



## Sri Lanka Institute of Information Technology

### PROJECT REGISTRATION FORM

(This form should be completed and submitted on or before 15.00 hrs, Monday 15<sup>th</sup> January, 2013)

The purpose of this form is to allow final year students of the B.Sc (Hon) degree program to enlist the final year project group. Enlisting a project entails specifying the project name and four members of the group, the internal supervisor (compulsory), external supervisor (may be from the industry) and indicating a brief description of the project. The description of the project entered on this form is not formal project proposal, but should indicate the scope of the project and give the main potential outcome.

PROJECT TITLE                      Web Service Based Device Independent Mobile Client For Tourist Assistance

RESEARCH GROUP                      GIS / LBS

PROJECT NUMBER                      (will be assigned by the lecture in charge)

#### PROJECT GROUP MEMBER DETAILS: (Please start with group leader's details)

	STUDENT NAME	STUDENT NO.	CONTACT NO.	EMAIL ADDRESS	SIGNATURE
1	B.M.R.C. Bandara (GROUP LEADER)	IT 10 1539 32	0716489619	rcb44u@gmail.com	
2	H.A.M sandaruwan	IT 10 1923 06	0778735620	madusandaruwan@gmail.com	
3	T.D Ruhunage	IT 10 1629 10	0777772636	tharindudeshan@yahoo.com	
4	S.P. Pasan Pathirathna	IT 10 1596 68	0718065626	statica7@gmail.com	

**SUPERVISOR**

Ms. Nimalika Fernando		
Name	Signature	Date

**CO-SUPERVISOR**

Name	Signature	Date

**EXTERNAL SUPERVISOR (IF ANY)**

Name	Affiliation	Contact Address	Contact Numbers	Signature/Date

**ACCEPTANCE BY HEAD/RESEARCH GROUP**

<i>Mr. Jayantha Amararachchi</i>		
Name	Signature	Date

## PROJECT DETAILS

Brief Description of proposed project:

**This is a web service based device independent mobile client for tourist assistance. This is an extension of 'Sarisara Lanka V2.0' project done in 2012. All functionalities proposed here are entirely new to the existing code base. The application logic will be exposed in a web service so that our mobile client can access system functionalities. The team will research about generating linear maps from a real geographical map and designing and developing device independent mobile client.**

**While travelling, the linear map is more comfortable for the user rather than reading from a geographical map. This linear map is a scaled line map that can be generated dynamically from user's current location which is retrieved using GPS. With the linear map user can search for nearby places.**

**Main flow of the research can be indicated as follows.**

**Stage1:**

**Study OpenLayers, OpenStreetMaps, PostgreSQL, PostGIS and other related GIS technologies.**

**Stage2:**

**Develop core functions of the system.**

**Stage3:**

**Build the web service in REST architecture and secure the API.**

**Stage4:**

**Build mobile web application with device independent user interface enhancements.**

**Stage5:**

**Access web service through mobile web application and demonstrate API functionality.**

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Main expected outcomes of the project:

**An API which can be adopted by application developers to produce platform independent tourist guides. This wraps the application logic and can be hosted in a web server. API will provide support to**

- **Get data from different servers.**
- **Use Shortest Path(SP), Traveling Salesman Problem (TSP) related algorithms with different parameters.**
- **Produce linear map (User can grab a comprehensive knowledge of his journey from start to the end by reading the linear map which is not available in any digital mapping systems.)**
- **Spatial searching (User can search for a point, line or a polygon - an entire region)**

**Develop a sample mobile web application to verify the functions of the API. API can be accessed by multiple mobile platforms. This mobile web application provide comprehensive, localized travel journey.**

**WORKLOAD ALLOCATION** (Please provide a brief description about the workload allocation)

<b>MEMBER 1</b>	B.M.R.C. Bandara
<p><b>Core API development</b>  <b>Implement spatial searching in web service.</b>  <b>Get nearby places in linear map</b></p>	

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MEMBER 2	H.A.M sandaruwan
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**Build linear map scale**

**Identifying the optimal path covering a set of locations in mobile platform based on multiple map services.**

**Implement Traveling Salesman Problem algorithm in web service.**

MEMBER 3	T.D Ruhunage
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**Draw linear map**

**Identifying the optimal path between two locations in mobile platform based on multiple map services.**

**Implement Shortest Path algorithm in web service.**

MEMBER 4	S.P. Pasan Pathirathna
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**Mark locations in linear map**

**line search, polygon search, point search in mobile platform based on multiple map services.**

**API Access by mobile client.**