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Making Ideas Reality

I.D. Van der Walt

Make today matter

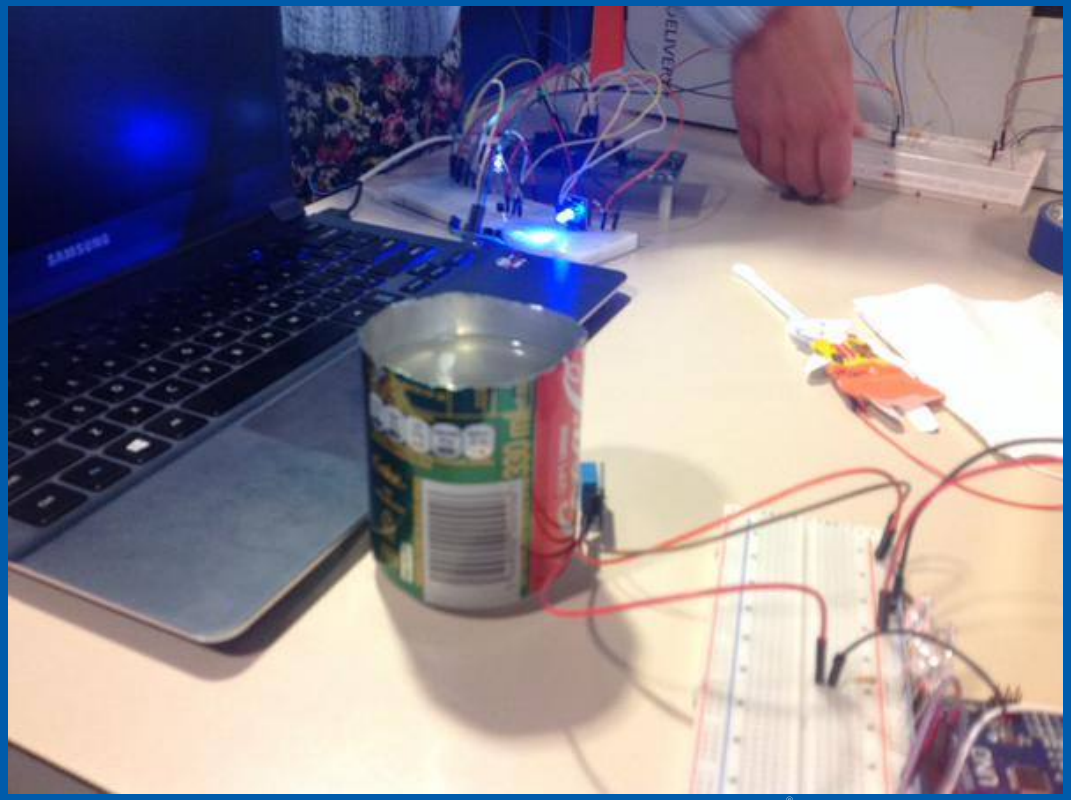
Meet your future client….

Why should we evolve?

- Students have moved beyond the point of consuming information. Today students want to apply what they are learning / consuming.
- Provide a enhanced learning experience.
- Upskill students with hands-on experience.
- Better prepare them for the job market.
- Stimulate research and innovation.
- Staying relevant.

What do they create?

- Creation can be of a digital or physical nature.
- Objects that form part of their current curriculum.
- Can be a hobby or self-enrichment related project.
- Objects, processes, material and designs that are not the norm for standard library services.



