applicad

Strategy for the interfacing AppliCad s/w with existing job management systems.

GRIM File Format
(**G**eneric **R**oof **I**nterface **Method**)

Technical Paper - Preliminary Release - 15 December 1998
Latest Revision v8.0 – 28 April 2011

## Brief overview of the Generic Roof Information Method

The process assumes that a business wants to minimize data entry and/or re-use data across the enterprise that is entered already when a job is started. The job management system may be any number of proprietary management information systems that firms have to provide some degree of control over jobs, accounts, stock etc.

Creating the text file in GRIM format is simply a matter of writing a query in the job management system and saving the data in the appropriate form as described below. It can then be picked up by one of AppliCad's programs (Roof X), either automatically or manually, and used without re-entering the data. AppliCad's program models the roof geometry, automatically extracts roof details such as lengths, areas etc. and writes an output text file that may be picked up in a similar way and used by the job management system.

AppliCad's programs do provide basic job management functions, but interfacing with advanced systems provides the tools to manage jobs at a much higher level. Typical users of this process will be medium to large roofing contractors and material manufacturers that offer job lots for their clients.

The process marries up advanced job management and accounting with advanced roof modelling and take-off and closes the job management loop. Data may be created in the business's management system and saved as a GRI file for pick up by the AppliCad application. It may also be saved from the AppliCad application for pick up by the business management system as described in the illustration below.

As it is possible that there will be much information that AppliCad creates that does not need to be shared with the business management system, a GRIM Template file can be created which filters the data exported. This delivers only the information that the business management system requires, in the order that it requires it.
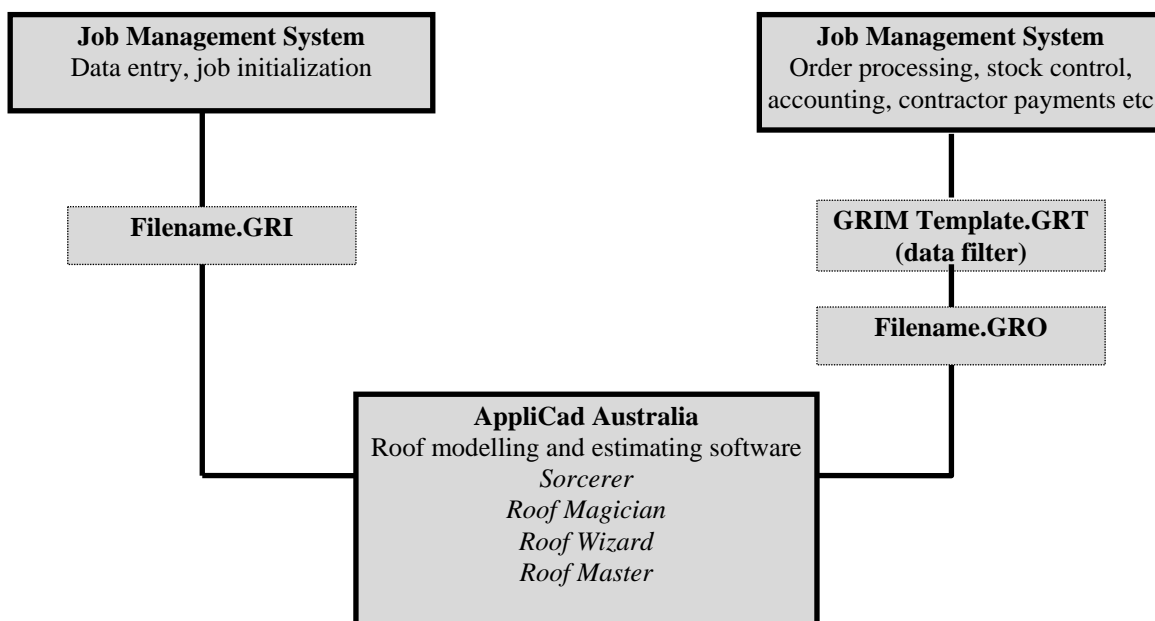
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information sharing capabilities.

