PORTOFLIO

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Introduction

Who am I?

M'hassni Mohamed's passion for automation is evident in his work helping companies improve their **service quality** and **profitability** by **automating** their business processes. With varied experience in systems architecture, geomatics, digital marketing, and many other areas, M'hassni brings a unique perspective to every project he undertakes

GIS and Cloud engineer gradueted from EHTP

Microsoft Certified Azure Solutions Architect Expert

A Family Business Success Story

Early Involvement and Passion

- First topography experience at age 12

- Started learning programming languages (C, C++, JavaScript, vba, …) at 13

- Attended a highly selective preparatory program (Math, Physics, Computer Science)

- Participated in various code problem-solving competitions to challenge myself

National podium winner in ICPC the most prestigious programming competition in the world
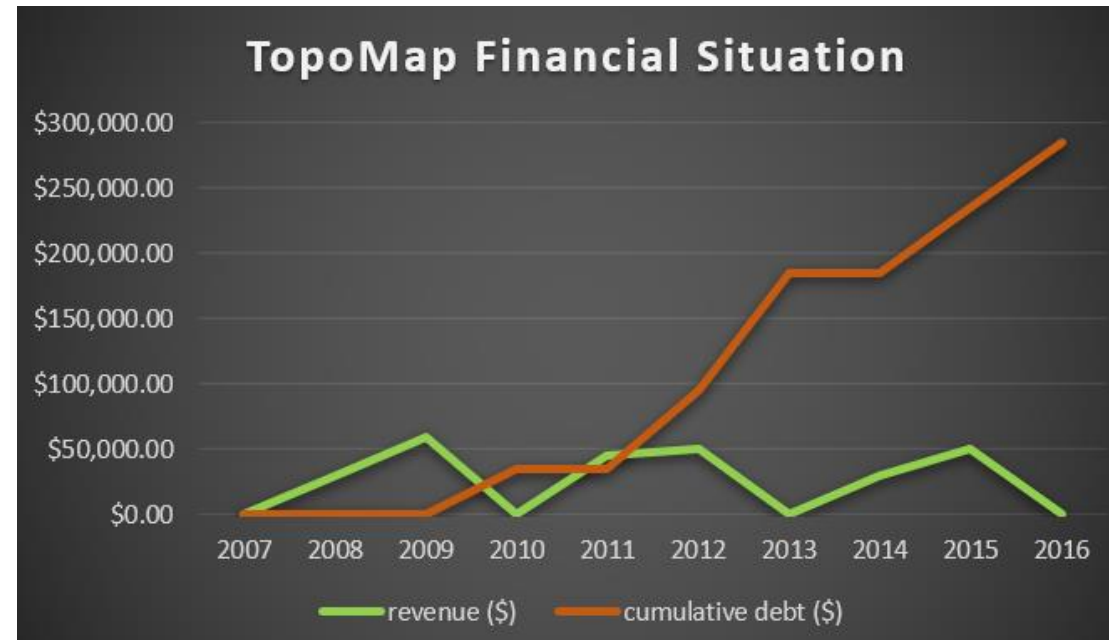
A Family Business Success Story

In the meantime

- **Family business:** TopoMap, founded in 2007

- **Specialization:** B2B Topography and geomatics

- **Financial struggle:** Deficit for 10 years, cumulative debt of $300,000

At **2016** Decided to study Topography and Computer Science at EHTP, the most prestigious school in the country

A Family Business Success Story

Implementing Technology in TopoMap

- Introduced technological solutions to optimize workflow :
  - Business process optimization
  - cloud-based system infrastructure
  - infrastructure networking
  - staff training to new GIS technologies (topographical drones , ArcGIS , 3D models ...)
  - Developed Tools for automating repetitive tasks

