Developing GIS to Identify High Risk Areas of Substance Abuse

INTRODUCTION
The purpose of this research is to map the locations with the occurrence of drug cases recorded in the high-risk areas in the country. Hence, a geographical information system (GIS) has been designed to capture, store, manipulate, analyse, and present all types of spatial or geographical data of drugs abuse instantly based on various demographic factors. It is a time saver and effective management tool for drugs abuse prevention for relevant authorities.

RESEARCH METHODOLOGY
The methodology of this study consists of three main parts which are creation of the spatial distribution and interpolation analysis, hot spot map and spatial drug abuse risk map. This study will start with the collection of the data, then proceed, with the processing of the data and the last step is the analysis of the data using three component systems known as Global Positioning System (GPS), Geographical Information System (GIS) and remote sensing as illustrated in the figure below.

PROBLEM STATEMENT
The earlier drug addiction data compiled by the National Anti-Drugs Agency, Malaysia, under the program of Perangi Dadah Habis-habisan (PDH) indicated that high prevalence of Opiate and Amphetamine Type Stimulants (ATS) used in high risk areas such as Kelantan, Selangor and Pulau Pinang. However, none study has been performed to understand the geospatial pattern drug abuse for Malaysia of the high prevalence areas. Hence, this study utilized GIS analysis to identify distribution pattern of drug abuse (client) based on demographic parameters such as age, gender and hot spot areas of drug abuse for substance abuse prevention in Malaysia.

RESULTS
The capability of GIS for substance abuse prevention includes data searching and data display in spatial and temporal patterns. Users can select any point in the spatial or map layer and display the database or attribute information related to the chosen point data for more details in no time. On that note, it implies the potential of integrating this GIS into AADK’s existing data management system for better result of substance abuse prevention.