

SGG 4653

Advance Database System

Database Integration: Desktop & Web
Customization for GIS



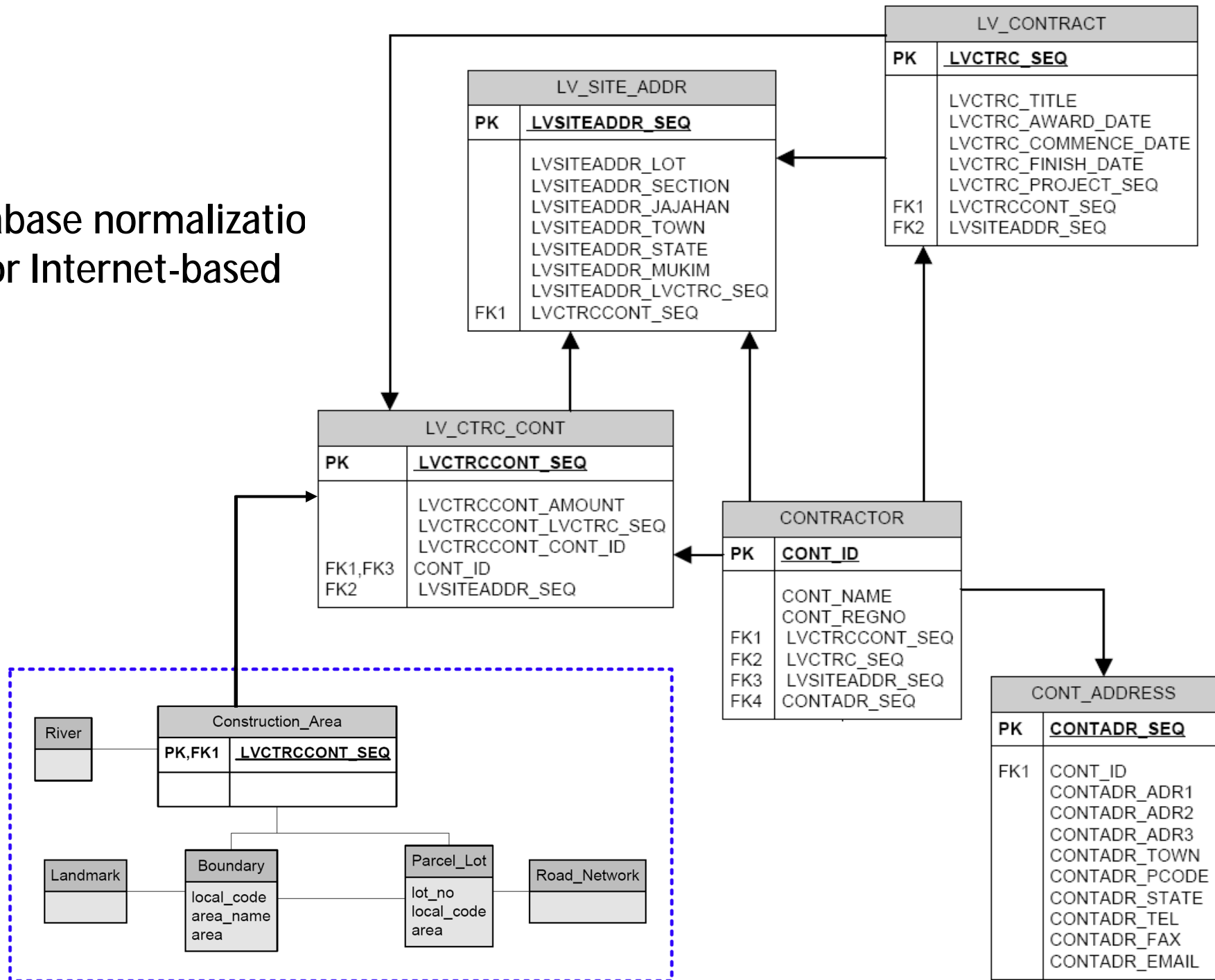
Introduction

- § GIS application customization
- § System design and analysis for GIS application
- § Database normalization
- § SQL (query) optimization

