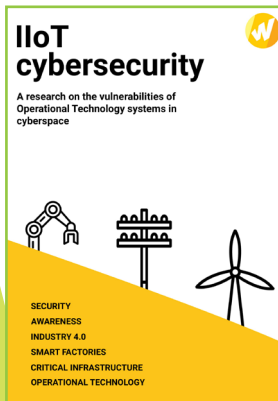
This research is aiming to create awareness of the risks at companies using operational technology systems in their critical infrastructure which may put their operations in jeopardy.

With the uprise of industry 4.0, more companies are tying their OT and IT together in order to increase efficiency and boost effectiveness. However, many companies don't realise the risks and dangers that come with connecting OT to the cyberspace. This research looks into the risks of the vulnerabilities that may be exposed when connecting OT with IT and what companies can do about it.

This command has been executed by Jeroen van der Meulen, Daan Vledder and Justin Menges.

WINNOVATION

SSA

SSA has worked on a functional Virtual Desktop Infrastructure to be used by students working on projects in the Young Professional Track at the Police East-Netherlands.

The goal is to simplify the students screening procedure and speed up the start of a project. The student desktops are Linux based and located in a secure environment, with a range of different services and applications. By monitoring and scheduled backups, the environment is secure and handled by the administrator(s) in an easy and functional way. With this infrastructure, new needs and wishes can be implemented as seen fit.

This command has been executed by Marlon Leerkotte, Remon van 't Hul, Rik Heesink and Jennifer Nyqvist commissioned by: Politie Oost Nederland.

BlueNet

New techniques, in this case Serious Games that are used as training aids, are difficult to

share with other locations within the police and with other security services. The Digital Simulations Network is an initiative to share these techniques. The Dutch police and NDS therefore require a Proof of Concept (PoC) for a platform where these games are available so that the Serious Games can be used in multiple locations.

This command has been executed by Marnix Ober, Bram Pieters and Michael van der Knoop commissioned by: Politie.

WINNOVATION

Smart

Couno Smart Desktop

Couno creates synergy between hard and software. This means that you can work more efficient every day, thanks to our smart desktops. We design your environment in accordance with our expertise. With this in mind you only have to worry about your own work and let us take care of the rest.

This command has been executed by Jan Willem Casteleijn, Rob Timmer, Sander Laan and Jarco Gunnink commissioned by: Couno.

Future technology

Eye Tracking while driving

Every person can only focus on 8 degrees of their full view. These 8 degrees is what you really see. One of the major topics in the driving school for the Dutch Police Academy is viewing behaviour. Students are taught where they should focus on, for instance while they are in pursuit. To make viewing behaviour easier to teach, the academy is looking into implementing eye tracking in their driving school. Our project group researched eye tracking and the possible application in the driving school of the Dutch Police Academy.

This command has been executed by Kevin Prins, Niek Frazer, Tobias Lootens and Wilbert de Boer commissioned by: De Politieacademie.

WINNOVATION

LightCalender

De LightCalender is een fysieke agenda met een laag energieverbruik die zich focust op de zorg. Via dit systeem kan een zorginstelling afspraken en herinneringen toevoegen op de fysieke agenda van de cliënt. Natuurlijk kan de cliënt zelf ook afspraken inzien en verwijderen. Wij van Light-Calender vinden het van groot belang dat ouderen geen belangrijke afspraken of herinneringen missen. Daarnaast vinden wij het belangrijk dat ouderen sociaal betrokken zijn om eenzaamheid te ontmoedigen. Daarom maken we de verjaardagen van hun dierbaren inzichtelijk. De zorginstelling kan via een online dashboard afspraken aanmaken en deze gemaakte afspraken inzien, aanpassen en verwijderen.

This command has been executed by Nick Assink, Jan van den Berg and Jamie van Achteren.
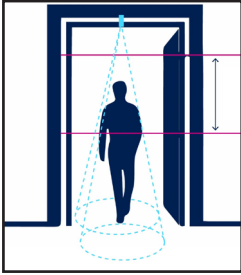
Speeding detector

A black box to be installed in every car in Ghana. It collects location data to detect speeding and give fines, and it detects accidents.
This command has been executed by Koen Rüwen, Ivan Molenaar, Delano Rémy, Antal van Ravensteijn and Jorick Versteeg commissioned by: BE Precision.