- Developed **TopoMap CadGIS** a software extension to manage land title lifecycle according to Cadastral office standards
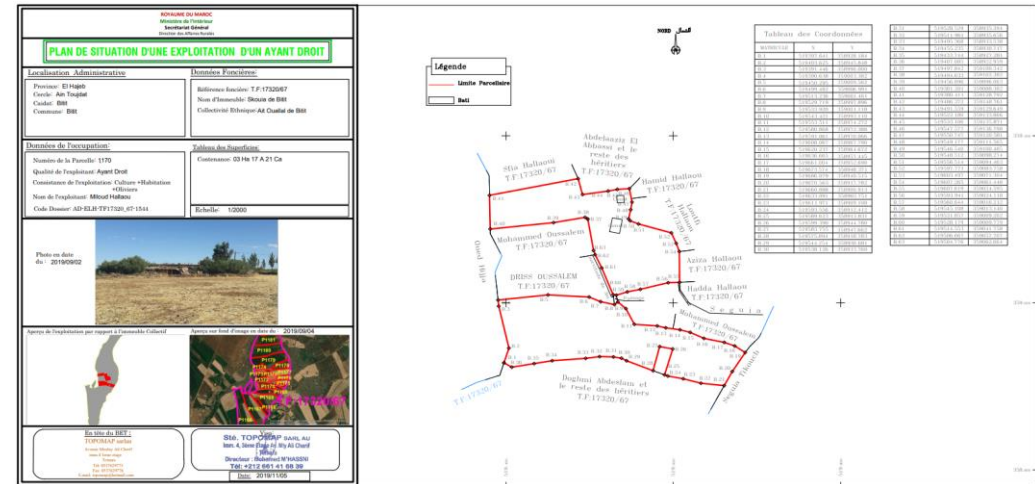
A Family Business Success Story

Taking a Leap of Faith

- Company struggling, but bid on a large public contract

- Required were 25 topography technicians for office work, but TopoMap had **only 4** available

- a **4-month** deadline

fully automated drawing with TopoBot

Decided to develop **TopoBot** a solution to automate most of the plan-making process to meet the project
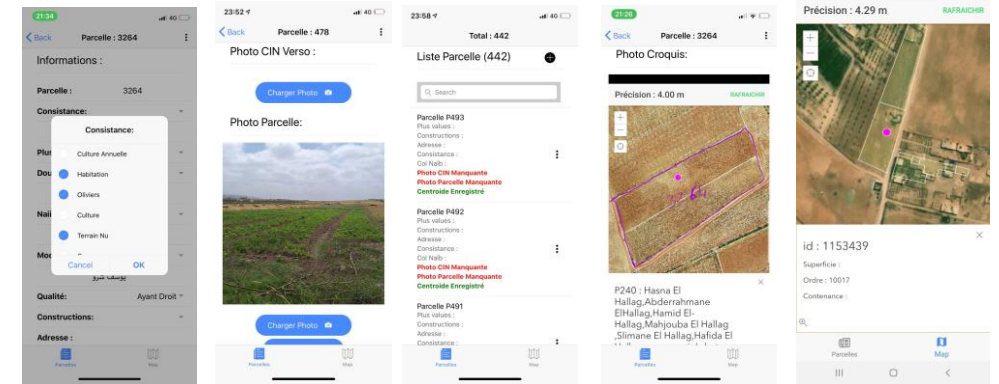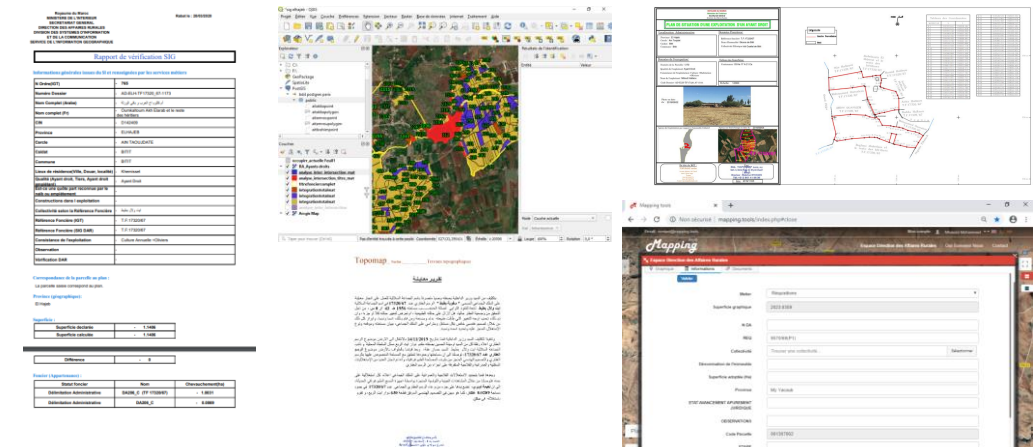
A Family Business Success Story