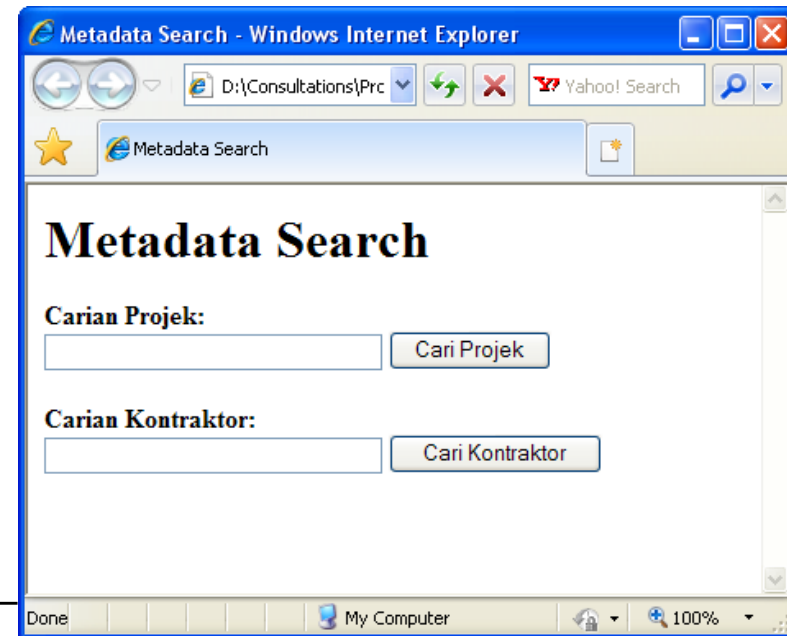
Internet based Customization

- § Common developer tool used: PHP, MySQL, XML.
- § Open source packages.
- § System design and analysis for Internet GIS application.
- § Database normalization for Internet-based.
- § SQL (query) optimization for Internet-based

Database normalizatio for Internet-based



LV_CONTRACT	
PK	LVCTRC_SEQ
	LVCTRC_TITLE LVCTRC_AWARD_DATE LVCTRC_COMMENCE_DATE LVCTRC_FINISH_DATE LVCTRC_PROJECT_SEQ
FK1	LVCTRCONT_SEQ
FK2	LVSITEADDR_SEQ



PHP + MySQL

```

<?
include "connection.inc";

$str_query = "select lvctrc_seq, lvctrc_title from lv_contract where LVCTRC_TITLE LIKE '%$searchproject%' ";

$q = mysql_query($str_query, $conn);
?>

```

Connection.inc

```

<?php

$conn = mysql_connect("localhost", "root", "12345678") or die(mysql_error());
mysql_select_db("cidb") or die(mysql_error());

?>

```

PHP + MySQL

```

<?
include 'connection.inc';

$sql = "select lv_contract.LVCTRC_SEQ,
              lv_contract.LVCTRC_TITLE,
              lv_contract.LVCTRC_OWNSITE_DATE,
              lv_contract.LVCTRC_FINISH_DATE,
              contractor.CONT_NAME,
              contractor.CONT_REGNO,
              lv_ctrc_cont.lvctrccont_amount

from lv_contract, lv_ctrc_cont, contractor

where lv_contract.LVCTRC_SEQ = lv_ctrc_cont.LVCTRCCONT_SEQ
and lv_ctrc_cont.LVCTRCCONT_CONT_ID = contractor.CONT_ID
and lv_contract.LVctrc_seq = '$detail' ";

$result = mysql_query($sql,$conn) or die(mysql_error());

while($row = mysql_fetch_row($result))
{
    $n1    = $row[0];
    $n2    = $row[1];
    $n3    = $row[2];
    $n4    = $row[3];
    $n5    = $row[4];
    $n6    = $row[5];
    $n7    = $row[6];
}
?>

```

LV_CONTRACT	
PK	<u>LVCTRC_SEQ</u> ←
	LVCTRC_TITLE ← LVCTRC_AWARD_DATE LVCTRC_COMMENCE_DATE LVCTRC_FINISH_DATE ← LVCTRC_PROJECT_SEQ
FK1	LVCTRCCONT_SEQ
FK2	LVSITEADDR_SEQ

CONTRACTOR	
PK	<u>CONT_ID</u> ←
	CONT_NAME ← CONT_REGNO ←
FK1	LVCTRCCONT_SEQ
FK2	LVCTRC_SEQ
FK3	LVSITEADDR_SEQ
FK4	CONTADR_SEQ