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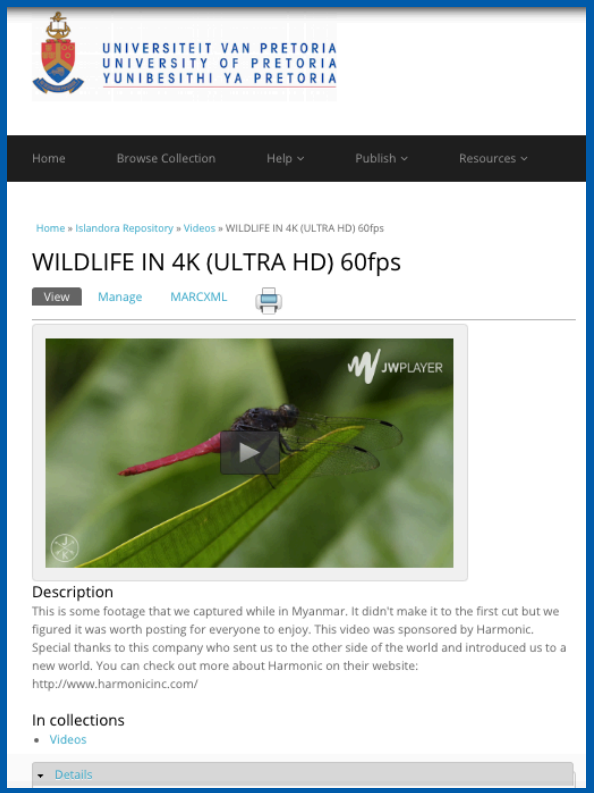
What do they create….?

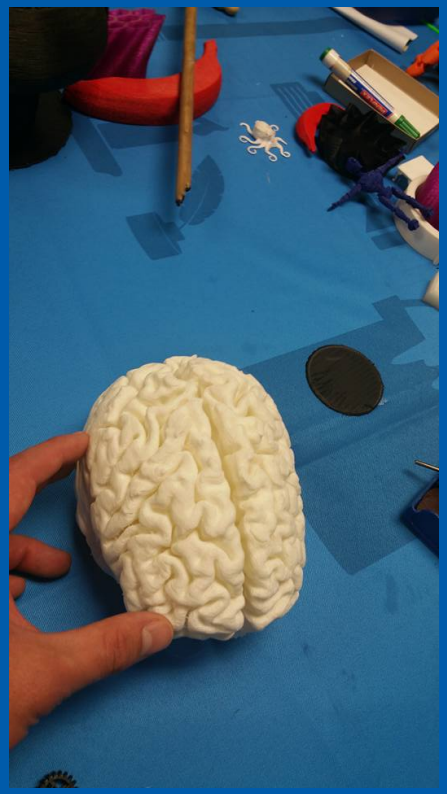
Aim of study

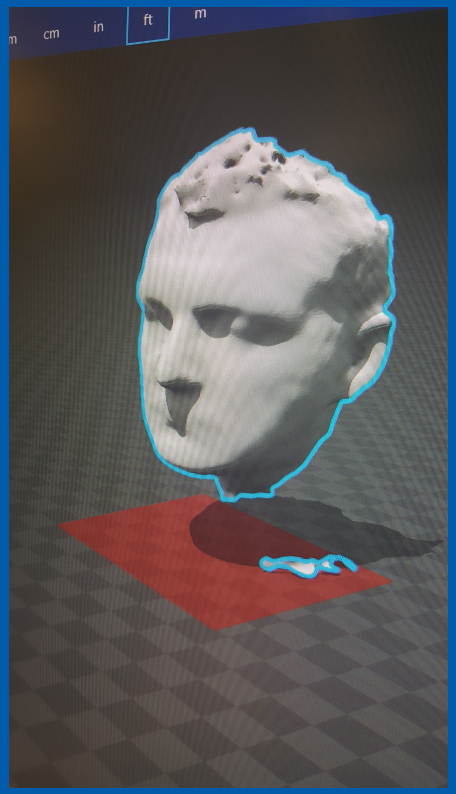
- Theoretically develop a model and experimental setup.
- Research, design and build a low cost hydrocyclone.
- Compare its experimental performance to a modeled prediction.
- By means of measuring the pressure drop and separation efficiency.
- Literature standards need to be compared to the experimental and theoretical results.

