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LoansMgr v2.5a User Manual

May 2005

LoansMgr Brought to You By:

CampbellWare

1986, 1994, 2005

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1.0 Introduction

1.1 *About LoansMgr*

LoansMgr for Linux is a powerful but easy to use loan management program intended for standard compound interest loans. Common examples of such loans are car loans and mortgages. Given any three of the four components of the basic compound interest equation (Loan size, Payment Size, Interest Rate, and Number of Payments), LoansMgr will solve for the remaining one, allowing the user to run an unlimited number of "what if" scenarios.

In addition, LoansMgr can generate and maintain amortization schedules, handle variable payment intervals (in units of weeks and months), handle variable interest compounding periods per year, and handle regularly scheduled additional principal payments. LoansMgr also allows all data related to a given loan to be saved in a "loan profile" file, and easily reloaded at a future date.

LoansMgr was originally written in 1985, for the Qunix operating system running on a NABU 1600 small business computer. In 1994, LoansMgr was ported to DOS 5.0 and DOS 6.0. In 2005, LoansMgr was ported to Linux and ncurses.

LoansMgr is provided free of charge, and is distributed under the GNU Public License. Use and enjoy.

1.2 *LoansMgr Requirements*

LoansMgr is an ncurses based program. As such, it places almost no requirements on the host system, other than the support of ncurses.

The executable included in the LoansMgr distribution is an x86 program compiled and linked under Mandrake Linux 10.1 on an x86 PC. LoansMgr has only been thoroughly tested under Mandrake Linux 10.1. No guarantees are made for other versions of Linux, although LoansMgr is known to work correctly on SuSE Linux 9.0 and Debian Linux 3.1.

1.3 LoansMgr Has Been Verified On...

LoansMgr has been verified on Mandrake Linux 10.1, SuSE Linux 9.0, and sanity tested on Debian Linux 3.1.

2.0 Installing LoansMgr

2.1 Installing Files

Installing LoansMgr is easy. Start by expanding the distribution tarball. To do this, issue the command:

```
tar -xvjf distribution_tarball.tar.bz2
```

replacing "distribution_tarball" with the name of the file

This will create a lm-2.5a-release directory, with the following contents:

- a) file "lm". This is an x86 executable. It was built on Mandrake 10.1, but because LoansMgr relies only on ncurses, it is highly likely that it will execute directly on your system.
- b) .lm.ini - this is the ini file, which sets colors used by LoansMgr.
- c) The above three formats for the User Guide
- d) directory lm-2.5a-src. This is the source tree

Copy the executable to some directory on your PATH, and copy the .lm.ini file to your home directory. LoansMgr will find it and use it if you have the HOME environment variable set. If you do not have this variable set, you may wish to do so at this time. If LoansMgr does not find the HOME variable, or the .lm.ini file in the HOME directory, it defaults to an internally defined color set.

2.2 Setting Environment Variables (Optional)

2.2.1 HOME Variable

LoansMgr uses this variable as it attempts to locate the .lm.ini file, which can be used to modify the default screen colors. If this variable is set, LoansMgr will look in the indicated directory for the file .lm.ini, and use it to configure screen colors, if found.

2.2.2 EDITOR Variable

It is advised that you set up an environment variable named "EDITOR", which contains the name of a console based ASCII text editor capable of displaying text files. vi is a common example of this class of editors. If the HOME variable does not exist, LoansMgr uses the "less" pager to execute commands that require viewing files. The author of LoansMgr is also the author of a small, fast and feature-rich ncurses text editor named "ve" which you may wish to investigate for this purpose. VE can typically be found at the same source that LoansMgr was found at.

2.2.3 SHELL Variable

LoansMgr uses this variable to determine the shell to run for its "OS Shell" command. This variable will typically be set without any action on your behalf, but if not, and you plan to use the "OS Shell" command, please set it.

2.3 For the Adventurous (Optional)

If you are feeling adventurous, open and modify the contents of the initialization file `.lm.ini`. The contents are quite self explanatory.

2.4 Executing LoansMgr

Just type "lm" and you are off and running.

3.0 Starting LoansMgr

3.1 *LoansMgr Command Forms*

Start LoansMgr with one of two command forms:

- `lm`
This form starts `lm` without loading an previously created loan profile
- `lm filename`
This form starts `lm` and loads a previously created loan profile.

At startup, LoansMgr will look for a file named `~/lm.ini`. If present, LoansMgr will load this file and set screen color options from it's contents. This file may be created using any text editor (the author recommends VE, also provided by CampbellWare). A sample `lm.ini` is provided with the distribution tarball. LoansMgr will find and use this file if the HOME environment variable is set.

3.2 *Getting Help*

Each LoansMgr menu contains a Help command, which will pop up a window providing help for that menu. This functionality may also be accessed via the F1 key.

4.0 Acknowledgements

The author would like to acknowledge the contributions of Philip A. Campbell, for inspiring many of LoansMgr's advanced features, and for acting as prime beta tester, and to Graeme B. Boyd for 'artistic inspiration'.

5.0 Legal Information

5.1 Introduction

PLEASE READ THIS INFORMATION CAREFULLY BEFORE USING THE LOANSMGR SOFTWARE FOR ANY CALCULATIONS. BY USING THE SOFTWARE, YOU ARE AGREEING TO BE BOUND BY THE TERMS PRESENTED HEREIN.

