

MedUp : AI – Powered Healthcare Platform

Submitted by Arief Faqihudin (MedUp) on January 17, 2018 - 8:31pm

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Proposal Status: Out of Scope

Executive Summary

MedUp is a platform that helps people obtain health information through the integration of trusted doctors and health facilities (hospital, clinic, dental clinic, beauty clinic, etc) using Artificial Intelligence (AI). MedUp focuses on providing comprehensive and reliable medical information and medical facilities. In another side, MedUp also helps health facility or health provider to expand practice information faster and easier. So, by using MedUp, users can reach the nearby and specialized hospital with ease. Start from October 2017, we have more than 150 medical services in 79 hospitals in town. Currently, we are operating in Yogyakarta, Indonesia connecting more than 1500 doctors with patients every day. We know that specific user needs specific medical treatment, that's why we use AI to know what user really need to their everyday treatments. Reliable data is our concern, we tried our best to provide the user with reliable data as ever.

Consortium Team

Arief Faqihudin: Chief Executive Officer

He has a passion for medical, business and technology. His awareness in healthcare was proved by previously, he builds a healthcare startup called COASS, a platform to connect the intern dental students and patients with the right cases, flexible schedule as a win-win solution. He has managed to bring COASS to get 8 International Awards in less than 1 year including awards in competitions in Japan, Hongkong, and Silicon Valley. Then, to expand the market and to reach more users, he rebrands COASS become MedUp.

Silva Eliana Aspriyanti: Chief Marketing Officer

A dentist who cares about the problem in her environment. This proved by her innovation called DENTALION, an innovation of diagnostic device for mouth screening that is portable. The next year she invents MEDIGLOWS, integration between LED light sources and an electronic system that can be attached to the end of the fingers of the hand and wrist that is flexible and portable. In addition, these products are also economical and easy to use by health workers during the examination both at the clinic and outside the clinic. Her projects got two Gold Medals in Scientific Research Student Week 2014 and 2015 in Entrepreneurship.

Zamahsyari : Chief Technology Officer

A young developer who also being an Engineer in one of the leading technology companies in Indonesia that provides search services and airline tickets and hotel reservations online. As a developer, he has earned several awards including Global Winner in London by the World Bank; Best Public Safety Innovation in Silicon Valley, USA; Gold Winner Big Ideas Competition by the United Nations; and the latest is Runner-up UnitedByHCL Hackathon at Old Trafford Stadium, Manchester, England on September 15, 2017. In addition, we have 3 engineers under CTO.

Aditya Doni Pradana : Vice President of Products

He is a young doctor and early-career researcher. As an early-career researcher, his research is currently focusing on Geographical Information System (GIS) and regional health data mapping, molecular cardiology, and social obstetrics. He has earned several awards and scholarship, such as The Most Outstanding Student in Faculty of Medicine -Universitas Gadjah Mada in 2014 and the latest he earned short course scholarship about GIS and Demographic Health Survey (DHS) health data mapping from USAID at Phnom Penh Cambodia on July 17-21, 2017.

Daniel Oscar Baskoro : Advisor

He is a researcher focused on the technology development for humanitarian issues. He developed innovations in health, disaster mitigation, and small-medium business (SMB) using data analytics, wearable, and the Internet of Things technology. He is also a public speaker invited in various international and national seminars. Other professional activities include technology innovation consultant for private sectors, Indonesian Government branches, and NGOs.

Project Description

- **Background**

Indonesia is the fourth most populous country in 2015 with more than 253 billion which makes it hard to control various problems in the country especially health issues (Statistics Indonesia, 2013). One of the major problems in Indonesia's health sector is the unregulated proliferation of the urban private healthcare sector which needed more serious health policy and planning concern. More rational planning, however, requires systematic methods of documenting, mapping, and analyzing each facility service information, as per WHO's recommendation for initiation and creation of a Master Facility List (WHO, 2013).

Good information on the supply, quality, and mapping of health services is essential for managing health systems. Without it, people do not know where they are should go to find the most appropriate medical assistance regarding their health problems. Given growing geographic and socioeconomic inequities in especially in urban health, there is a critical need for tools that facilitate evidence-based mapping and planning for effective of urban health services.

- **Solution**

A novel ICT platform – MedUp – based on an Artificial Intelligence and geospatial analysis has the potential for providing critical facility information not only for patients, health professionals but also to decision makers involved in healthcare policy and planning.

MedUp is a platform to reach nearby and specialized hospital with ease. MedUp helps people obtain health information through the integration of trusted doctors and health facilities (hospital, clinic, dental clinic, beauty clinic, etc) using Artificial Intelligence (AI). MedUp focuses on providing comprehensive and reliable medical information and medical facilities. In another side, MedUp also helps health facility or health provider to expand practice information faster and easier.