TopoBot Overview

- Mobile solution for data acquisition

- AutoCAD extension for automated drawing

- Automatic report and parcel sheet generation

- Automated geometric data correction

- Centralized database for real-time data

- Bot script to integrate data throughout the ministry platform

- Cartographic server for drone images

TopoBot Survey Mobile App

TopoBot Survey Desktop

A Family Business Success Story

Project Success

- Error rate reduced **from 60-70% to 1-2%**

- Plan generation time decreased from **2 hours to 5 minutes**

- **7x increase in revenue** compared to the previous years

- Market leader in topography survey sector (short-term)

- All company debt fully repaid

TopoMap Financial Situation

A Family Business Success Story

Overcoming Challenges

The COVID-19 pandemic resulted in a decrease in topographical survey business

In 2021, secured a special public contract for topographic quarry plans with specific constraints that required research work

Special project demands led to developing TopoBot Quarries and related research work

A Family Business Success Story

Innovating for the Special Project

Research Project:

- Research project management to reconstruct quarries with minimal error
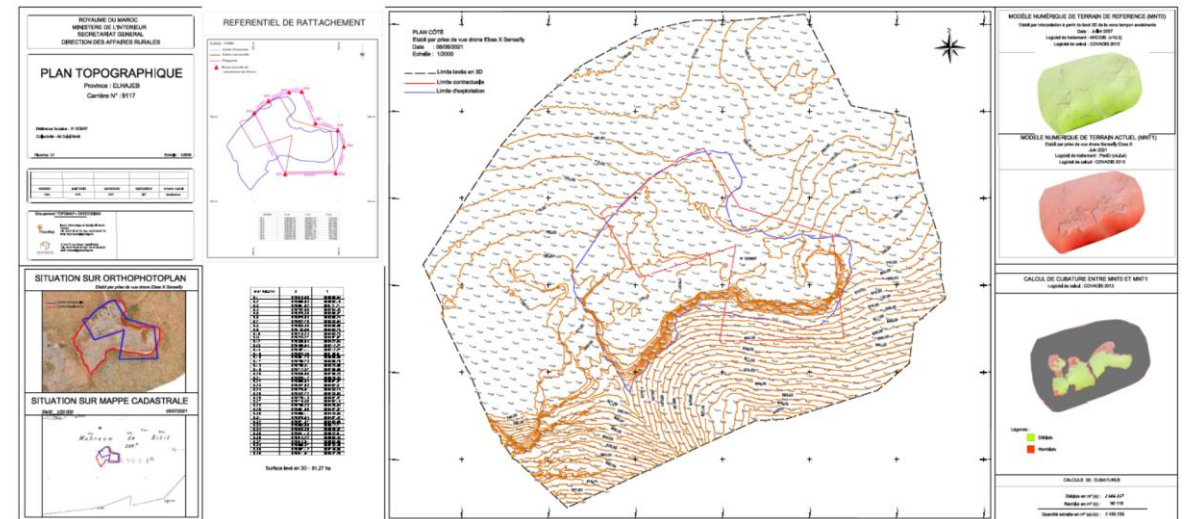
TopoBot Quarries :

- Mobile solution for quarry data management
- 3D drone measurements for 350 quarries
- Automated topographic plan generation
- AutoCAD extension for automated drawing based on Moroccan cadastral standards
- Automatic report generation for each quarry
- Centralized real-time database
- Supervising drone data acquisition in the field