LV_CTRC_CONT	
PK	<u>LVCTRCCONT_SEQ</u> ←
	LVCTRCCONT_AMOUNT ← LVCTRCCONT_LVCTRC_SEQ LVCTRCCONT_CONT_ID ←
FK1,FK3	CONT_ID
FK2	LVSITEADDR_SEQ

Internet based Application

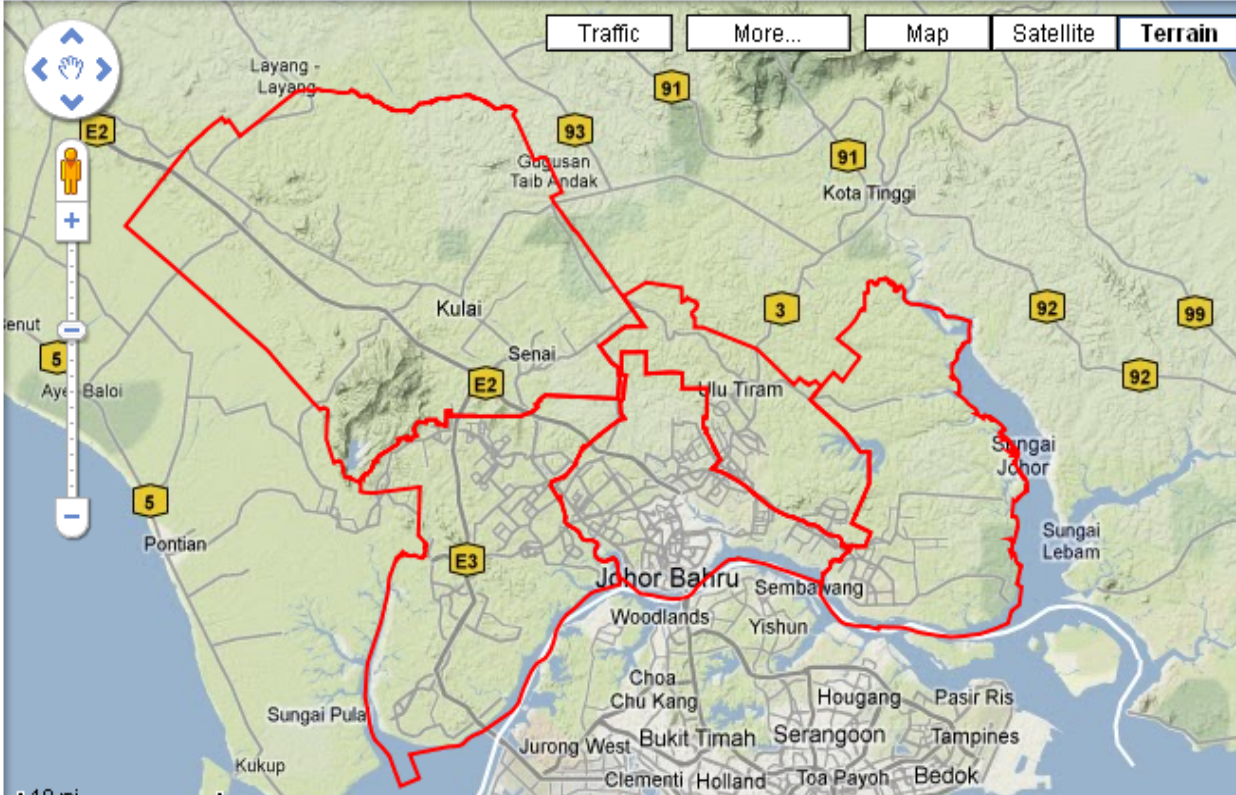
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10 mi
10 km