Internet of Things

People Counter

Our People Counter does exactly what the name tells you: counting people. This is used for the rental of flexible workspaces so the owner of these workspaces can get an overview of what's happening in his workspaces. The sensor can easely be placed above the doorway of one of his rooms. After that, it will detect people walking in or out of the room and sends this data to a server. This way, the owner can get an insight of what time people move in and out of the workspace and how many people have been working there. Our main goal was to make the People Counter extremely low power, so it could last years with only one batttery. If you're interested in how we achieved this, please take a look at our stand where we're eager to explain you the technical details :D

This command has been executed by Leon Hans, Joost Hartkamp, Jos de Muijnck, Matthijs Prent, Jarom Wiersma and Ard Zomer commissioned by: Interay.
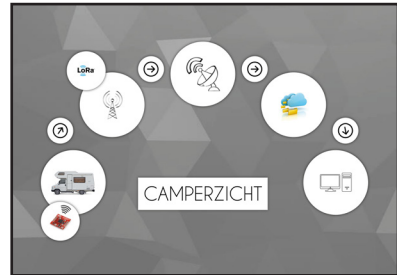
Internet of Things

conIoTainer

MA-IT produces all kinds of different software and hardware solutions. One of these is a sensormodule that collects the fill-level, temperature and location of a container containing chemicals. The data is sent to a server where it can be accessed. Based on patterns in the collected data, an algorithm tries to predict the moment a container needs to be refilled or replaced. Instead of calling when necessary, the process of sending a truck for refilling will be automated. Next to reducing costs, this will also be more environmentally friendly because routes can be planned in a more efficient way.

This command has been executed by Christiaan van den Berg, Niek de Bruin, Jeroen Elferink, Albert van Nijhuis and Sander Wijngaard commissioned by: MA-IT.

WINNOVATION

Internet of Things

Camperzicht

The goal of our project is to develop an Internet of Things device that can detect if a campervan has made use of a camper parking spot. Our device will be making use of an MLX90393 electric field sensor to detect if a camper is parked and a RFM95 LoRaWAN chip that will transmit the information. At its core there's an ultra-low-power STM32L011K4 microprocessor, which is powered by a battery that will give enough energy to last for a whole year. The results will be saved on a server, which can then be seen by the product owner.
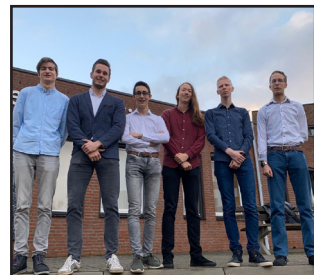

This command has been executed by Bert-Jan Koerts, Bram Kas, Sjoerd Plat, Rik Prenger, Victor Woord and Wibo Wester commissioned by: Gemeente Coevorden.

Quality software development

VR Rehabilitation Using Mirror Therapy - Hand Gesture Recognition - Deep Learning AI

Rehabilitation after an accident can be a lengthy process, especially when a limb is temporarily paralyzed. Continuing to stimulate the brain is important to ensure that the rehabilitation process runs smoothly.

A commonly used form of therapy is mirror therapy. The brain is fooled, and it seems that a paralyzed or amputated limb is still moving. This method of rehabilitation has been reinvented in VR. To make use of this method the patient has to conduct a series of movements. To see if the patient has performed these movements correctly. A deep learning system is created to recognize these movements.

This command has been executed by Jordy Weening, Jelle van Urk, René Duivenvoorden, Felix Beuving, Buster Bosma and Bram Nijenkamp commissioned by: Vogellanden.

WINNOVATION

Smart

Smarter Machine Learning for Diabetes Care

Yearly about five million adults worldwide die from diabetes type 1. When blood sugar levels increase after digesting carbohydrates, insulin is released to absorb glucose(sugars) into cells for energy and storage. The human body of a Diabetes patient is unable to release insulin on its own. Diabetes patients must inject insulin themselves. To give better advice to diabetes patients about the amount of insulin they should use, we try to generate machine learning models which give this advice. To measure the accuracy of these machine learning models without risk to patients, we simulate a diabetes patient based on mathematical models. This command has been executed by Nick Smeding, Matthias de Beer, Xuwei Hu, Tom Verra, Gertjan Brouwer and Mike Schrijver commissioned by: Windesheim Lectoraat.