The first version of LoansMgr was written in 1985, and the author has been using it ever since to assist in simple financial decisions, such as what the payments should be on a new car loan, whether it makes sense to refinance a mortgage, and so on. The author has always found it to be very helpful in arriving at these decisions. However, LoansMgr is not a certified financial program of any sort. The author is an engineer by training, not a financier, and so there is no guarantee that the data LoansMgr generates is unconditionally correct.

Please understand that you use LoansMgr at your own risk. Please do not make financial decisions of ANY nature based solely on data generated by LoansMgr. The author is not aware of any bugs in LoansMgr's financial calculation software, but that does not mean that there are none there. As a result of this simple observation, what follows is a fair amount of "legal-ese" intended to say, in hopefully proper legal terminology, that neither the author nor CampbellWare can be held liable for any erroneous data that LoansMgr may generate. Please read this information carefully.

5.2 Legal Disclaimer

BY USING LOANSMGR, YOU ARE AGREEING TO BE BOUND BY THE TERMS PRESENTED BELOW:

You expressly acknowledge and agree that use of the LoansMgr software (hereafter referred to as 'the Software') is at your sole risk. The Software and the related documentation are provided AS IS and without warranty of any kind, express or implied, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose.

Under no circumstances, including negligence, shall Michael Campbell be liable for any incidental, special or consequential damages that result from the use or inability to use the Software or related documentation, even if advised of the possibility of such damages.

6.0 LoansMgr Terminology

6.1 Introduction

LoansMgr views a loan as a logically related set of numerous variables, referred to collectively as a "loan profile". This section describes all of the elements of a loan profile, and what each means and is used for. It also describes the concept of saving and reloading loan profiles.

6.2 Basic Loan Parameters

The major elements of a loan profile are the four basic components of the compound interest equation:

L - The loan size, in dollars (no distinction between \$US and \$CDN).

P - The per period payment size, again in dollars.

I - The quoted interest rate, in percentage.

N - The number of payment periods over which the loan is amortized.

6.3 Advanced Loan Parameters

In addition to the above, LoansMgr includes the following in the loan profile:

C - Compounding Periods. This is the number of interest compounding periods per year. Generally, this is 12 for US loans and mortgages, 2 for Canadian mortgages, and 1 for most car loans.

PI - Payment Interval, expressed in other months or weeks. This is the units in which the N variable (number of payments) is calibrated. The payment interval can be any of:

- a) 1.00 month
- b) 0.50 months
- c) 0.25 months

- d) 4.00 weeks
- e) 2.00 weeks
- f) 1.00 week

APA - Additional Principal Amount, expressed in dollars. This is the amount of any regularly scheduled additional principal payments that may be made on the loan.

APP - Additional Principal Period, expressed in number of payment intervals. This is the interval between regularly scheduled additional principle payments.

6.4 *Loan Schedule Files*

LoansMgr can generate an amortization schedule for a given loan profile, which includes one entry for each payment, consisting of:

- a) Payment number
- b) Payment date
- c) Payment size
- d) Principal portion of the payment
- e) Interest portion of the payment
- f) Total principal paid to date
- g) Total interest paid to date
- h) Balance after the payment is applied

These schedules are generated into a user-specified file, which may then be directly viewed from within LoansMgr, or may be viewed, printed etc., after LoansMgr has been exited.

Loan schedule files are standard ASCII text files, and so, may be browsed at any time with your favorite ASCII text viewer, editor, word processor, etc.

6.5 *Loan Profile Files*

LoansMgr will allow you to save all of the data related to a loan in a "loan profile file", which you can then reload at a later date. This allows you to work with a given loan over a long period of time, without having to laboriously re-enter all of the parameters of its profile.

Loan Profile Files are binary files, and cannot be meaningfully viewed except via LoansMgr.