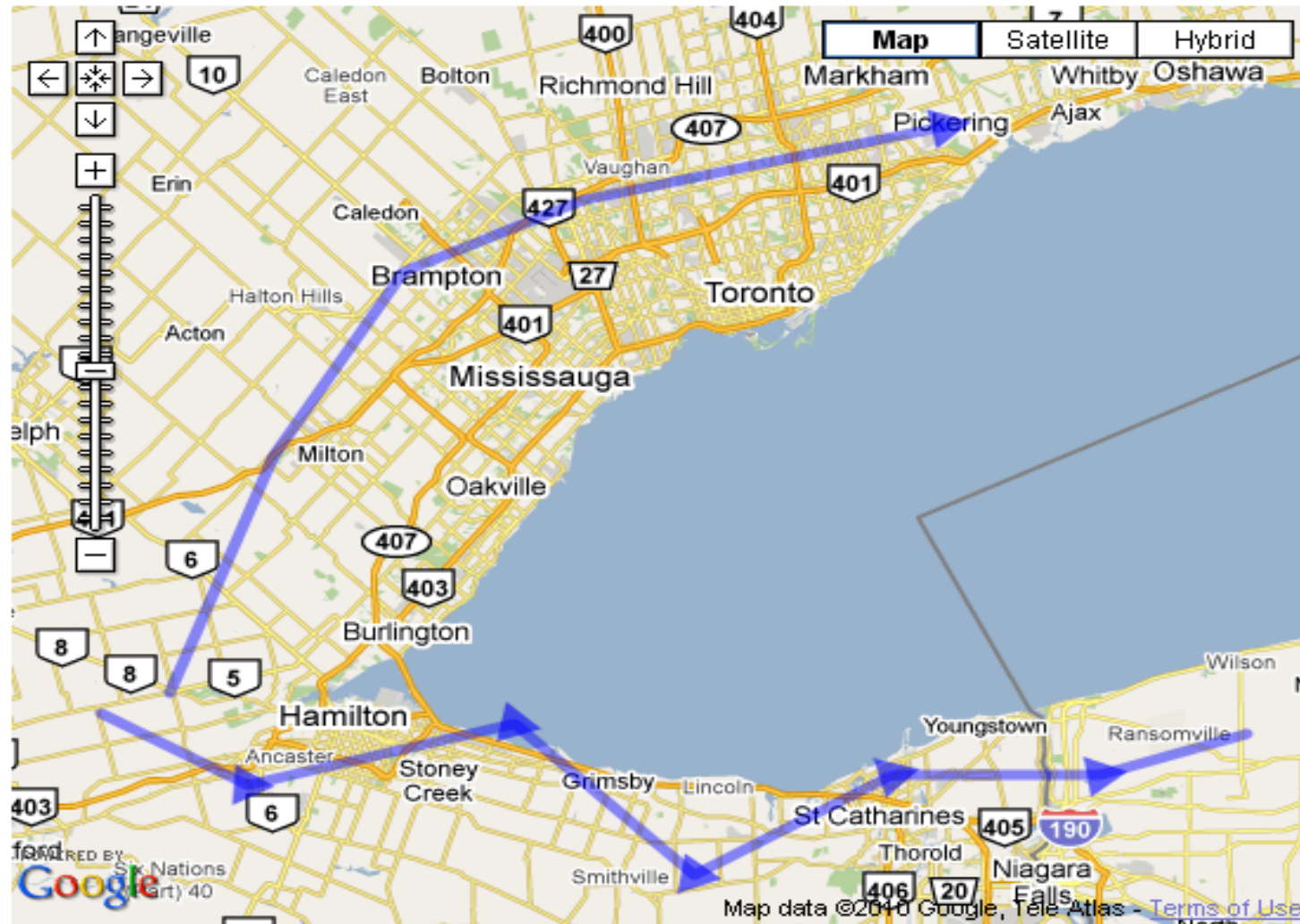
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Internet based Application



