

INTRODUCTION

South Africa has a well-established medical fraternity that is recognized and acknowledged world wide. This fraternity has resulted in some pioneering developments such as the first heart transplant and the invention of the CT scanner. The engineering fraternity is similarly well-established and active in its contribution to medical innovation. However, in recent years various factors have led to a fragmentation and under performance of the South African medical devices sector.

In July 2007, a group of individuals created the Medical Device Innovation Special Interest Group (MDI SIG), with the objective of facilitating and stimulating growth in local medical device innovation. The group takes the premise that those enabling factors which allowed the development of the pioneering technologies and products mentioned above are still in place. The MDI SIG has achieved widespread support, including that of the Department of Science and Technology (DST). The DST is to establish a Medical Devices Centre of Competence, whose role will be to co-ordinate activities of stakeholders to ensure that product ideas and prototypes successfully reach the market. The MDI SIG and the Medical Devices Centre of Competence will be actively exploring collaboration opportunities with medical device players in other countries; be this in R&D, product development, inward technology transfer or access to international markets.

This booklet serves to introduce a short selection of locally-developed products and technologies, and is far from exhaustive with respect to innovation under development or on the market.

We look forward to fruitful collaborations with international counterparts and a bright future for the South African medical devices industry.

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MECHATRONIC DIAGNOSTICS

Schutte Scale Evo (EVO) Electronic Survey Device

Description

The EVO is an electronic device and is built to support key target segment needs in the survey and assessment environment. It is a multifunctional interactive motoric survey and assessment hardware device that can be utilised for a wide range of data capture abilities including:

- Surveys
- Attitudinal assessments
- Multiple choice tests
- Exams
- Census data

The device stores questionnaires that can be specifically designed for any number of requirements on a memory card. The questions are then transferred to a respondent via an audio stream that can be delivered via a speaker or audio headset, enabling respondents to listen to the questions in privacy and then using mainly one simple tool on the device to provide their own specific answer to the questions. The device supports attitudinal survey best practice requirements as it has a built in motoric resistance that enables respondents to provide graded responses.

The EVO makes use of a visual scaling method that employs an increase in resistance to the movement of an indicator when the respondent expresses the strength of his/her attitude/perception regarding the question/object under evaluation. Therefore, the respondent is (i) cognitively, (ii) motorically as well as (iii) visually involved in expressing his/her attitude and/or perception as a response to a question. The scale can be used in challenging situations to communicate with people that have underdeveloped or even no reading or vocabulary skills, or in situations where languages often create barriers to conceptualising certain situations during data collection.

Value Proposition

The Schutte Scale Evo instrument – shown opposite - is the first social survey data collection instrument of its kind in the world that could be put in the hand of both literate and illiterate respondents that uses the traditional questionnaire based interview technique without the interface of a physical interviewer. It is now possible for researchers to collect sensitive information from respondents whilst in their own privacy, across cultural and language barriers without the humiliation of facing an interviewer. The response technique also involves the proven technique of involving the respondent's motoric and visual senses to quantify attitudes and perceptions on issues to provide greater accuracy and data integrity.

Current Status

The first prototype has been manufactured and the testing of the device is the topic of a master's degree at the Cape Peninsula University of Technology.

Opportunities

Distribution partners and agents are sought in global country markets.

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PATIENT CARE



Wisepill Real-time Medication Event Monitoring

Description

Wisepill Technologies makes use of mobile phone and Internet technologies to provide real-time medication management. The Wisepill portable medication dispenser has a GSM communication chip at its heart. The dispenser provides an electronic heart-beat to a central management system (Wisepill Web Server) whenever medication is taken. Patients register their prescriptions on the Wisepill Web Server. If they forget to take their medication at the prescribed time, a text message reminder is sent to their mobile phones.

Patients and their caregivers are able to effectively manage medication adherence with access provided to online adherence reports and graphs. Weekly and monthly email reports can also be scheduled.

For the patient, Wisepill improves adherence both in the short and long term. The wisepill system acts like a tutor, reminding the patient ONLY when they forget to take their medication. This truly portable device allows active patients to take their medicine with them wherever they go. A handy dosage tracker on the face of the dispenser helps patients keep track on a daily basis.

Value Proposition

According to the New England Journal of Medicine, between 43 and 78% of patients are non-adherent and of all medication related hospital admissions in the USA, 33 to 69 % are due to poor medication adherence. Wisepill Technologies is leading the innovation of solutions to one of the most important challenges in chronic disease management today – non-adherence. The Wisepill design is a discreet, elegant solution, providing a no-nonsense approach to medication event monitoring. Benefits are manifold for all stakeholders, including patients, family members, caregivers, pharmaceutical chains and manufactures. Wisepill Distributors are able to provide a valuable monthly monitoring service to their clients by making use of the comprehensive Wisepill Web application provided by Wisepill Technologies.

Current Status

The Wisepill Web Service is fully operational. Dispensers have been manufactured using a silicone tool. Wisepill Technologies is now preparing for final tooling and mass production.

Opportunities

Investors, partners, Distributors and agents are sought.



Pocket Sized



Easy slide open action. The Wisepill Dispenser supports various pill organizers as well as standard blister packs.

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