Quarries reconstitution results
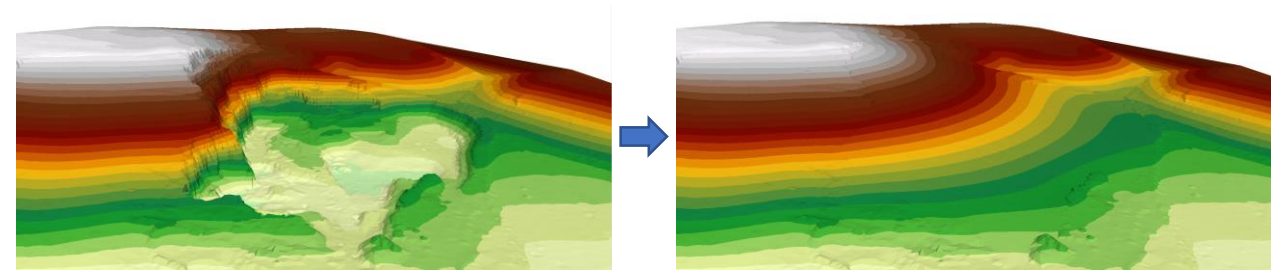
TopoBot Quarries Desktop

fully automated drawing with TopoBot

A Family Business Success Story

Achievements from the Quarries Project

- Error/incomplete deliverable rate reduced **from 80-90% to 1-2%**

- Plan generation time decreased from 7 hours to 5 minutes

- **3x increase in revenue** compared to the last 2 years

- Project revenue reached **$2 million**

TopoMap Financial Situation
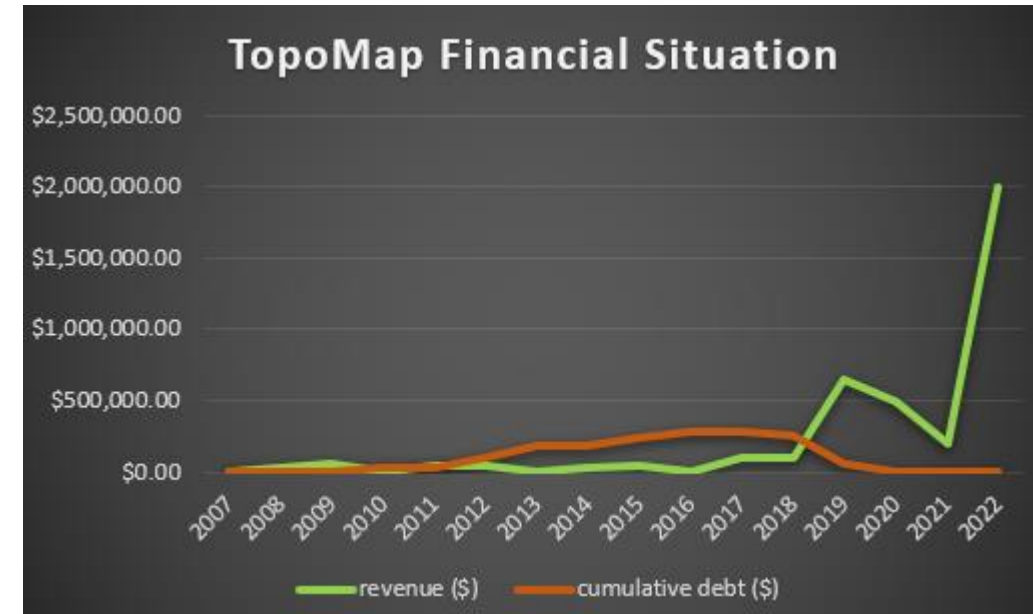
A Family Business Success Story

Expanding Horizons

- Created a new company "**Handle IT Services**" offering IT consulting services

- Providing personalized training in spatial data analysis and process automation as a sole expert

- Fostering relationships with partners and expanding B2B networks

Conclusion

My passion for technology, education, and dedication to the family business transformed Topomap into a market leader, and led to the creation of a new consulting company Proven ability to innovate and deliver results in challenging circumstances while expanding B2B networks