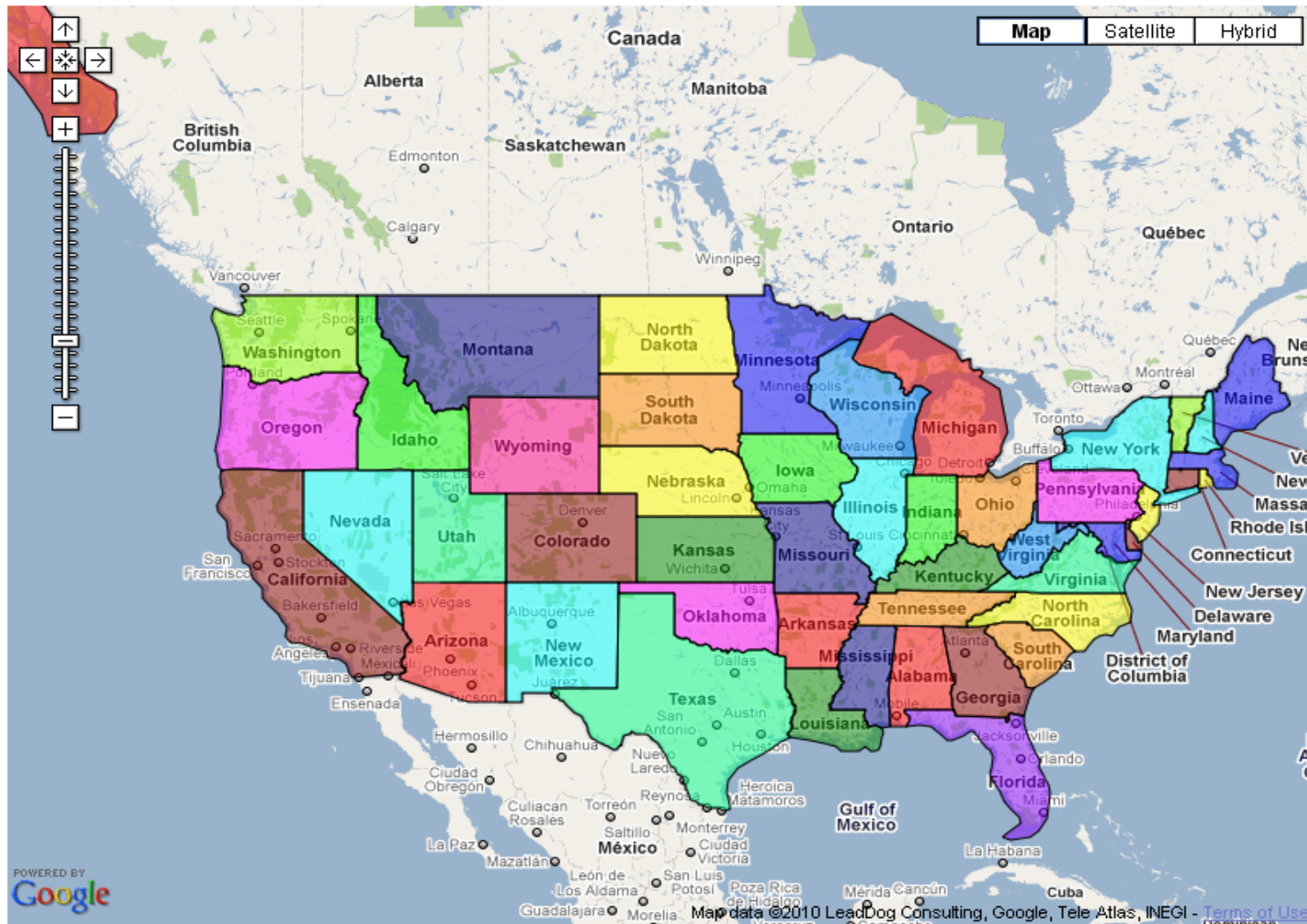
Point mapping.

Internet based Application



Line mapping.

Internet based Application



Polygon mapping.

Internet based Application

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-71.1206818, 42.4382806, 5058ROAD, ROAD CROSSING; Road Crossing [map](#)

-71.119277, 42.438878, 5066, 5066 ; [map](#)

-71.119689, 42.439227, 5067, 5067 ; [map](#)

-71.116146, 42.438917, 5096, 5096 ; [map](#)

-71.1308098, 42.4436646, 5142, 5142 ; [map](#)

-71.122845, 42.445359, 5144SUMMIT, Summit; [map](#)