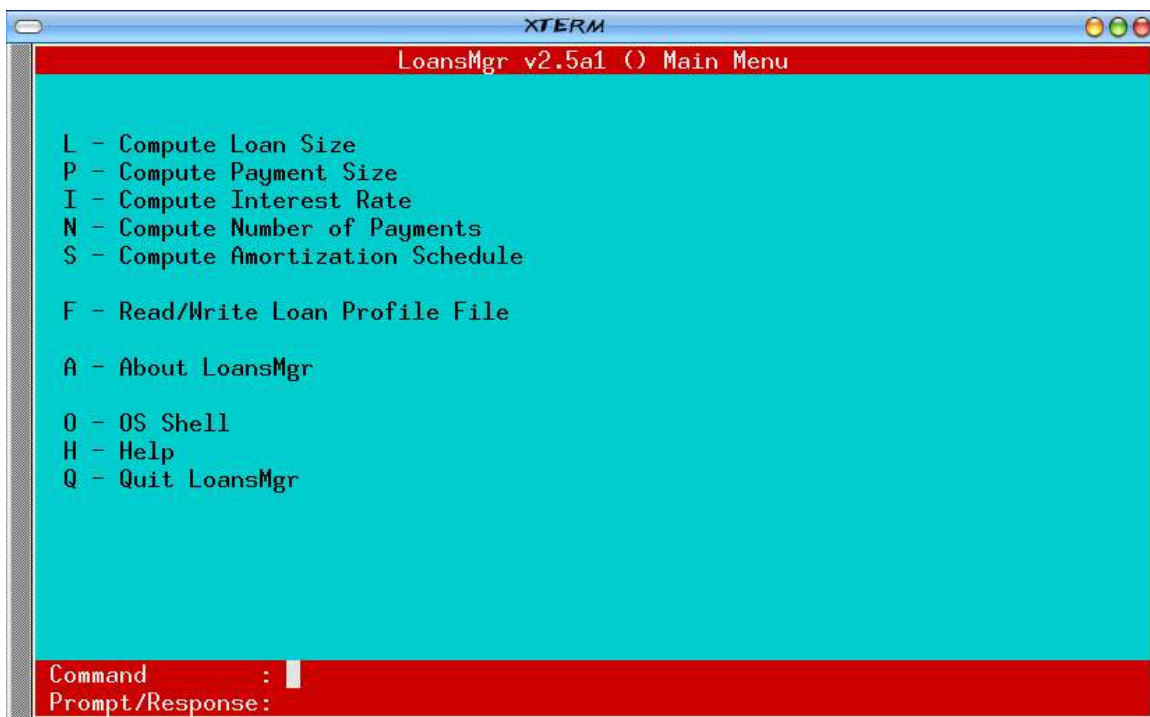
7.0 LoansMgr User Interface

7.1 Introduction

LoansMgr uses a full screen user interface, consisting of "hot key" driven menus, and pop up information windows. LoansMgr does not require or support mouse driven operations. This section describes the two major elements of the user interface: menus and popups.

7.2 LoansMgr Screen Shot

A screen shot of LoansMgr in action is shown below. Each of the major areas of the display are marked, and are described in the following text.



(Screen shot taken while using IceWm, IceQua theme, and Black on Cyan colors)

7.3 LoansMgr Screen Layout

7.3.1 Introduction

The screen is divided into three major areas:

- a) The Title Bar
- b) The Menu Item Area
- c) The I/O Area

The title bar and I/O areas are referred to collectively as the "Menu Outline Area". It will be helpful to remember the names of these areas, as LoansMgr allows you to configure the display colors used in them, via the LOANSMGR.INI file.

7.3.2 Title Bar

The Title Bar presents the title of the menu being displayed.

7.3.3 Menu Item Area

The User Menu Area presents a set of "hot key" selections, consisting of a key to press to make the selection, a description of the what the selection is for, and optionally, data currently associated with the selection. When the selection key is pressed, it is not echoed to the screen, and LoansMgr takes action on it immediately. This is why it is referred to as a "hot key" menu system.

7.3.4 I/O Area

The I/O Area provides an area in which LoansMgr can provide status information, and calculation results, and an area in which the user can enter loan profile data, and file names, as needed. In general, LoansMgr reads user input from the command line, and provides responses to the user on the Prompt/Response line. As the name indicates, LoansMgr may also prompt for more data on this line.

7.4 *Pop Up Windows*

The user menu display areas, and the general I/O area are sufficient for most of the LoansMgr - user interactions. However, on occasion, LoansMgr needs to display a large volume of information (for example, help information, or complete loan profiles). When this type of need arises, LoansMgr presents a pop up window with the required information. The window remains displayed until the users hits any one key, indicating that the information displayed has been "absorbed", and is no longer needed. At that time, the window is removed.

The only operations possible on popup windows is to cause them to be displayed, and to remove them by striking a key. Popups cannot be moved, resized, or otherwise manipulated.

8.0 Common Menu Behavior

8.1 Introduction

Not suprisingly, all of LoansMgr's menus share some identical behavioral characteristics. This section describes elements that are common to all menus.

8.2 Hot Key Operation

All of LoansMgr's menus are "hot key" menus. This simply means that when a selection is made, by pressing the single key associated with that selection, LoansMgr does not echo the selection. Instead, it acts on it immediately, and the output resulting from the action taken acts as the "echo" to the key press.

8.3 Redraw Screen

In the unlikely event that LoansMgr should mess up the screen display (this is a *bug* if it happens - please let me know!), it can be redrawn by hitting the "~" key, which generally is the key to the left of the "1" key.

8.4 The "<" and ">" Characters

LoansMgr has a limited amount of space in which to display large data items, such as filenames. In the event that a filename will not fit in the available display area, LoansMgr will display characters up to the maximum display width available, and then output a "<" character, which indicates that there are undisplayed characters to the left, or a ">" character, which indicates that there are undisplayed characters to the right.

8.5 ESC and F1

All LoansMgr menus have "Quit" and "Help" commands. In the PC world, the Esc and F1 keys have become defacto standards for these functions. As such, the Esc key may be used in place of the "Q" command, and the F1 key can be used in place of the "H" command. Both variants of each command operate identically. Note that there may be a short pause after pressing the ESC key, due to the ncurses timing mechanism associated with differentiation of ESC key presses from ESC sequences generated by keypad keys.

8.6 Error Feedback

LoansMgr reacts to invalid menu selections with a message to that effect, in the response line, and, optionally, an audible beeping sound.