The AppliCad roof series of software Roof X (X = Sorcerer, Wizard, Magician or Master) has been designed to not only model roofs but provide some job management. In most small roofing companies, there are little or no Existing computer based Job Management Systems (EJMS) and Roof X has become the default JMS. Larger organisations however do have an EJMS, to which they wish to interface Roof X.

Here, is discussed a plausible mechanism for the interfacing of EJMS with Roof X using the AppliCad proprietary GRIM File format.

Requirements
The key requirement or benefit to the customer for the interfacing of Roof X with EJMS is to eliminate double (or triple) entry of Job Management Data (JMD).

The key requirement to AppliCad is to maintain a single market product (of Roof X) rather than a different one for each organisation with an EJMS. This is also of benefit to the customer base.

Therefore it is important to AppliCad that a generic solution be designed which may or may not draw on JMD in the EJMS and continue to use the Roof X JMS.

Possible solutions
There are two possible solutions which need to be mentioned in order to eliminate them.
- Live link from Roof X to EJMS. This is eliminated due to it being a non-generic process.
- Present all JMD in the EJMS to Roof X. This is eliminated due to the replication of a vast amount of existing data which would simply overwhelm Roof X.

The Solution
The solution is for the EJMS to present Roof X with a flat ascii file populated with keywords and values which constitute the current job. When Roof X creates a new job, this file is imported and the values contained within are adopted for the current job.
Conversely, when a Roof X job is saved, an equivalent output file is created for importation into the EJMS. This method and format of the import/export file is defined as the Generic Roof Interface Method, GRIM.

The GRIM File Format
The GRIM format provides for a header describing the file as a GRIM file followed by zero or more entries, composed of a keyword followed by a value.
The header is to be on line 1 starting in column 1. The header line is to be
```
GRIM file header
```

Following the header are records composed of a keyword/value pair, separated by a <cr><lf>
The value is read to the end of line. All white space between the keyword and value is ignored.
The extension of a GRIM file for import into Roof X is GRI.
The extension of a GRIM file exported by Roof X is GRO.

An example GRIM file is:
```
GRIM file header status unread
```

```
###CustName              John Smith
###Custaddress1          Customer address line 1
###Custaddress3          Customer address line 3
###Jobnumber             Job number
###Joborder              Order number
###Jobadd1               Job address line 1
###Jobadd2               Job address line 2
```

A table of keywords follows.

Usage Specification

Roof X will import a GRIM file based on a default setting in Roof X. The setting will allow for automatic or manual import and export of a GRIM file.

Importing a GRIM file

If set to automatic under **Tools > More… > System Preferences**, Roof X will look for a GRIM file, and import the first available one it finds automatically. If more than one is found, then the first one found is imported. If none are found, nothing more will happen automatically.

If set to manual, the user will need to select the command **Import GRIM File** from the pulldown menu. A list of available GRIM files will be displayed from which the user selects one. On selection, a new job is created and the GRIM file imported.

In order to differentiate GRIM files which have already been imported and those which have not, the GRIM file itself, will be written to a GRR file and the original file deleted.

Exporting a GRIM file

If set to automatic, a GRIM files will be written automatically when a quote is saved. The name of the GRIM file will be the same as the imported GRIM file.

If set to manual, the user will need to select the command **Export GRIM File** from the **Reporting** menu.

