TEXAS INSTRUMENTS

Technical Document

GSM PROTOCOL STACK

G23

MBTN – INSTANT GUI-PROBLEM INFORMER

DEVELOPER DESCRIPTION

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0 Document Control

0.1 Change History

Date	Changed by	Approved by	Version	Status	Notes
2001-Feb-26	RK et al.		0.1		1
2003-May-20	XINTEGRA		0.2	Draft	
2003-Aug-18	RK		0.3	Draft	2

Notes:

1.   Initial version
2.   New Document Id introduced

0.2 List of Figures and Tables

0.3 List of References

[ISO 9000:2000]   International Organization for Standardization. Quality management sys-
tems - Fundamentals and vocabulary. December 2000

[GSM 2.30]   ETS 300 511: July 1995 (GSM 02.30 version 4.13.0)
Man-Machine Interface (MMI) of the Mobile Station (MS), ETSI

[XPAN]   06-03-36-UDO, xPanel – MMI Test Application (PC)
(xpan_userguide.doc)

[MOAN_UG]   06-03-53-UDO, MoanBtn – Instant GUI-problem Informer
(mbtn_userguide.doc)

[XM]   06-03-55-UDO, XM –GUI-frontend for GPF m.bat (xm_userguide.doc)

[PCO2]   06-03-35-UDO, PCO2 – Tracing Environment (pco_userguide.doc)

0.4 Abbreviations

ACI   Application Control Interface（AT Commands）

G23   The Condat implementation of Layers 2 and 3 of the GSM Protocol Stack

G23 Target System   Hardware which executes G23

LCD   Liquid Crystal Display

MM   Mobility Management

MMI   Man Machine Interface

MOC   Mobile Originated Call

MTC   Mobile Terminated Call

PC   Personal Computer

PCO   Point of Control and Observation

PIN   Personal Identification Number

RS232   Serial Communication Standard

Target System   Shortened form of 'G23 Target System'

0.5 Terms

Entity   Program which executes the functions of a layer

Message   A message is a data unit which is transferred between the entities of the same layer (peer-to-peer) of the mobile and infrastructure side. Message is used as a synonym to protocol data unit (PDU). A message may contain several information elements.

Primitive   A primitive is a data unit which is transferred between layers on one component (mobile station or infrastructure). The primitive has an operation code which identifies the primitive and its parameters.

Service Access Point   A Service Access Point is a data interface between two layers on one component (mobile station or infrastructure).

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1   Introduction

G23 is a software package implementing Layers 2 and 3 of the ETSI-defined GSM air interface signaling protocol, and as such represents the part of a GSM mobile station's protocol software which is both, platform and manufacturer independent. Therefore, G23 can be viewed as a building block providing standardized functionality through generic interfaces for easy integration.

The G23 suite of products consists of the following items:

- Layers 2 and 3 for speech & short message services,
- Layers 2 and 3 for fax & data services,
- Application Control Interface/AT Command Interface,
- MMI and MMI Framework (MFW) and
- Test and integration support tools.

The "Moan button" is a utility for instant complainings about a GUI-tool. It will be plugged in by using the   shared   DLL   concept.
The main concept of the "Moan button" is to give the user of a GUI-tool an instant possibility to moan about bugs, uncomfortable arrangements a.s.o.

Currently the following GPF-tools support the moan button: PCO2 (see [PCO2]), the xPanel (see [XPAN]), xm (see [XM]), the TapCaller and MSCview (see "\GPF\html\mscview.html").

This documentation is dedicated to interested developers. For user/customer specific documentation see [MOAN_UG].

2   Solution

2.1   How to plug in

To make your application supporting the "Moan button" you just have to include the "moanbtn.h"-file (in "\GPF\INC\WIN32") in your main source, call "mbtn_init()" at start of your program and link with the moanbtn.lib (in "\GPF\LIB\WIN32").
If the user makes sure that the moanbtn.dll (e.g. in "\GPF\BIN") is available when starting your application, he can instantly use the "Moan button" (see [MOAN_UG]).

The parameters of "mbtn_init(const char* program, const char* email)" stand for:
- "program" … name of your application
- "email" … your email address (address of current developer)

2.2   The background

All sources of the "Moan button" can be found in "\GPF\util\moanbtn" (see "\GPF\readme_aux.txt").

You'll find sources for the actual DLL and "moanbtn_lib.cpp" which is used for building the import library. This library will first check for the DLL and eventually load it.

The DLL itself uses the MFC for easy GUI-handling and some variables declared as shared (in "moanbtn.cpp") to allow more then one application to connect to the DLL while showing only one hammer in the system tray.

For building you can either use gnumake with the makefile or the MS-DevStudio project files in subdirectory "MSDev".
Suitable parameters for the makefile are (listed by "gnumake help"):

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- without any parameter	… make release version of DLL and import lib and copy (export) it to "\GPF\BIN"
– dll | lib	… make release version of either the DLL or the import lib and copy (export) it to "\GPF\BIN"
– DEBUG=1	… make debug version and copy (export) to "\GPF\BIN\debug"
– EXPORT=0	… don't copy (export) to "\GPF\bin" ("\GPF\BIN\debug")
– clean | clean_lib | clean_dll	… clean release objects of DLL and/or import lib (with DEBUG=1 clean debug versions)
– checkin	… check in all project files into ClearCase –VOB (with CICMT=<checkin comment> you can specify a checkin comment, "auto checkin" will be used otherwise)

3   Known problems and future tasks

This paragraph is meant to show which bugs are already found (but not removed yet) and to provide an impression of future plans concerning this product.

3.1 Known bugs

* *m_visible* is not secured by a semaphore. It is possible that sometimes after quitting one of at least three running running mbtn-supporting applications two of the remaining might **both** "think" that they have to provide the hammer symbol.

3.2 „Soon implemented"

*

3.3 „Nice to have"

*

Appendices

A.   Acronyms

DS-WCDMA   Direct Sequence/Spread Wideband Code Division Multiple Access

B.   Glossary

International Mobile Tel-
ecommunication 2000
(IMT-2000/ITU-2000)

Formerly referred to as FPLMTS (Future Public Land-Mobile Telephone System), this is the ITU's specification/family of standards for 3G. This initiative provides a global infrastructure through both satellite and terrestrial systems, for fixed and mobile phone users. The family of standards is a framework comprising a mix/blend of systems providing global roaming. <URL: http://www.imt-2000.org/>

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