8.7 Sanity Checking

LoansMgr does not "sanity check" the data you enter on a given menu until you ask it to undertake some operation with that data. At that time, the data is checked, and the operation only undertaken if it is "sensible". So, for example, LoansMgr will happily allow you to enter interest rates greater than 100%, payment values that are greater than the loan value, etc., and will only complain when asked to compute some value using the data. At that time, LoansMgr will present a detailed message, explaining what issue it has detected with the data it is being asked to operate on.

There are two exceptions to the above. The first of these is that LoansMgr will reject any numbers which exceed 999999999999.99, as these are clearly not "sane" values for the function that LoansMgr was written to perform. The second is that LoansMgr will reject all negative numbers, as these lie outside the range of meaningful numbers for the function LoansMgr was written to perform.

9.0 Main Menu

9.1 Introduction

When LoansMgr is first started, it presents the Main Menu. This section describes all of the Main Menu selections.

9.2 Selections

- L - Loan Size. This selection brings up the Loan Size Menu, which allows you to compute the size of the loan which results from the P, I, C, and N parameters you enter.
- P - Payment Size. This selection brings up the Payment Size Menu, which allows you to compute the payment size needed for a loan whose L, I, C, and N parameters you enter.
- I - Interest Rate. This selection brings up the Interest Rate Menu, which allows you to compute the interest rate for a loan whose L, P, C, and N parameters you enter.
- N - Number of Payments. This selection brings up the Num Payments Menu, which allows you to calculate the number of payments needed for a loan whose L, P, I, and C parameters you enter.
- S - Schedule. This selection brings up the Schedule Menu, which allows you to generate loan payment schedule files for loans whose L, P, I, and C parameters you enter.
- F - File. This selection brings up the proFile Menu, which allows you to view the current loan profile, save it to a file, or load a new profile from a previously saved profile file.

- A - About LoansMgr. This selection brings up the About Menu, which allows you to view general information about LoansMgr, view an abbreviated version of the legal disclaimers presented above, and review the Distribution Agreement associated with use of the program. Finally, this menu presents information on how to contact the author, should this need arise.
- H - Help. This selection brings up a popup window containing help for the Main Menu.
- O - OS Shell. This selections allows you to shell out to the OS. In order for this to work, the SHELL environment variable must be set. LoansMgr will inform you of this, if it is not.
- Q - Quit. This selection quits LoansMgr, and returns to Linux. Note that LoansMgr will not prompt you to save the loan profile, if it has changed!

9.3 Notes

None

10.0 Loan Size Menu

10.1 Introduction

The Loan Size Menu allows you to compute the size of loan that will result from the P, I, C, and N values you enter via this menu, or that this menu inherits from either the loan profile, or the corresponding values entered on another menu. This section describes all of the selections for the Loan Size Menu.

10.2 Selections

- P - Payment Size. This selection will cause LoansMgr to prompt for the desired payment size. The value entered will be displayed in the User Menu Area data field associated with this selection.
- I - Interest Rate. This selection will cause LoansMgr to prompt for the desired interest rate. The value entered will be displayed in the User Menu Area data field associated with this selection.
- C - Compounding Periods. This selection will cause LoansMgr to prompt for the number of interest compounding periods per year. Generally, this is 12 for most US mortgages and loans, 2 for most Canadian mortgages, and 1 for most car loans.
- N - Number of Payments. This selection will cause LoansMgr to prompt for the desired number of payments. The value entered will be displayed in the User Menu Area data field associated with this selection.

- S - Solve. This selection will cause LoansMgr to solve for the loan size, and display it on the Response Line. Other menus that require Loan Size as a parameter will inherit the value computed by this menu, as a starting point.
- O - OS Shell. This selections allows you to shell out to Linux. In order for this to work, the SHELL environment variable must be set. LoansMgr will inform you of this, if it is not.
- H - Help. This selection brings up a popup window containing help for the Loan Size Menu.
- Q - Quit. This selection quits this menu, and returns to the Main Menu. All L, P, I, C, and N values entered or computed on this menu will be inherited by all other menus.

10.3 Notes

None

11.0 Payment Size Menu

11.1 Introduction

The Payment Size Menu allows you to compute the payment size needed for a loan whose L, I, C, and N values you enter via this menu, or that this menu inherits from either the loan profile, or the corresponding values entered on another menu. This section describes all of the selections for the Payment Size Menu.

11.2 Selections

L - Loan Size. This selection will cause LoansMgr to prompt for the desired loan size. The value entered will be displayed in the User Menu Area data field associated with this selection.

N - Number of Payments. This selection will cause LoansMgr to prompt for the desired number of payments. The value entered will be displayed in the User Menu Area data field associated with this selection.

I - Interest Rate. This selection will cause LoansMgr to prompt for the desired interest rate. The value entered will be displayed in the User Menu Area data field associated with this selection.

C - Compounding Periods. This selection will cause LoansMgr to prompt for the number of interest compounding periods per year. Generally, this is 12 for most US mortgages and loans, 2 for most Canadian mortgages, and 1 for most car loans.

