PROJECT: MORSHID

PROPOSITION FOR A BETTER SYSTEM FOR AGRICULTURE

ADDRESSING MOROCCO'S "GENERATION GREEN' PLAN AND

FOR ACHIEVING FOOD SECURITY IN ALL AFRICA

WITH DEPLOYMENT OF TECHNOLOGY, MODERN INFRASTRUCTURE & SERVICE INSTALLATIONS IN-COUNTRY & IN OUTER SPACE & AI & ML DRIVEN & BLOCKCHAIN-BASED SERVICE PROVISION

TOPICAL CONSIDERATION
about
STATE OF AGRICULTURE IN MOROCCO

In February 2020, the Government of Morocco launched its second strategic plan for agriculture. The new plan, called "Generation Green," sets out an agricultural development strategy through 2030. It has two pillars:

- Develop a new agricultural middle class representing between 350,000 and 400,000 households by supporting young entrepreneurs through the mobilization of one million hectares of collective lands and the creation of 350,000 jobs with a focus on high-value agriculture

- Promote human and social development

Agriculture contributes almost 15% to Morocco's GDP, and combined with the fishing and forestry sectors employs about 45% of Morocco's workforce. It has an outsized impact on the economy due to highly variable rain-irrigation-based grain production, its role as an employer, and its role as a major export industry.

Moroccan agriculture is divided into three major sectors:

1. Modern, private, irrigated, highly capitalized, and export-oriented farms producing mostly fruits and vegetables

2. Agriculture within large scale dam-irrigated perimeters producing dairy, sugar, seeds, fruits and vegetables primarily for the local market

3. Rain-fed agriculture with more favorable land in the northwest (growing grains, olives, pulses, red meat and dairy) and less favorable land in the south and east (growing mostly grains and non-intensive sheep production)

IDENTIFIED NEEDS AND PROBLEMS

- Many Moroccan agricultural producers continue to use traditional technologies
- Limited access to production inputs such as fertilizers, pesticides and mechanization
- Prevalence of small farms
- Complicated land title issues
- Increasing land prices

These features pose serious challenges to agricultural policy makers.

Policy makers struggle with the conflicting principles of economies of scale, the capitalization requirements necessary to modernize the agricultural sector, and the desire to alleviate poverty and maintain the social structure of traditional rural society.

MORSHID

An all-encompassing information resource, guidance and support service provision platform that caters to all actors in the agricultural ecosystem of a country or a region or the entire continent of Africa

It is purpose-designed to fulfil the following functions:

1) An Agricultural Information System

in which agricultural information is generated, transformed, transferred, consolidated, received and fed back in such a manner that these processes function synergistically to underpin knowledge utilization by agricultural producers in decision making for

- predictive farming
- water management
- application of fertilizers
- planting and crop management
- etc.

A. It is a repository of a rich resource of knowledge and expertise in the form of documented industry publication on all aspects of agricultural activity.

To begin with there are existing 2431 pages of scientific and industry reports on findings and giving advice on best practice for agriculture. New publications will be added to the repository as they are generated.

The knowledge and advice are available to anyone seeking it through a speech-enabled interactive chatbot that is built with capability to operate with knowledge-based NLP/NLU (Natural Language Processing / Natural Language Understanding). The seeker asks questions, and the system looks up the required information/advice and provides it to the seeker in a voice conversation.

B. It is also a facility for the acquisition and dissemination of information and advice based on analytics of continuous data feed on weather / climate change and change in moisture condition of soil & biomass from earth-based installations and outer-space installations with the use of microwave detectors.

The system provides to the farmers timely information and advice on actions to take so as to engender the best outcome for all parties concerned.

2) Secured Land Title Registry Built on Blockchain

Blockchain is a distributed ledger technology that empowers anyone with an Internet connection to transfer anything of value (currency, data, survey answers) with unmatched security and integrity. Trust is embedded in the Blockchain architecture—a decentralized, cryptographically secured database that can be seen and downloaded by everyone on the network. Because every "node" (computer) of a Blockchain maintains a full record of the transactions run through the network, there is no central point of attack or failure. A paradigm-shifting approach to security, Blockchain prevents fraud by requiring verification from every source computer before a transaction is approved.