- **Digital Health Technologies**

We use machine learning to predict what user really need regarding their health condition based on their search history like Amazon and Google do. Every user's activities will be recorded in a log file then we group the logs based on user, this grouped log represents single user activities, the algorithm computes the most likely item to search by user and use this conclusion to predict user needs in the future. We know that specific user needs specific medical treatment, that's why we use AI to know what user really need to their everyday treatments. Reliable data is our concern, we tried our best to provide the user with reliable data as ever.

- **Unique**

With the friendly user interface, MedUp can learn Behavior users using AI. MedUp also has a complete database of hospitals and doctors from the Ministry of Health and the Center for Data of Indonesian Hospital Unity, so to find the right nearest doctor to be faster and easier.

- **Goals**

We are very focused on supporting 3rd Sustainable Goal Development, namely Good Health and Well-Being. With a good health policy and

planning based on machine-model learning (AI), people can get the appropriate and also affordable medical assistance which will later help to achieve SDGs point number 3 ensuring healthy lives and promoting well-being at all age. We also have great relevance to provide benefits in health aspects. We can promote collaborative efforts of the government, planners, health professionals, and other agencies through health insurance, education, and research through continuous medical training the use of ICTs while respecting and protecting citizens' right to privacy. We have a potential collaborator such as Ministry of Health, Indonesian Medical Association, and Indonesian Dentist Association. By developing MedUp we also can monitor and control the spread of communicable diseases, through the improvement of common information systems.

- **Work Plan / Road Map**

In the beginning, we focused on Research and Development of Product. Our first step is the preparation of Product Technology. After we do a Market Research and Market Validation, we know that specific user needs specific medical treatment, that's why we use machine learning to know what user really need to their everyday treatments. The more we have the data regarding user activities, the more machine can learn the user behavior. This learned user behavior is the key to predict what user really needs. We believe that data is the new currency nowadays and the possibilities of what we can do about it are limitless. Data is what we have to compete with another competitor to create a new feature by collaborating with other partners, expansion to another city or even another country and help much more people. We separate the roadmap into three: short-term, medium-term, and long-term. Short term will last about 3 months, focused on establishing a platform, getting it ready for our users. Medium-term will last about a year, focused on collecting more users and medical data in our current region. Long-term will last about 5 years and more, focused on advancing techniques to learn user behavior and monetizing the platform.

- **Potential Market**

There is the general understanding among doctor services that the service needs to adapt to the times and as technology has progressed, innovation has to be made. In the digital age, the recent survey showed that most of the patients would be more likely to choose a doctor who uses health IT in his practices (Gaylin et al., 2011). The spectrum of Health IT that can be used in daily clinical practices such as online appointments booking, online prescriptions ordering, symptom checker and real-time health facility mapping are needed to be concerned to help improve health care system performance and quality of care. Based on 2015 Frost and Sullivan Health Care Outlook, The size of Indonesia's healthcare market is expected to triple from USD 7 billion in 2014 to USD 21 billion in 2019. We see bright prospects for this industry led by Indonesia's large population and growing middle-income class, supportive government policies and higher investment in the industry. A favorable macroeconomic environment, a rising middle class and relatively low-cost market penetration and spending should lead to greater demand in this sector. Indonesia has an under-served healthcare market, with low hospital bed and doctor ratios relative to the size of the population. We thus see the potential for further hospital development. In addition, Indonesia's total health expenditure remains low within Asia. Indonesia's per capita healthcare expenditure must climb from its current low base as the country seeks to achieve universal healthcare coverage in the coming years. So, with this data, we believe that MedUp will sustain and exist because we have a big potential market in Indonesia.

- **Budget**

We will separate the budget into three groups: Fixed Cost, Variable Cost and Marketing Cost. First, for fixed costs such as Server maintenance, Google API subscription, Internet connectivity, Electricity, Water, Insurance, Office rent, Worker wage. Then for Variable costs such as Online Marketing, Training, Accountant fees, Patent administration, Server upgrade, UI/UX research, and Market research. And the last, for Marketing costs, such as online publicity, Electronic media publicity, and Printed media publicity. The budget will focus to develop and maintain the MedUp platform, add the new feature, marketing of the MedUp platform, and expand the market.

- **Sustainability and Future Plan**

We would like to add more healthcare service providers such as clinics, including dental clinics and beauty clinics. Health and beauty are becoming a lifestyle and we gladly serve them to answer the user demand for beauty and healthy lifestyle. We will expand the coverage to more than 80 cities and more than 400 districts in Indonesia because everybody has the right to be healthy.

Supporting Documents:  [medup - digital health solution grants funding.pdf](#)