- S - Solve. This selection will cause LoansMgr to solve for the payment size, and display it on the Response Line. Other menus that require Payment Size as a parameter will inherit the value computed by this menu, as a starting point.
- O - OS Shell. This selections allows you to shell out to Linux. In order for this to work, the SHELL environment variable must be set. LoansMgr will inform you of this, if it is not.
- H - Help. This selection brings up a popup window containing help for the Payment Size Menu.
- Q - Quit. This selection quits this menu, and returns to the Main Menu. All L, P, I, C, and N values entered or computed on this menu will be inherited by all other menus.

11.3 Notes

None

12.0 Interest Rate Menu

12.1 Introduction

The Interest Rate Menu allows you to compute the interest rate that is needed for a loan whose L, P, C, and N parameters you supply, or that this menu inherits from either the loan profile, or the corresponding values entered on another menu. This section describes all of the selections for the interest rate menu.

12.2 Selections

- L - Loan Size. This selection will cause LoansMgr to prompt for the desired loan size. The value entered will be displayed in the User Menu Area data field associated with this selection.
- P - Payment Size. This selection will cause LoansMgr to prompt for the desired payment size. The value entered will be displayed in the User Menu Area data field associated with this selection.
- C - Compounding Periods. This selection will cause LoansMgr to prompt for the number of interest compounding periods per year. Generally, this is 12 for most US mortgages and loans, 2 for most Canadian mortgages, and 1 for most car loans.
- N - Number of Payments. This selection will cause LoansMgr to prompt for the desired number of payments. The value entered will be displayed in the User Menu Area data field associated with this selection.

T - Payment Time. This selection will cause LoansMgr to prompt for the interval between payments. This interval may be any of:

- a) 1.00 Month
- b) 0.50 Months
- c) 0.25 Months

- d) 4.00 Weeks
- e) 2.00 Weeks
- f) 1.00 Week

If you are feeling lazy, the number followed immediately by the first letter of the unit works as well (ex: "1m" will be interpreted as 1.00 Months).

S - Solve. This selection will cause LoansMgr to solve for the interest rate, and display it on the Response Line. Other menus that require Interest Rate as a parameter will inherit the value computed by this menu, as a starting point.

O - OS Shell. This selection allows you to shell out to Linux. In order for this to work, the SHELL environment variable must be set. LoansMgr will inform you of this, if it is not.

H - Help. This selection brings up a popup window containing help for the Interest Rate Menu.

Q - Quit. This selection quits this menu, and returns to the Main Menu. All L, P, I, C, and N values entered or computed on this menu will be inherited by all other menus.

12.3 Notes

- The interest rate solution algorithm is knowledgeable about compounding periods, and will display the correct interest rate for the selected number of compounding periods.
- Due to the nature of the mathematics involved, it is not possible to directly solve for Interest Rate. Instead, iterative numerical methods must be used to achieve the answer. LoansMgr uses a proprietary iterative algorithm, which resolves the interest rate to 2 significant digits of accuracy. Because the method is iterative, solving for interest rate may cause an observable delay on older, slower machines.

13.0 Num Payments Menu

13.1 Introduction

The Num Payments Menu allows you to compute the number of payments needed for a loan whose L, P, I, and C values you enter via this menu, or that this menu inherits from either the loan profile, or the corresponding values entered on another menu. The number of payments is displayed, as well as the time in years that this number of payments represents.

This menu also allows you to introduce regularly scheduled principal payments, and observe the effect of these on the total number of payments, and the calendar duration, of the loan. Finally, this menu allows you to vary the payment interval, to determine the impact of various payments schemes (1 per month, 2 per month, 1 per 2 weeks, etc.).

This section describes all of the selections for the Num Payments Menu.

13.2 Selections

- L - Loan Size. This selection will cause LoansMgr to prompt for the desired loan size. The value entered will be displayed in the User Menu Area data field associated with this selection.

- P - Payment Size. This selection will cause LoansMgr to prompt for the desired payment size. The value entered will be displayed in the User Menu Area data field associated with this selection.

- I - Interest Rate. This selection will cause LoansMgr to prompt for the desired interest rate. The value entered will be displayed in the User Menu Area data field associated with this selection.
- C - Compounding Periods. This selection will cause LoansMgr to prompt for the number of interest compounding periods per year. Generally, this is 12 for most US mortgages and loans, 2 for most Canadian mortgages, and 1 for most car loans.
- T - Payment Time. This selection will cause LoansMgr to prompt for the interval between payments. This interval may be any of:
- a) 1.00 Month
 - b) 0.50 Months
 - c) 0.25 Months

 - d) 4.00 Weeks
 - e) 2.00 Weeks
 - f) 1.00 Week

If you are feeling lazy, the number followed immediately by the first letter of the unit works as well (ex: "1m" will be interpreted as 1.00 Months).

- \$ - Additional Principal Amount. This selection will cause LoansMgr to prompt for the amount of the scheduled additional principal payments. See the description of the "#" selection (immediately below) for details on how LoansMgr uses this value. The value entered will be displayed in the User Menu Area data field associated with this selection.

- Additional Principal Period. This selection will cause LoansMgr to prompt for the period between additional principal payments. This period must be expressed in number of payment intervals. The value entered will be displayed in the User Menu Area data field associated with this selection.

LoansMgr will then apply the amount specified via the "\$" selection against the outstanding balance, as a direct principal injection, every 'n' payments, where 'n' is the number you enter via this selection.