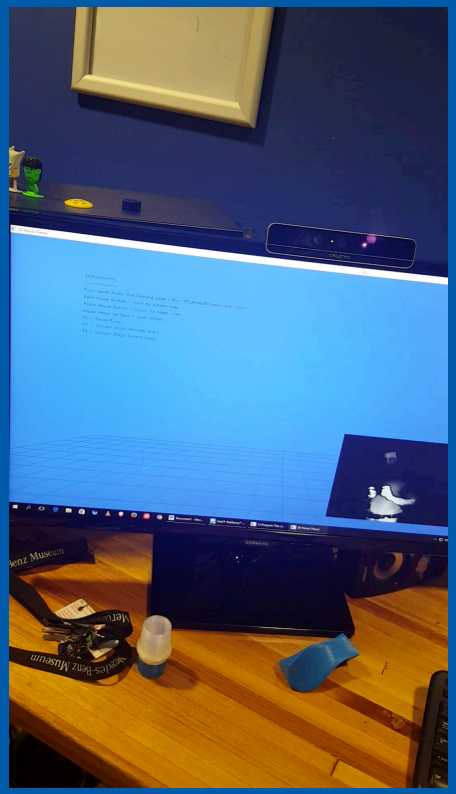
Etienne Roux (10121006)

Examples of creating information…









The Maker Culture

- A contemporary culture focused on technological applications of DIY
- Self driven need for creating, enhancing and discovering
- Dates vary but can be traced to early 70’s (Think about Microsoft’s origins)
- Strong focus on practical skills and application

The Educational Approach

- Emphasis on learning by **doing in a social environment**
- Natural occurrence of knowledge and skills sharing between disciplines
- Shared learning with formal and informal training with focus on self-fulfillment

MakerSpaces / HackLabs / FabLabs

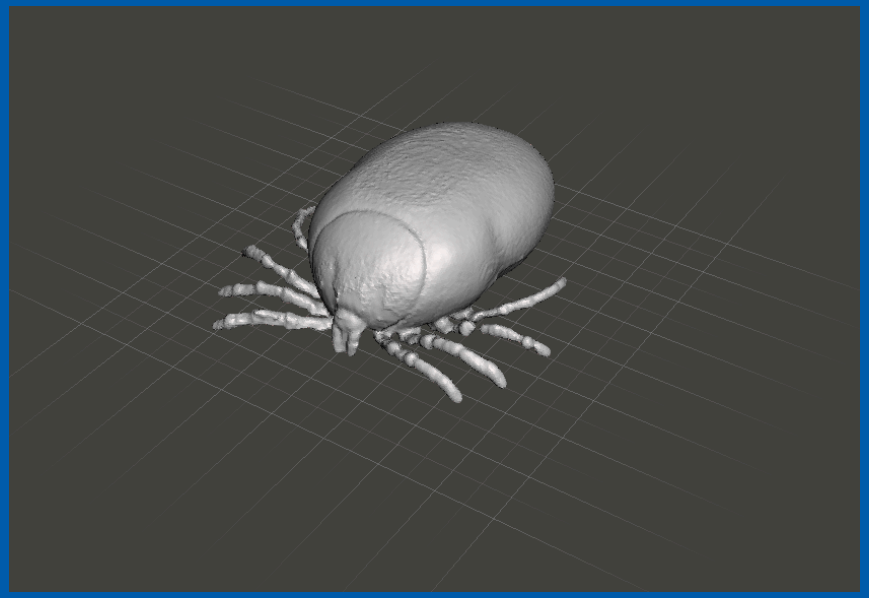
- Physical space where community gathers to share knowledge and ideas
- Location that provides access to tools, platforms and social interaction
- No specific layout
- No specific set of tools
- There are different subcultures of MakerSpaces with needs based on the requirements of organizations

Become Integrated & Network

- Libraries are one of the most connected service units on campus –act on it!
- Be aware of existing services and infrastructure.
- Share what your clients are doing:
  - Internally & externally.
  - Look for collaboration potential
- If you don't know, someone within the Library will know.

Integrating into teaching and learning - VetSc

Integrating into teaching and learning - VetSc



Integrating into teaching and learning – MVS

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News

UP's MakerSpace hosts Manufacturing Systems module award ceremony

Back

13 June 2016

On Tuesday, 31 May 2016, the Department of Library Services' MakerSpace, in collaboration with the Department of Mechanical and Aeronautical Engineering, hosted an award ceremony for Manufacturing Systems (MVS311), a third-year Industrial Engineering module.