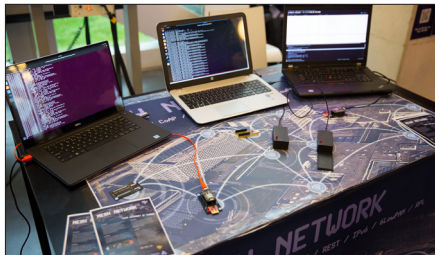## Web & analytics

Chatbot van Univé
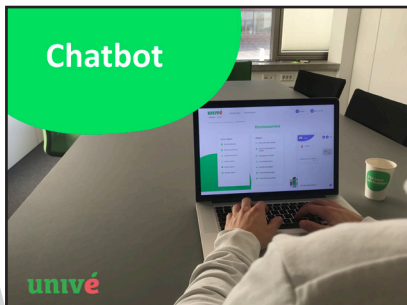
Keeping up with the times, customer satisfaction, saving time and money is what every company is all about. We have improved Univé's chatbot, which is used by thousands of visitors. Our goal is to make the chat transparent and measurable with the help of smart analyzes. All statistics, performance and customer experiences are displayed in Power BI. Our proof of concept will be used by Unive to improve the service and customer experience. So smart that you no longer notice that it is a bot!

This command has been executed by Sifra Aalvanger, Christiaan Bruijnes, Joris van Est, Jorn Holterman, Erwin Rozema commissioned by: Univé.

WIN**NOVATION**

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Gemeente Emmen

Windesheim

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ICT-innovaties in de Zorg
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FLEXYZ

seven stars

ilionx
Assured IT Solutions

Breman

Belastingdienst

netivity
internet software

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Zwolle · IT City

allinq

think wise.

POLITIE
«waakzaam en dienstbaar»

Praegus
Intelligent Compassionate Testing

ARCADY

outsystems

infoSupport
Solid Innovator

Ligt jouw toekomst aan de overkant?

DE NIEUWE ZAAK
DIGITAL COMMERCE

Check nu je toekomst in IT

Vitens
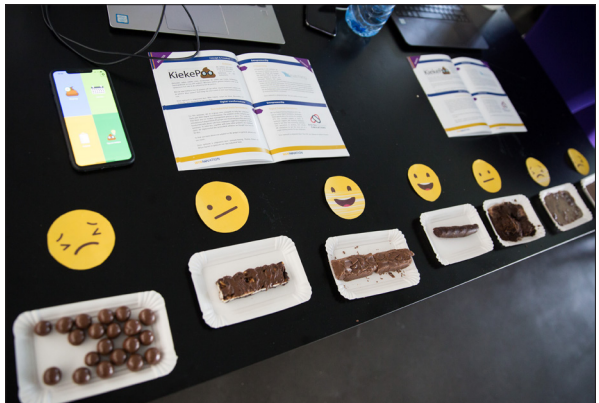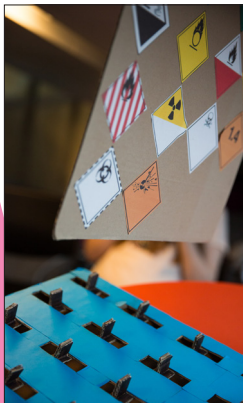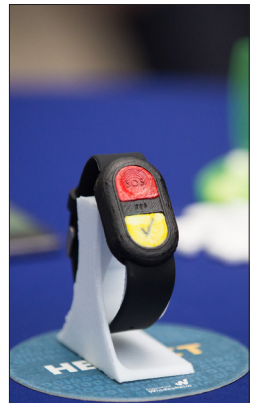LAAT WATER VOOR JE WERKEN

DilemmaManager

MANSYSTEMS

Niverplast
PASSIONATE PEOPLE

COOL PROFS
Rapid. Development. Partner.

WIN**N**OVATION

WIN**N**OVATION