S - Solve. This selection will cause LoansMgr to solve for the number of payments, and display this on the Response line. Also displayed on this line is the calendar duration, in years, of the loan. Other menus that require the Number of Payments as a parameter will inherit the value computed by this menu, as a starting point.

O - OS Shell. This selection allows you to shell out to Linux. In order for this to work, the SHELL environment variable must be set. LoansMgr will inform you of this, if it is not.

H - Help. This selection brings up a popup window containing help for the Num Payments Menu.

Q - Quit. This selection quits this menu, and returns to the Main Menu. All L, P, I, C, and N values entered or computed on this menu will be inherited by all other menus.

13.3 Notes

None

14.0 Amortization Schedule Menu

14.1 Introduction

This menu allows you to generate and view amortization schedule files. The selections in this menu are very similar to those in the Num Payments menu (but will be documented below again, for completeness), with the addition of a selection for entering the Setup Menu, which allows titling of loans, filename selection for schedule files, the starting date of the loan, and the number of lines per page within the file. This section describes all of the selections available from this menu.

14.2 Selections

- L - Loan Size. This selection will cause LoansMgr to prompt for the desired loan size. The value entered will be displayed in the User Menu Area data field associated with this selection.
- P - Payment Size. This selection will cause LoansMgr to prompt for the desired payment size. The value entered will be displayed in the User Menu Area data field associated with this selection.
- I - Interest Rate. This selection will cause LoansMgr to prompt for the desired interest rate. The value entered will be displayed in the User Menu Area data field associated with this selection.
- C - Compounding Periods. This selection will cause LoansMgr to prompt for the number of interest compounding periods per year. Generally, this is 12 for most US mortgages and loans, 2 for most Canadian mortgages, and 1 for most car loans.

T - Payment Time. This selection will cause LoansMgr to prompt for the interval between payments. This interval may be any of:

- a) 1.00 Month
- b) 0.50 Months
- c) 0.25 Months

- d) 4.00 Weeks
- e) 2.00 Weeks
- f) 1.00 Week

If you are feeling lazy, the number followed immediately by the first letter of the unit works as well (ex: "1m" will be interpreted as 1.00 Months).

\$ - Additional Principal Amount. This selection will cause LoansMgr to prompt for the amount of the scheduled additional principal payments. See the description of the "#" selection (immediately below) for details on how LoansMgr uses this value. The value entered will be displayed in the User Menu Area data field associated with this selection.

- Additional Principal Period. This selection will cause LoansMgr to prompt for the period between additional principal payments. This period must be expressed in number of payment intervals. The value entered will be displayed in the User Menu Area data field associated with this selection.

LoansMgr will then apply the amount specified via the "\$" selection against the outstanding balance, as a direct principal injection, every 'n' payments, where 'n' is the number you enter via this selection. Each such payment shows up as a separate and distinctive entry in the schedule file.

- F - File Setup. This selection causes LoansMgr to display the Setup Menu, which allows titling of loans, amortization filename selection, starting date selection, and selection of the number of lines per page in the amortization file.
- S - Schedule. This selection will cause LoansMgr to generate the schedule of payments, and write this to the specified schedule file name. If a file with that name already exists, LoansMgr will prompt regarding overwrite of this file. The generated schedule may then be viewed immediately, via the "V" command (see below), or may be viewed, printed, etc., after LoansMgr has been exited.

After the schedule file has been written, LoansMgr generates a popup window containing the payout summary for the loan, showing the total principal paid, the total interest paid, the total cost of the loan, and the number of payments the loan required. Unlike all other popups, this window remains onscreen until one of the parameters of the loan profile are changed, or the Amortization Schedule Menu is exited.

- V - View Amortization Schedule. This selection will cause LoansMgr to invoke the ASCII file viewer of your choice (usually a text editor) on the generated schedule file, allowing you to view it immediately.

To determine the file viewer to use, LoansMgr looks for an environment variable called EDITOR. If found, it invokes the command contained within, with the name of the schedule file appended. For example, if the editor of choice is "ve" (the author's personal favorite), the EDITOR variable would be set to "ve", and LoansMgr would issue the command:

```
"ve schedule_file_name"
```

in response to a "V" selection. If the EDITOR variable does not exist, LoansMgr defaults to the standard Linux "less" pager, which is typically present on most Linux installations. In this case, it alerts the user to this fact, so that they can set the EDITOR variable if they wish.

- O - OS Shell. This selection allows you to shell out to Linux. In order for this to work, the SHELL environment variable must be set. LoansMgr will inform you of this, if it is not.
- H - Help. This selection brings up a popup window containing help for the Schedule Menu.
- Q - Quit. This selection quits this menu, and returns to the Main Menu. All L, P, I, C, and N values entered or computed on this menu will be inherited by all other menus.

14.3 Notes

- The L, P, I, and C values entered in this menu may not yield a loan with a whole number of payments. In this case, LoansMgr will round the number of payments UP to the nearest integer value, and adjust the payment size to make up the difference. This creates a loan with a whole number of payments, but will result in a schedule that shows a slightly different payment value than was originally entered. If this happens, it should not be a cause for concern. It is "design intent".
- LoansMgr will allow the payment interval to be set in numbers of weeks (0.25, 0.50, and 1.00). However, LoansMgr does not yet know how to translate week numbers into month and year values (the author hopes to add this in a later release), and so, the "Date" field of the schedule file shows only "--- --". Fortunately, every 52 weeks after the first payment is guaranteed to be one

calendar year, and so the corresponding schedule file entry is correctly marked.