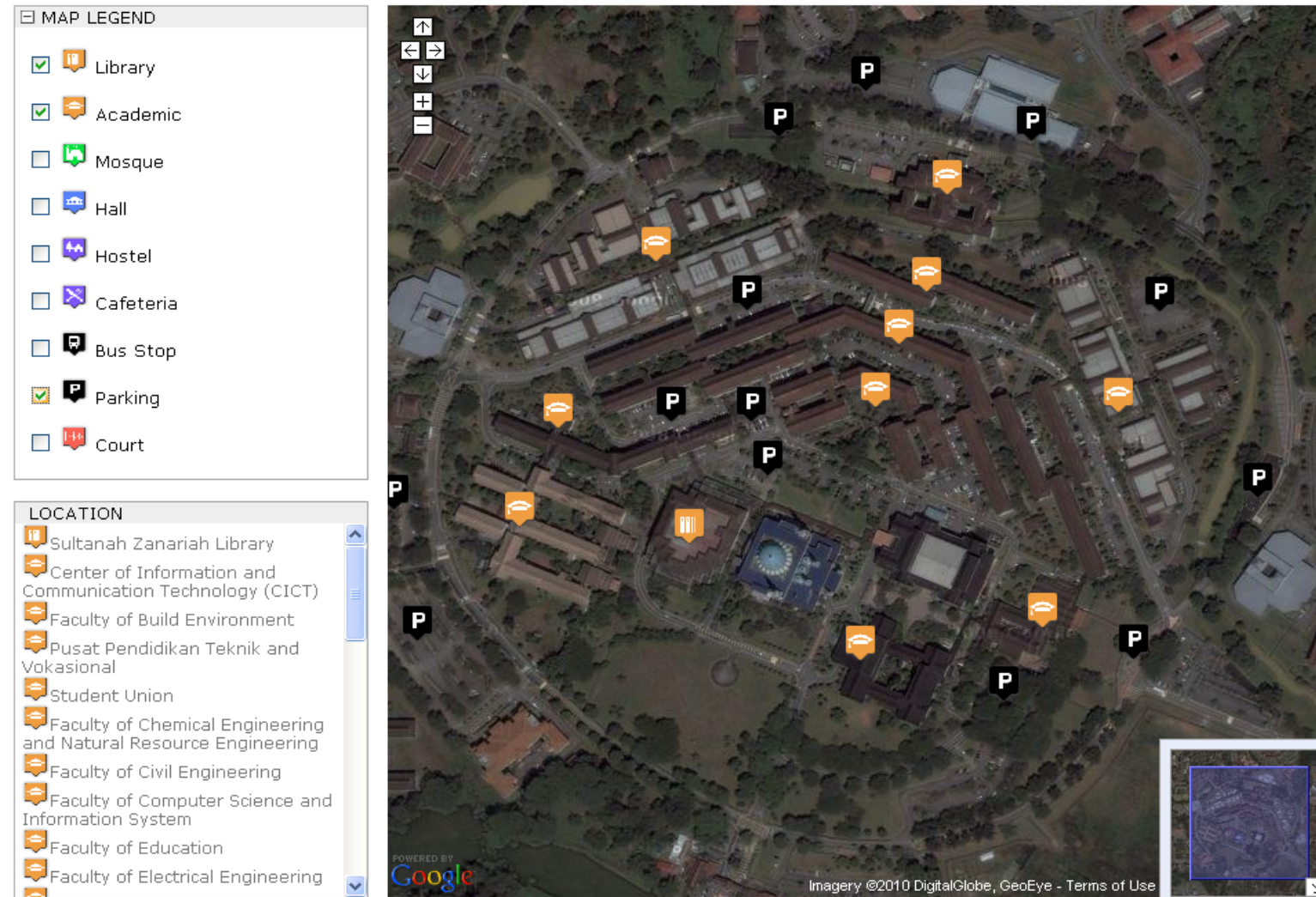
-71.122320, 42.449765, 5148NANEPANANEPASHMET ROAD CROSSING ; [map](#)

-71.121676, 42.441727, 5150TANK, WATER TANK; Water Tank [man](#)

Row: 1
Line format: [Bookmark: POI Manager Help](#)

Online GPS waypoint editor.

Internet based Application



MAP LEGEND

- Library
- Academic
- Mosque
- Hall
- Hostel
- Cafeteria
- Bus Stop
- Parking
- Court

LOCATION

- Sultanah Zanariah Library
- Center of Information and Communication Technology (CICT)
- Faculty of Build Environment
- Pusat Pendidikan Teknik and Vokasional
- Student Union
- Faculty of Chemical Engineering and Natural Resource Engineering
- Faculty of Civil Engineering
- Faculty of Computer Science and Information System
- Faculty of Education
- Faculty of Electrical Engineering

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UTM campus map.