Appendix (C)

The Project's Feasibility Study

Here is a feasibility study of having project BiSCA set up to operate in a real environment, this study includes the setup and ownership costs, excluding the development and analysis costs, and the human resources installation fees. It also includes the costs of operating project BiSCA per year, excluding the human resources wages and salaries running the subsystems, and excluding the technical maintenance and support for the project's subsystems.

A) The cost of hardware and software components and licenses needed in setting up BiSCA in a real environment:

Subsystem	Cost
Bus Handsets:	
Motorola iDEN device	JD 0025.00
Administration and Supervision:	
Desktop Personal Computer for Administration	JD 0350.00
Desktop Personal Computer for Supervision *(in case the connection between the server and the supervision unit is loosely coupled)*	JD 0350.00
Servers:	
Process Logic Server	
Hardware: *(a sample of possible options)* Minimum: An Intel Xeon Server Mid wage: An AMD64 Opteron double CPU server Maximum: A Sun Microsystems Ultra Sparc Blade	JD 2000.00 JD 2500.00 JD 8000.00
Operating System: *(a sample of possible options)* Linux Free Distribution *(annual support fees only)* Red Hat Linux Enterprise 4 Sun Solaris *(support fees needed if not Sparc)* Microsoft Windows Server 2003	JD 0000.00 JD 1250.00 JD 0000.00 JD 4500.00
Database *(the same hardware and OS options apply here)*	
Database Management System: *(possible options)* Oracle 10g Enterprise Server Oracle 10g Express Edition	JD 0000.00 JD 0000.00

Street Situated Displays:	
Hardware: A custom built hardware, the ROMANSE model, including: 1 monitor tube + 1 RAM slot + 1 NIC Card + 1 mid wage CPU + 1 integrated main board + 1 GB permanent storage	JD 0100.00
Operating System: A custom built micro GNU/Linux Operating system that includes an X Window System, a Java Virtual Machine, and the Situated Displays subsystem software.	JD 0000.00

Networking Infrastructure: *(estimated)*	JD 2500.00

B) The cost of software development tools and technology usage licensing:

Having this project built using Java Standard Edition, Java Micro Edition and Oracle 10g Database, all being free ware softwares and tools, and some being open source even, no licensing or purchase costs are need in developing project BiSCA.

The IDE used in building the project was netbeans 5.0, which is also an open source project IDE that can be downloaded free from the Internet.

The development process can be done on any operating system, including the free GNU/Linux distributions and open Solaris 10.

C) The annual costs and fees for running project BiSCA in a real environment:

Subsystem	Cost
Bus Handsets:	
iDEN service	JD 060.00 / Bus
GPS service over iDEN (Package)	JD 300.00
(Per device)	JD 012.00 / Bus
Servers:	
Operating System's Support : *(Linux Distributions/ Solaris)* Redhat / Novell: Lowest Support Level Redhat / Novell: Highest Support Level Sun Microsystems: *(Solaris on non Sparc Machines)*	JD 0500.00 JD 1500.00 JD 2000.00

BiSCA

D) A sample bill of setting up BiSCA in a real working environment:

Subsystem	Quantity	Cost
Bus Handset	120 Bus	JD 03000.00
Administration	1 PC	JD 00350.00
Supervision	1 PC	JD 00350.00
Servers:	2 AMD 64-bit Opteron Servers double processor + Red Hat Enterprise Linux 4 Operating System.	JD 07500.00
Situated Displays	30 Street Situated Displays	JD 03000.00
Networking Infrastructure		JD 02500.00
	TOTAL	**JD 16700.00**

E) A sample bill of costs for operating BiSCA for the first year:

Service	Quantity	Cost
iDEN Service	120 Device	JD 7200.00
GPS Package	Enterprise Package	JD 0300.00
GPS Service	120 Device	JD 1440.00
	TOTAL	**JD 8940.00**