In his opening remarks, Dr Lukas du Plessis, lecturer for MVS311, explained that, as part of the module, students had to work in groups and use 3D printing to design and build a device that could be used to improve the life of a person or an animal. Each group presented its final design to a panel of judges, which included Prof Sarma Yadavalli, Head of the Department of Industrial and Systems Engineering; Prof Schalk Kok, Associate Professor in the Department of Mechanical and Aeronautical Engineering; Mr Isak van der Walt from MakerSpace; Mr Gavin Leggott from Rapid3D; and Mr Gordon Muller, an entrepreneur.

The first prize went to a group of students who utilised 3D printing to improve the traditional walking stick. The group tested their design with students from the Disability Unit, who were impressed by the new product. The group explains that their main purpose was not to reinvent the walking stick, but rather to improve it by adding an attachment that alerts the user to possible obstacles in their way. The first runner up was the Dog Rehabilitation Wheelchair Group, with

The three winning MVS311 groups

Categories

- Arts & Culture
- Research
- News

Integrating into teaching and learning - MVS

→ *Students from the Department of Mechanical and Aeronautical Engineering utilised the MakerSpace for their third-year project for the Industrial Engineering module Manufacturing Systems.*

Integrating into teaching and learning - YSiG

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News

UP students awarded at Youth Spark Innovation Grants Awards ceremony

Back

14 June 2016

The School of Health Systems and Public Health and the Southern Africa Resilience Innovation Lab (SA RILab), in collaboration with the Department of Library Services' MakerSpace, hosted the Youth Spark Innovation Grants (YSiG) awards ceremony for winners of the Resilient Africa Network SA RILab Youth Spark Innovation Grants at the University of Pretoria's (UP's) Hatfield Campus on Friday, 27 May 2016.

At the end of last year, the Resilient African Network (RAN) invited students with innovative ideas and approaches that have potential to strengthen the resilience of communities to submit their ideas in order to stand a chance to win seed grants. Project ideas could be submitted in various categories, including agriculture, health, water, entrepreneurship, gender based violence and livelihood diversification. Applications for the grant were open to students at RAN partner Universities across Africa and closed on 8 February 2016.

During the ceremony, five students from UP and one student from the Lilongwe University of Agriculture and Natural Resources (one of the RAN partners universities) were awarded grants to take their projects to the next level. The winning projects will improve local communities in a multitude of ways. One of the winning projects by Kedumetse Motloutsi a second year mechanical Engineering student, intends to develop a device called the Magnon that produces

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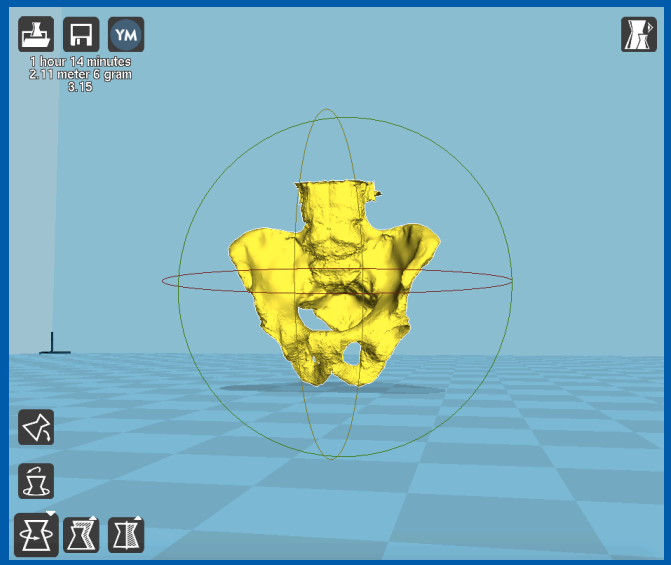
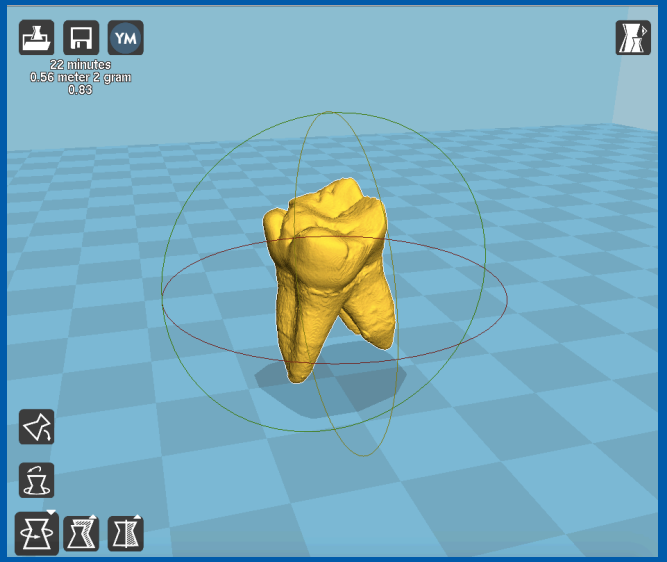
2016 Spring Hackathon