Sample Keywords (Key Text)

###Custname	Customer name
###Custaddress1	Customer address line 1
###Custaddress3	Customer address line 3
###Custfax	Customer fax
###Custconname	Customer contact name
###Custaddress2	Customer address line 2
###Custphone	Customer phone
###Custmobile	Customer mobile
###Buildername	Builder name
###Builderaddress1	Builder address line 1
###Builderaddress3	Builder address line 3
###Builderfax	Builder fax
###Builderconname	Builder contact name
###Builderaddress2	Builder address line 2
###Builderphone	Builder phone

###Buildermobile	Builder mobile
###Installername	Installer name
###Installeraddress1	Installer address line 1
###Installeraddress3	Installer address line 3
###Installerfax	Installer fax
###Installerconname	Installer contact name
###Installeraddress2	Installer address line 2
###Installerphone	Installer phone
###Installermobile	Installer mobile
###Distribname	Distrib name
###Distribaddress1	Distrib address line 1
###Distribaddress3	Distrib address line 3
###Distribfax	Distrib fax
###Distribconname	Distrib contact name
###Distribaddress2	Distrib address line 2
###Distribphone	Distrib phone
###Distribmobile	Distrib mobile
###Salesname	Sales name
###Salesaddress1	Sales address line 1
###Salesaddress3	Sales address line 3
###Salesfax	Sales fax
###Salesconname	Sales contact name
###Salesaddress2	Sales address line 2
###Salesphone	Sales phone
###Salesmobile	Sales mobile
###Jobnumber	Job number
###Joborder	Order number
###Jobdelarea	Job delivery area
###Jobpickupdate	Job pick up date
###Jobquote	Quote number
###Jobadd1	Job address line 1
###Jobadd2	Job address line 2
###Jobadd3	Job address line 3
###Jobinstaldate	Job installation date
###Jobdeldate	Job delivery date
###MapRef	The job map reference.
###Compname	Company name
###Compadd2	Company address line 2
###Compfax	Company fax
###Compnotes	Company notes
###Compadd1	Company address line 1
###Compphone	Company phone
###Compacn	Company acn

GRIM File Format

A GRIM (**G**eneric **R**oof **I**nterface **M**ethod) file is designed to facilitate the transfer of roof geometry and roof material costing data between AppliCad and other computer systems. The GRIM file is generated from the **Export GRIM** button on the **Reporting > Supply and Install** option.

A GRIM file is an ASCII file, with a header line followed by one or more lines containing a key text string and a value. A key text string is one of those defined for creating/modifying templates as described earlier in this manual.

A key text string starts in column 1 and is a maximum of 20 characters. The value for this key text string starts in column 21.
The last line in the file is defined with 'END'.

A sample appears below

```
GRIM file header
###TODAY            16 July 1999
###JOBDELAREA       Area 1
###JOBINSTALDATE    16 July 1999
###JOBPICKUPDATE    16 July 1999
###JOBDELDATE       16 July 1999
###MAPREF
###COMPNAME         Applicad
###COMPADD1         37 Railway Road
###COMPADD2         Blackburn Vic 3130
###COMPPHONE        Ph 03 9877 7177
###COMPFAX          Fx 03 9877 0177
###COMPACN
###COMPNOTE1
###COMPNOTE2
###SCALE            1 : 1
###PAGE             Page 1 of 1
###PITCH            26.6
###EAVEOFFSET       610
###EAVEHEIGHT       2700
###RAFTERSPACE      610
###BATTENSZ         90x38
###HIPTYPE          0
###RIDGETYPE        0
###VALLEYTYPE       0
. . .
. . .
. . .
. . .
###TILEMAN
###TILECOLOUR
###TILEPROFILE
###TILETYPE
###TILEMATERIAL
###TILECOV          10.50
###TILEBARGECOST    0.00
###ROOFMAT          Not included
###RIDGEMAT         Roll top ridge, Merino
###FASCIAMAT        Metal fascia, Mountain Blue
###GUTTERMAT        Not included
###BATMAT           Not included
###VALLEYMAT        Not included
###BARGEMAT         Not included
###INSULMAT         Not included
###CROOFMAT         Not included
###DPMAT            Not included
###DATABASENAME     Sorcerer File : aasample.dab    Model : model
###DATABASEFILENAME aasample
###DATABASEMODELNAMEmodel
###ROOFAREA         314.48
###RIDGELEN         15.50
###HIPLEN           47.49
###VALLEYLEN        13.83
###FASCIALEN        75.88
###GUTTERLEN        75.88
###BARGELEN         0.00
###FASCIABARGELEN   0.00
###APRONLEN         0.00
###BOXGUTTERLEN     0.00
###SHELLENDS        6
###APEXES           4
END
```

Refer to the complete list of key text strings described in the Appendix to the Reference Manual.

