



## PROJECT SUMMARY

<b>Ref No.:</b> MRC-HPC-RIG-A03	<b>Title:</b> Data Analytics for Real-Time Disease Outbreak Management and Surveillance in Mauritius
<b>Local Company:</b> University of Mauritius	
<b>Collaborating Institution:</b> IBM (Mauritius) Ltd	
<b>Project Leader</b>	
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<b>Research Collaborator</b>	
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<b>TECHNICAL ABSTRACT</b>	
<p>A research project is being proposed to investigate and formulate a novel real-time infectious disease detection/surveillance model that will use spatial, temporal, and text mining of crowd-sourced data and Twitter data for Mauritius. The real-time analysis results will be reported visually in terms of disease surveillance maps: distribution and timeliness of the disease will be shown. Such a system can be very useful for early detection and prediction of seasonal disease outbreaks. The resulting insights are expected to reduce the response time in case of a pandemic, as well as help in tracking the spread of an infectious disease in Mauritius.</p> <p>The proposed research work will investigate social media data ETL (Extract-Transform-Load) methods, and propose a model for visualizing outbreaks and the spread of an infectious disease in space and time. A prototype will be developed using rich information retrievable in real time from Twitter and a crowd-sourced mobile application. Since the system will be completely automated and the output of analysis will be updated near real time, it is expected to detect disease outbreaks significantly faster than the traditional disease surveillance system that collects public health data from sentinel medical practices.</p> <p>The resulting application has the potential for being developed into a real-time and online application that can be used for tracking infections in Mauritius, and later extended to the neighboring Indian Ocean islands and in the African continent.</p>	
<b>Key Words:</b> Infectious disease, Disease Surveillance, Twitter, Mauritius, Epidemic monitoring, Outbreak Visualization	