Distributed ledger technology (DLT) is a digital system for recording the transaction of assets in which the transactions and their details are recorded in multiple places at the same time. Unlike traditional databases, distributed ledgers have no central data store or administration functionality.

Please refer to Example of Blockchain-based Land Title Registry at
https://direct.mit.edu/itgg/article-pdf/12/3-4/72/705280/inov_a_00276.pdf.

3) Education, Training & Information and Resources to help one start, operate, and grow a Farm Business

Training Courses to be provided for Managing the Business

- Business Strategy
- Business Structure and Agreements
- Production Economics
- Marketing
- Financial Management
- Human Resources
- Succession Planning

4) Crop Insurance, Parametric Insurance & Government Aid

Morshid Service Platform will facilitate the service provision for

- offering DLT (Distributed Ledger Technology)-based decentralized Crop Insurance and Parametric Insurance which is principally weather-index insurance to help Farmers to ride out damages wrought by unanticipated and/or catastrophic events

- determining the needs of Government Aid to be provided to Farmers due to damages caused by climate change such as drought and other devastating events

- providing a secured and equitable way of distribution of the Government Aid to the Farmers needing help

5) Banking, Finance & Line of Credit for Operating the Farm Business

Financial Continuity is vital to maintaining a viable business. A Farm Business needs to have a line of credit to be provided by the bank at a reasonable cost (interest rates, etc.).

With better visibility of changing conditions due to Climate Change and the ability to monitor the moisture levels in the biomass, the Farmers are able to do informed intelligent farming to generate good business outcome. Crop Insurance and Parametric Insurance coverage enable the Farmer to survive catastrophic events.

These provisions would greatly reduce the risk exposure of the bank in providing Line of Credit to the Farmer. Consequently, the bank is prepared to offer Line of Credit to the Farmer at an affordable price. Thus the Farmer can enjoy financial continuity and focus on doing better farming.

The overall effect is one that is win-win-win for all parties concerned.

6) Benefits to the Suppliers to the Agriculture Industry

The suppliers of fertilizers, seeds and farm equipment can make use of Morshid to do informed & intelligent production and delivery of their goods so as to be able to supply goods and services more efficiently with better customer satisfaction and to reduce wastage.

7) Benefits to the Providers of Related Services

Service providers such as the providers of drone-based services for general survey and the application of fertilizers and irrigation can make use of Morshid Service Platform to promote their services and to operate their services more efficiently and better informed and with great reduction of wastage.

PROVEN Technology to be deployed in building and operating Morshid Service Platform

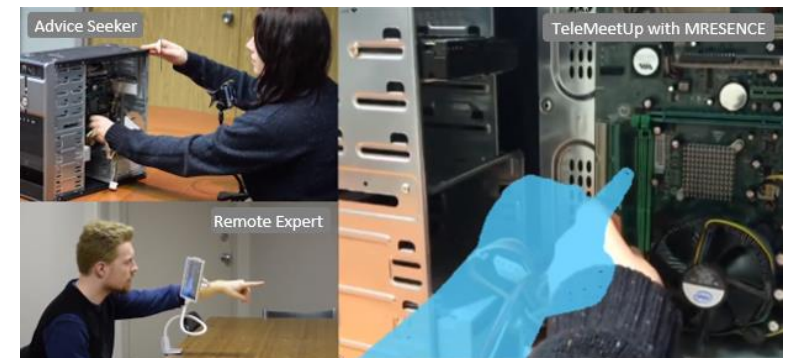**TeleMeetUp (TMU) & TeleMeetUp at Digital Front Door (TMUDFD)**

Website: https://www.tmu.ai
Powerpoint: https://www.ecocarrier.com/presentation/TMU_TMUDFD_Presentation.pdf