There are also repeated structures which handle material line items reported in the job as well as cutting list. For each material line item present in the job there is the following set of key text strings

###LINEITEM	the name of the line item
###LINEITEM_SUP	the supplier of this item
###LINEITEM_MAN	the manufacturer of this item
###LINEITEM_CODE	the product code of this item
###LINEITEM_PRO	the profile of this item (user defined)
###LINEITEM_FIN	the finish of this item (user defined)
###LINEITEM_QTY	the quantity of this item
###LINEITEM_RATE	the cost per unit of this item

If the line item defines straight metal roofing or flashings, a cutting list may follow. The cutting list is of the repeated form

###CUTLIST_SIZES	the number of cutting list sizes to follow
###CUTLIST_QTY	the number off of the following length
###CUTLIST_LENGTH	the length required

Labour line items are also written in a repeated form:

###LABOUR_ITEM	The name of this labour item
###LABOUR_QTY	The labour quantity
###LABOUR_RATE	The labour rate

The following file segment shows this format

```
###LINEITEM          Ridge
###LINEITEM_SUP      StramitIndustries
###LINEITEM_MAN      StramitIndustries
###LINEITEM_CODE     RTRVCTL--
###LINEITEM_PRO      Roll top ridge
###LINEITEM_FIN      Merino
###LINEITEM_QTY      2.000000
###LINEITEM_RATE     10.280000
###CUTLIST_SIZES     6
###CUTLIST_QTY       1
###CUTLIST_LENGTH    3200
###CUTLIST_QTY       4
###CUTLIST_LENGTH    2950
###CUTLIST_QTY       6
###CUTLIST_LENGTH    2840
###CUTLIST_QTY       4
###CUTLIST_LENGTH    2800
###CUTLIST_QTY       6
###CUTLIST_LENGTH    2720
###CUTLIST_QTY       2
###CUTLIST_LENGTH    2300
```

A cutting list is written if the name of the line item is one of 'Straight roofing', 'Ridge', 'Valley', 'Fascia', 'Gutter', 'Barge', 'Apron', or 'Batten'.

Roof Plan Picture (Plot File)

When you export a grim file, a plot file is created of the roof plan. The plot file is an ASCII vector format that conforms with Hewlett Packard Graphics Language 2 (**HP-GL2**) – this is a generic format used to drive Hewlett Packard plotters. Lines and line properties are plotted as defined by the operator using the **Tools > Change Entity > Lines Styles** option. Essentially what you see on screen is what will be plotted to the HPGL2 file. Sarking or Underlay planes (where there is partial Underlay) appear as filled planes.

The HPGL2 file format is an ASCII text file, which means the instructions may be viewed in a text editor and an importation routine may be easily written for custom applications where the roof plan needs to be displayed. Many word processors and graphics programs will import HPGL2 files directly. You may need to install specific functions to enable this feature.

GRIM Template Files

This feature gives the user a method by which a user defined data file can be generated. This would be most useful in transferring data from Sorcerer to other systems.

A Grim Template file is an ascii file with a '.grt' extension. The file contains grim text strings which are swapped over for their current value when you do an ExportGRIM from the **Reporting > Supply** or **Reporting > Supply and Install** dialog box.

An example format data file would be something like the following

```
My header line

###JOBNUMBER  , ###JOBQUOTE   ,###TAX, ###TOTALINCTAX

This is some sample text
```

If you called this file MyGrim.grt, the result would be a file called MyGrim-data.csv with the actual values.

```
My header line

jn-8888  , qn-9999   ,224.36, 2467.95

This is some sample text
```

You can have up to 5 grim template files in your user directory and up to 10 lines in the grt file.

End of Document