- Schedule files are simple ASCII text files, and may be viewed by any program capable of dealing with such data.
- I recommend giving schedule files the three letter extension "sch". Consistent use of this extension has proven to be very beneficial for me.

15.0 Setup Menu

15.1 Introduction

This menu allows titling of loans, amortization filename selection, starting date selection, and selection of the number of lines per page in the amortization file.

15.2 Selections

- N - Name of Loan. This selection causes LoansMgr to prompt for the name of the loan. This is a user supplied string that is printed in the header of the amortization schedule file, allowing users to "title" their amortization schedules with names that are meaningful to them. This lessens reliance on recall of what cryptic 8 letter file names may have stood for.
- F - Filename. This selection will cause LoansMgr to prompt for the name of the file to which the generated amortization schedule will be written. The filename entered is displayed (up to the maximum allowable display width) in the User Menu Area data field associated with this selection.
- D - Date of First Payment. This selection will cause LoansMgr to prompt for the starting date of the first payment of the loan. As all entries in the generated schedule are stamped with the date, this information is critical. Dates can be entered only in the form "MMM YY", where "MMM" is the expected "Jan" through "Dec", and "YY" is any year from (19)70 to (20)29. Only the last two digits will be accepted. For example, Dec 2004 would be entered as "Dec 04".

- L - Lines Per Page. This selection will cause LoansMgr to prompt for the number of lines per page in the amortization schedule file. This allows users to configure the file for the number of lines their printer puts out on each page. LoansMgr emits formfeeds to start each new page.
- H - Help. This selection brings up a popup window containing help for the Setup Menu.
- Q - Quit. This selection quits this level, and returns to the Amortization Schedule Menu.

15.3 Notes

None

16.0 Profile Menu

16.1 Introduction

This menu allows you to view the current loan profile, write it to the file of your choice, or reload a previously written profile file. This allows you to save all the parameters relevant to a given loan, and return to them at a later date, without having to laboriously re-enter them. This section details all of the selections available from the Profile Menu.

16.2 Selections

F - Filename. This selection will cause LoansMgr to prompt for the name of the file name the loan profile will be written to, or read from. The filename entered is displayed (up to the maximum allowable display width) in the User Menu Area data field associated with this selection.

C - Clear. This selection causes LoansMgr to clear the current loan profile to its default (start up) values. This also has the effect of removing the current profile name from the title bars of all menus (see the Notes section, below, for more details on this).

R - Read. This selection will cause LoansMgr to attempt to read a loan profile from the filename supplied via the "F" selection. If the file does not exist, or is not a loan profile, Loansmgr will issue an error to that effect.

W - Write. This selection will cause LoansMgr to write the current loan profile to the filename indicated by the "F" selection. If a file with that name already exists, LoansMgr will prompt regarding overwrite of this file.

V - View. This selection will cause LoansMgr to present a popup window containing all data that is part of the current loan profile. This can be used to verify a profile prior to writing, or to review a profile immediately after reading, to ensure that the correct profile has been loaded.

O - OS Shell. This selection allows you to shell out to Linux. In order for this to work, the SHELL environment variable must be set. LoansMgr will inform you of this, if it is not.

H - Help. This selection brings up a popup window containing help for the Profile Menu.

Q - Quit. This selection quits this menu, and returns to the Main Menu.

16.3 Notes

- Loan profiles are small binary files, usually no larger than 0.5K bytes.
- I recommend giving profile files the three letter extension "prf". Consistent use of this convention has proven to be very helpful to me.
- The title bar of each menu shows the name of the currently loaded profile file, in parenthesis, as part of the menu title bar. If no profile has been loaded or saved, this shows as "()".
- Loan profile files can be used to conserve disk space in systems that are low on this resource. If you have generated a large schedule file (example, a 30 year mortgage - 360 entries), and wish to recover the disk space it occupies, but not lose the data, you can write the current profile out to a file.

As mentioned above, loan profiles are small binary files, and yet contain all the data necessary to allow LoansMgr to regenerate the schedule file at any time. So, instead of keeping the large schedule files on disk, keep only the profile file, and regenerate the schedule whenever you need to view it.

17.0 About LoansMgr Menu

17.1 Introduction

This menu provides the user with a variety of information about the LoansMgr program. The four categories of information provided are:

- a) General Program Information - typical "about" window stuff.
- b) Legal Information - important legal disclaimers that should be read and understood prior to using LoansMgr.
- c) Distribution Information - information on your obligations as a user of LoansMgr.
- d) Contacting The Author - information on how to contact the author for any reason.

This section describes all of the selections available from the About LoansMgr menu.

17.2 Selections

G - General Information. This selection causes LoansMgr to present a popup window with a variety of general "about" information for LoansMgr, including its version number, author name, program description, and limited acknowledgements. The window remains displayed until you hit any single key, at which time it is removed.

