

Rank Panda 2.0

User Manual

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Introduction

Rank Panda 2.0 is a new software developed to replace the existing program used by the Big Red Marching Band to write show drill. Due to widespread bugs, difficult installation, a steep learning curve, and missing features in Rank Panda, Rank Panda 2.0 was redesigned from the ground up in order to fix these issues. It is written in Java as a stand alone program to provide an easy installation on a variety of platforms; development was focused around fleshing out bugs as soon as they arose; attention was put into developing a UI that was cleaner but still similar to the original Rank Panda for easy adoption; and we put effort into finishing features such as playback that were not successfully implemented in the original Rank Panda. Below is a user manual for how to use Rank Panda 2.0 to successfully create drill for the marching band.

Installation

Rank Panda 2.0 is a Java standalone application which can be run on a variety of platforms which support the Java Virtual Machine (JVM). Before you can run the application, you must have the JVM installed.

Installing the JVM

In order to install the JVM, you will need to download it from Oracle and install it on your machine. Oracle provides detailed instructions on how to do this for most operating systems, and we have provided some instructions and links below. **Please note:** the links we have provided here may change over time. If, in the future, these links do not work, a quick Google search of “download java” should bring you to the correct page.

The JVM can be downloaded from this page:

<http://java.com/en/download/index.jsp>

The page should detect which operating system you are using and provide instructions for how to download the correct version of the JVM for you. Windows and Mac are heavily supported, Linux less so. For Linux, if you are using Ubuntu or Debian, you can find basic instructions from the site above but may have to search online for any problems you encounter.

Installing the Program

Rank Panda 2.0 is an executable java program (a .jar file), so beyond installing the JVM there is no installation necessary. Simply download RankPanda2_0.jar to your computer and you should be able to run it (described in the next section).

Running the Program

Once the JVM is installed and RankPanda2_0.jar has been downloaded to your computer, you can simply double click on RankPanda2_0.jar to run it.

It is also possible to run the program from the command line if you would like. We will provide limited support for running it from the command line, but once you have the JVM installed, you should be able to run it with a command similar to `java -jar RankPanda2_0.jar`. This example assumes you are running the program from the directory that RankPanda2_0.jar is located in and that you have the java command in your PATH variables. If you are not in that directory, you will need to provide the location of the program. If you do not have the java command set in your PATH variables, you will also have to use the location of the java executable.

Creating Your First Drill

The Introduction Screen

After installing the JVM and downloading and running the program, you can begin creating your first drill. Upon starting the program you will be brought to the introduction screen, as depicted below.

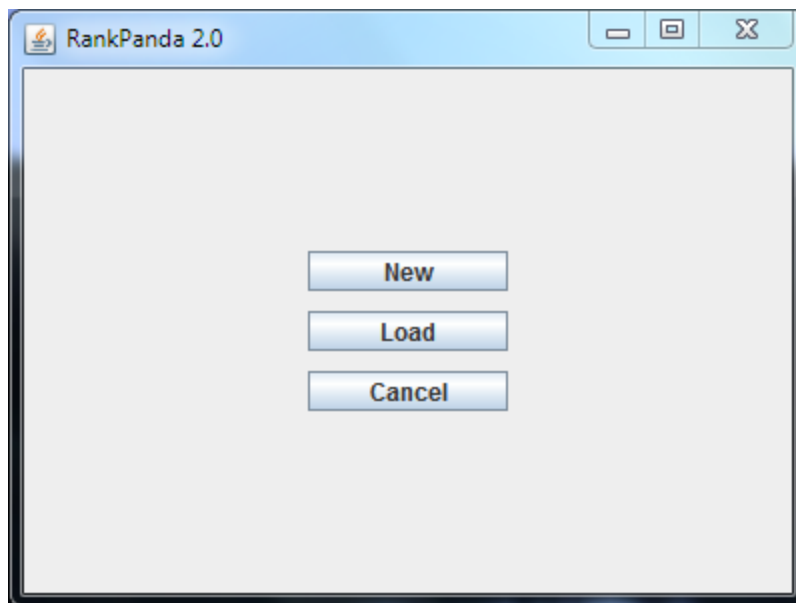


Figure 1: The Introduction Screen

The introduction screen gives you the three main options you have when starting the program: New, Load, and Cancel.