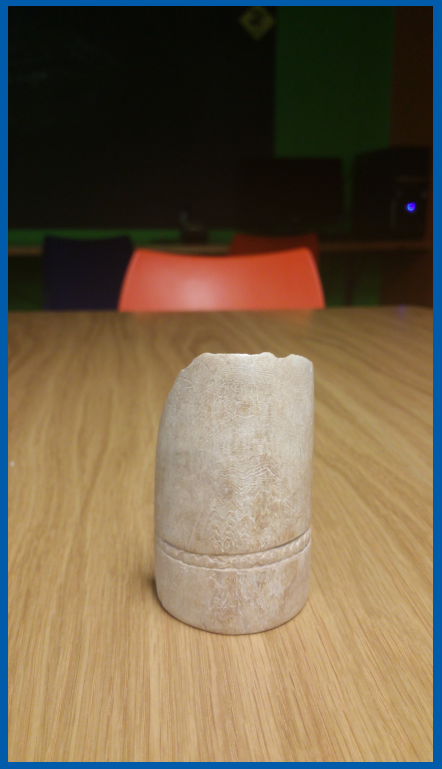
Integrating into teaching and learning…

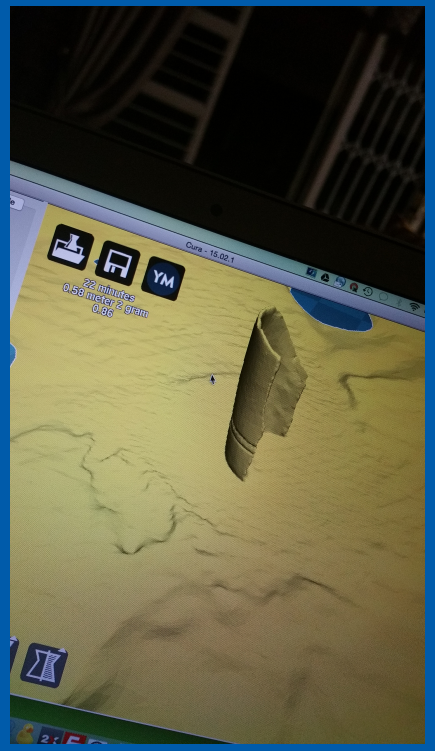




Things we have done – Intel InteliCar

Things we have done…





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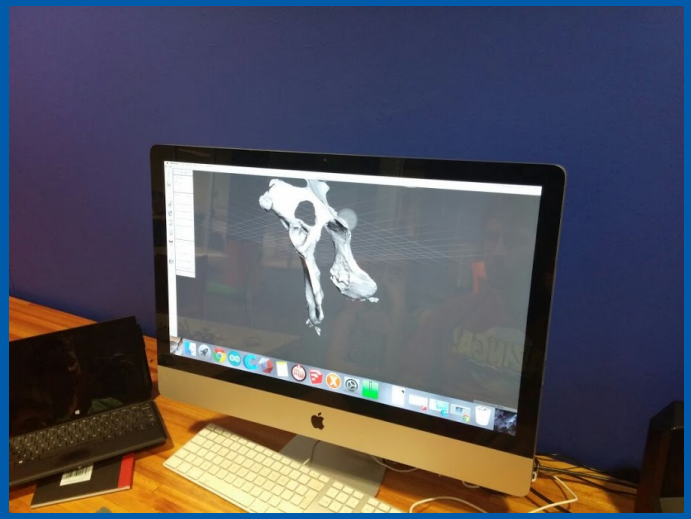

