

## NIT Students Develop Prosthetic Glove

**Hamburg, 11 October 2018:** With their start-up TwoFold, Cherisa Nicholls and Melissa Gile want to make life easier for prosthesis carriers. With a combination of state-of-the-art sensors and a gaming app, the engineers want to conquer the health sector.

Approximately 1.3 million Americans have a prosthetic arm. However, about 60% of these patients have problems with fully utilizing their artificial limb. Too high expectations and a lack of training quickly lead to frustration and often to rejection of the bionic limbs. With costs between 10,000 and 100,000 US-\$ per prosthesis, an unsatisfied patient is not only emotionally but also financially burdened.

### Artificial prosthesis becomes functional arm replacement

Die NIT students Cherisa and Melissa have addressed this problem and want to help prosthetic patients. The aim is to create opportunities for patients to practice at home, outside of physiotherapy. "Even though there are a large number of different types of prostheses, the complementary therapy options offered by manufacturers are still limited. There still is a gap in the market in this area," explains Cherisa. Every year, approximately 10,000 people receive an advanced prosthetic arm for the first time in the US. Melissa and Cherisa want to help these new users in particular during the difficult initial training phases.

After interviews with patients, physical therapists and doctors, the idea was born to develop a prosthetic glove with an accompanying app. The glove is connected to the app via Bluetooth. Flexible sensors in the individual fingers detect every movement and illuminate small LED lamps as soon as a movement occurs. With the app, patients can practice anything from standard movements to precision exercises, and have fun at it too. Everyday things such as holding a coffee cup, cutting food or throwing a ball are made possible again with a little training. A glove would cost about 600 US-\$ - app included. Not too much, considering the high cost of a prosthesis.

### Reaching for the Future

Melissa and Cherisa are currently writing a detailed business plan. The next steps would include discovering funding options and testing their prototype for a longer period of time. Whether the two will really go to the market with their prosthetic glove is still uncertain. Nevertheless, they have a tip for other potential founders: "It is important to always take an "idea book" with you. In case an idea crosses your path at university, at work or in everyday life".

### About the founders

Melissa, who originally comes from the US, and Barbadian-born Cherisa got to know each other during their master's studies at the NIT Northern Institute of Technology Management. At the NIT they are studying "Technology Management" (MA/MBA) in parallel with a MSc at the Hamburg University of Technology (TUHH). "Although we were initially worried that our very similar technical backgrounds might be a problem," says Melissa Gile, "we quickly realized how well we work together as business partners." The international team is supported by Amanda Woodcock, who lives in the USA and was mainly responsible for the development of the prototype glove.

## Starting a Business at NIT

At the NIT Northern Institute of Technology Management, students can launch their own start-up. In the specialization module "E-Track: Entrepreneurial Management" they are familiarized with relevant entrepreneurial tools and concepts. "The NIT mentors helped us the most. The feedback, support and criticism that we received during this time, was very important," says Cherisa. The E-Track covers the entire process from finding a business idea to resource allocation, sales and marketing. The goal is to promote ideas and technologies that have a positive effect on the society and environment.

## About the NIT

At the NIT Northern Institute of Technology Management, talents from all over the world learn how to take on management tasks responsibly. Together with the Technical University of Hamburg (TUHH), the private, non-profit educational institution offers an English-language double master program: Engineering Sciences (MSc) and Technology Management (MBA). The NIT was founded in 1998 by 40 professors of the TUHH as a non-profit limited company. It is financially supported by various foundations and companies. The NIT is located on the TUHH campus in the south of Hamburg.

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