- **New:** The New option allows you to create a brand new drill from scratch

- Load: The Load option allows you to load existing drill that has already been created and saved by Rank Panda 2.0
- Cancel: The Cancel option allows you to close Rank Panda 2.0.

The New and Load options will be discussed in detail below.

Creating New Drill

In order to create new, blank drill, select the New button from the introduction screen. This will open up two screens: the song constants dialog and the project screen, as seen below.

The dialog box is titled "Song Constants". It features a "Song Name:" text input field at the top. Below this, there are two identical sections for adding measures. Each section consists of a "Measure No." input field, a "Tempo" (or "Counts per Measure") input field, and "Add" and "Delete" buttons. At the bottom center is a "Create" button. On the right side, there are two list boxes. The top list box has columns for "Measure No." and "Tempo", and the bottom list box has columns for "Measure No." and "Counts per ...". Both list boxes have vertical scroll bars.

Figure 2: The Song Constants Dialog

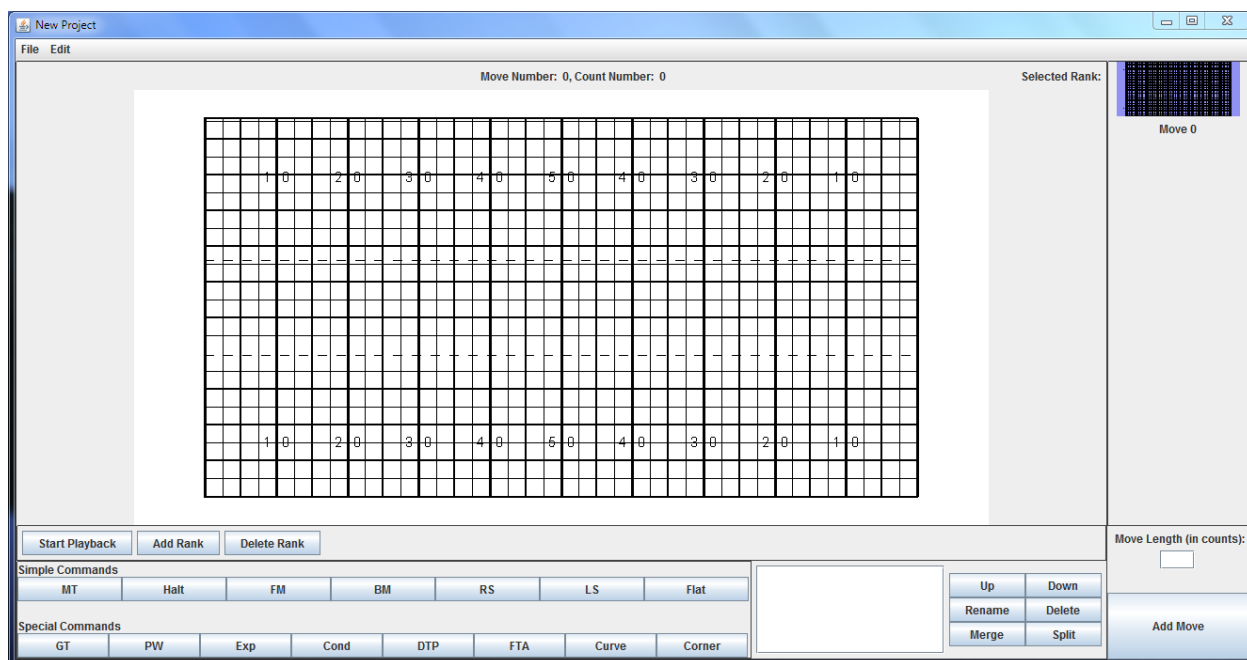


Figure 3: The Project Screen

Entering Song Constants

The song constants dialog allows the user to enter basic information about the song. This includes the song name, tempo changes, and counts per measure changes throughout the song. In order to enter the song name, you can simply type the name of the song in the song name field. In order to enter tempo changes and counts per measure changes, you will need to enter the new tempo or counts per measure as well as the measure where the change occurred. After entering the values in the fields in the left, hitting the Add button will store the values in the two fields in the table to the right as a measure number/value pair. After you have entered the pair, every measure after the specified one will be treated as that tempo or counts per measure. The default values are 120 beats per minute and 4 counts per measure for tempo and counts per measure, respectively. You can also select the values on in the table and remove them by clicking Delete. Once you click Create, it will apply the values to the project. After this screen has been closed, it is still possible to go back and edit the song constants. In the project screen (described in more detail under the Project Screen section), you can go to Edit > Edit Song Constants and change the ones that have already been created.