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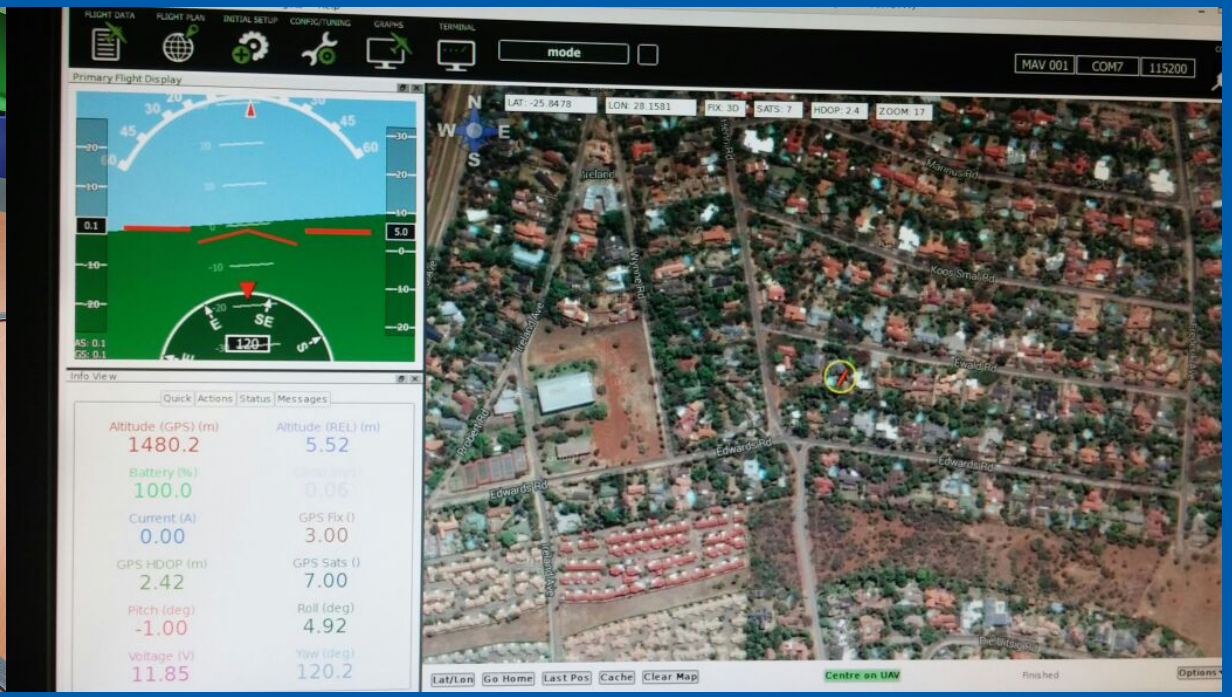

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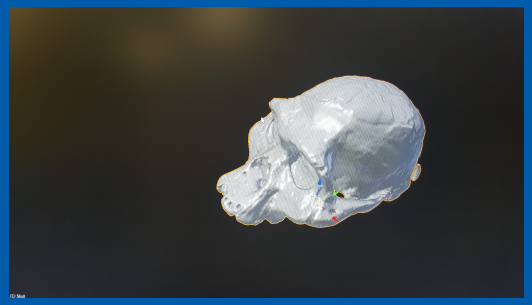

Events that we hosted

- Intel / Rectron Hackathon.
- #GirlCode Hackathon.
- CPD Innovation modules (2015/2016/2017).
- Showcasing of Business Management Year end projects.
- 3rd Year Electro Mechanical Engineering Projects (2016/2017)
- 3rd Year Industrial Engineering Projects (206/2017)
- 1st Year Informatics Projects (2016/2017)
- Youth Spark Innovation Grants (2016/2017)
- LaunchLab Hackathon 2017
- Standard Bank Call for Innovation (2017)

Keep a pulse on the following areas…

- 4th. Industrial Revolution
- Data Repositories
- Data Visualization
- Big Data for *[Insert your discipline]*
- Augmented Reality
- AI & Machine Learning
- Software & Data Carpentry
- Collaboration Spaces
- Entrepreneurial Services

Thank You