- L - Legal Disclaimers. This selection will cause LoansMgr to present a popup window containing, essentially, a disclaimer of all responsibility on the author's part for your use of LoansMgr. This same information (and more!) is presented in the opening sections of this documentation, and should be read carefully and understood, prior to use of LoansMgr. The window remains displayed until you hit any single key, at which time it is removed.
- D - Distribution Agreement. This selection causes LoansMgr to present a popup window containing information regarding the GPL status of LoansMgr, and your obligations regarding use and distribution of the software.
- C - Contacting The Author. This selection causes Loansmgr to present a popup window containing information on how to reach the author via both electronic and surface mail. The window remains displayed until you hit any single key, at which time it is removed.
- Q - Quit. This selection quits this menu, and returns to the Main Menu.

17.3 Notes

None

18.0 Configuring LoansMgr

18.1 Introduction

LoansMgr can be configured in two ways:

- 1) Environment variables
- 2) The .lm.ini file

This section discusses how to use these two methods to configure LoansMgr.

18.2 Environment Variables

LoansMgr uses three environment variables, and it is recommended that all be set before running LoansMgr for the first time. The variables are:

- SHELL** - Like all other Linux programs, LoansMgr uses this variable to invoke a secondary Linux shell, when executing its OS CI command (available from most menus). If this variable is not set, this command will fail.
- EDITOR** - This variable is used by the Amortization Schedule menu to determine the program to invoke to view the schedule file. If this variable is not set, LoansMgr defaults to the Linux "less" pager, which is available with most distributions.
- HOME** - This variable is used to specify a "home" directory, which is generally the one in which all ".ini" type files reside. If this variable is set, LoansMgr will search here for its .lm.ini file (see below for more details).

Users with a unix background will recognize the unix influence in the existance of EDITOR and HOME variables. It will come as no surprise that LoansMgr started life as a unix application.

19.0 .lm.ini Configuration File

19.1 Introduction

This file allows users to configure the colors that will be used by LoansMgr. Colors can be specified for the Menu Outline lines, the Menu Item lines, the popup windows, and the screen border.

This file is a sequence of comment lines and command lines. Comment lines are any lines beginning with the semicolon character ";", or blank lines. Command lines have the form:

```
area_name color
```

where "area_name" is the name of a portion of the screen, and "color" is the color you want to set that area to.

19.2 Area Names

The valid area names are:

menu_outline_fg - The foreground (text) color for the outline lines

menu_outline_bg - The background color for the outline lines

menu_item_fg - The foreground (text) color for the Menu Item lines

menu_item_bg - The background color for the Menu Item lines

popup_fg - The foreground (text) color for the popup windows

popup_bg - The background color for the popup windows

border_color - The color of the screen border (NOT USED IN THE
LINUX PORT OF LOANSMGR)

These names **are** case sensitive, and must be in lower case.

19.3 Color Names

The valid colors (set by available colors with ncurses) are:

BLACK, BLUE, GREEN, CYAN,
RED, MAGENTA, WHITE, YELLOW

Like the area names, these names are also case sensitive, and must be entered in upper case.

19.4 Use of .Im.ini Commands

You may specify as many or as few of these commands in the .Im.ini file as you wish, or you may omit this file altogether in which case LoansMgr uses a default set of colors. If LoanMgr detects any unknown area names or color names, it discards all user color selections, and returns to its default color set. An error message is presented in the Main Menu upon completion of initialization.

19.5 How LoansMgr Looks for .Im.ini

LoansMgr follows a simple algorithm for finding the .Im.ini file. It searches the following directories, in the following order:

- a) Current Directory - This is the directory the user was in when LoansMgr was invoked.
- b) Start Up Directory - This is the directory the LoansMgr executable was executed from.
- c) HOME Directory - This is the directory indicated by the HOME environment variable.

If .Im.ini cannot be found in any of these locations, LoansMgr assumes it does not exist, and uses its internal default colors.

19.6 Sample .Im.ini File

A sample .Im.ini file is included in the LoansMgr distribution tarball, and is duplicated below, as an example:

```
; -----  
; LoansMgr v2.5 Initialization File - Set colors used by LoansMgr  
;  
; Available colors are BLACK, WHITE, RED, BLUE, YELLOW, GREEN,  
; CYAN, MAGENTA  
; -----  
  
; Note that all entries *are* case sensitive  
  
; Set the color of the Title, Command and Response lines  
  
menu_outline_fg WHITE  
menu_outline_bg RED  
  
; Set the color of the LoansMgr menu lines  
  
menu_item_fg  BLACK  
menu_item_bg  CYAN  
  
; Set the colors for the pop up help and review windows  
  
popup_fg      WHITE  
popup_bg      BLUE
```


; Set up the screen border color - NOT USED IN LINUX PORT OF LOANSMGR

border_color BLUE

; -----
; End of LoansMgr v2.5 Initialization File
; -----

20.0 Administratia

20.1 Distribution Agreement

LoansMgr is distributed under the terms of the GNU Public License.
It is free to use and redistribute, per the terms of that license.

20.2 Contacting The Author

If you should wish to reach the author for any reason, including, but not limited to:

- a) Bug reports
- b) Requests for new features
- c) Request for modifications/additions to existing features
- d) Gratuitous praise! :-)

please send an email to: support@campbellware.com