About Ecocarrier's TeleMeetUp (TMU) video conference / virtual interactions service
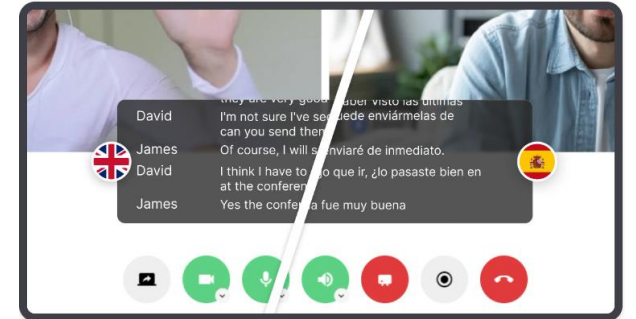
TMU offers the features of Zoom, Microsoft Teams, Google Meet video conference services, but additionally, the following singularly great advantages in functional features:

- MRESENCE Approximation to Presence — SWISTWIT (See What I See Touch What I Touch) virtual hand to surmount distance / geography, cost / lack of money, time / lack of time, politics, culture, etc. (https://youtu.be/_RHqItwhQ74)
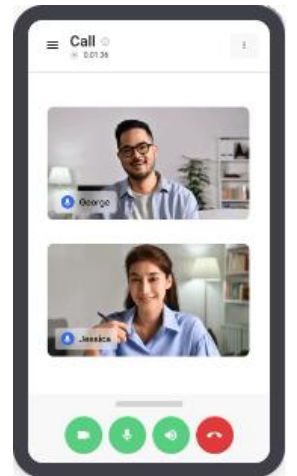
- Native Language Chat in Text and Speech overcomes language barriers across the globe

  - effectively works with 100+ languages (including language variants)
  - TMUscribe – Speech-to-Text Transcription in real time
  - TMUslate – Translation of Transcribed Text in real time
  - TMUspeak – Conversation of Translated Text to Speech in real time
  - with facility for editing in real time to achieve great accuracy
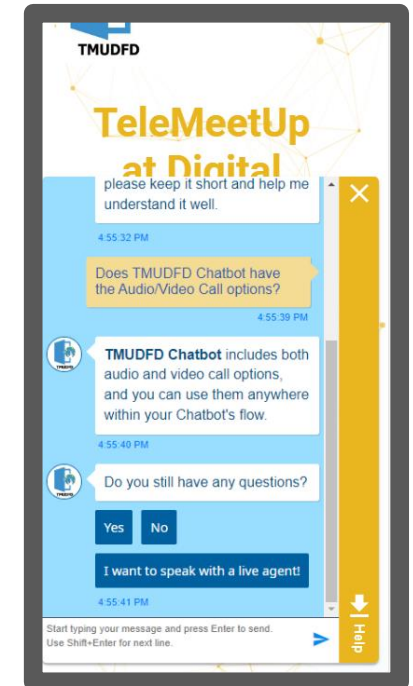 - effectively eliminating the need for note-taking

- Quintessential Recording Function for the entire interactions in one continuous session in real time with facility to allow individual participants in a group conversation to opt-in or opt-out of being recorded on-demand

- TMU is available as Web App and as Native App for Android and Native App for iOS.

About TeleMeetUp at Digital Front Door (TMUDFD)

- TMUDFD – a Conversational AI chatbot that is better than any other Intelligent Conversational AI Chatbot in the market in that it comes with Drag-n-Drop Design Tool for WorkFlow that can be designed to make the Chatbot's interaction with online visitor to seamlessly transition from Text-Chat to Video Conference with Live Agents as and when required to do so.

- TMUDFD also includes Automation Job Bot (A>JobBot) function that can be configured to perform all kinds of tasks that are tedious to do and require constant attention and meticulous data acquisition, processing and delivery.

- TMUDFD as a service platform for providing Last Mile service facility to support any kind of service provision. It is comprehensive managed service complete with end-to-end features for you to build and run an online business with digital transformation.

Suggestions for Projects & Use Case Cases of TMU & TMUDF

https://www.ecocarrier.com/presentation/Projects_&_Use_Cases_of_TMU_&_TMUDFD.pdf

PROJECT PROMOTER

TMU SARL

A Moroccan private corporation
a wholly-owned subsidiary of Ecocarrier Inc.,
a Canadian private corporation
www.tmu.ai
www.telemeetup.ma
www.ecocarrier.com

TEAM

Carl K.S. Teo Chairman & CEO
Nabil Alaoui Chief Digital Officer
Mohammad Echabli Chief Business Officer
Maha Tichetti Chief Marketing Officer

Business Models & Partnership