The Project Screen

There is a lot going on in the project screen, so we will break it up into different sections: The football field, command bar, and move bar.

The Football Field

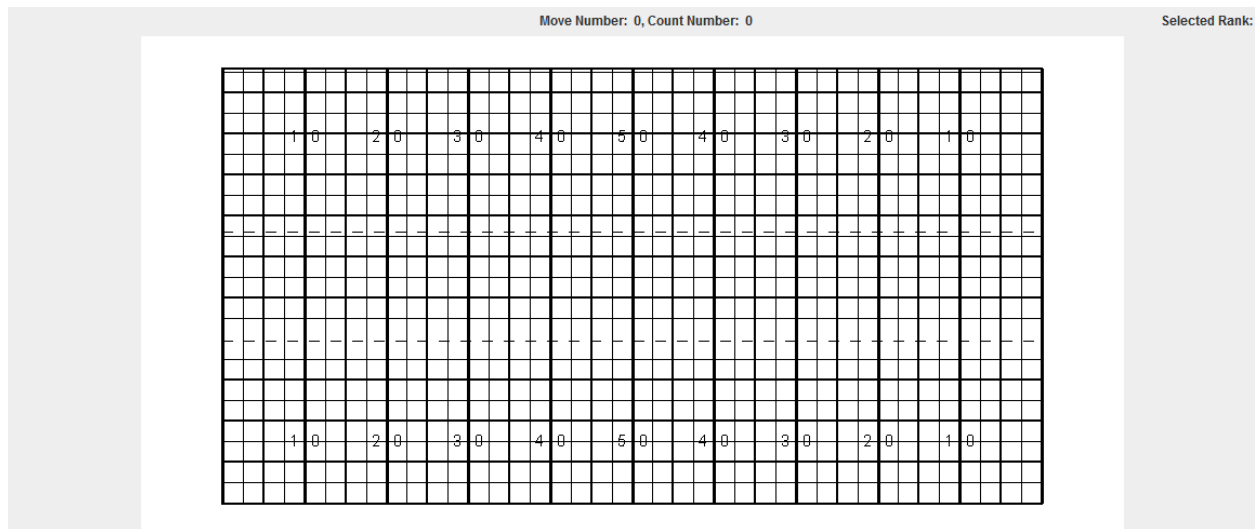


Figure 4: The Football Field

The football field is the main focus of the project screen. The football field displays all of the ranks that have been created on the field and their end location after the currently selected move. During playback, this screen will also display how the ranks will be moving through the song. Above the field, the screen also displays the current move and which count of the move is currently being display on the field as well as which rank is currently selected.

The Command Bar

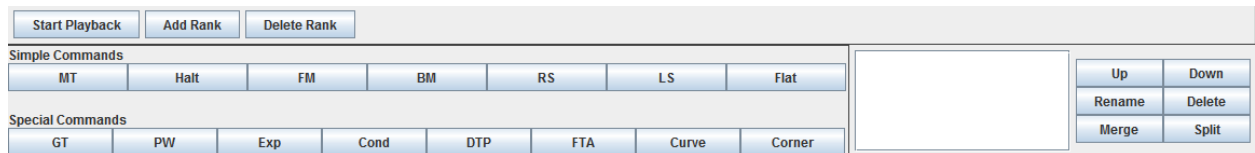


Figure 5: The Command Bar

The command bar is where many of the users interactions will be in order to add ranks, delete ranks, add commands to ranks, edit rank commands, and control playback. The bar at the top of the command bar has three buttons for adding ranks, deleting ranks, and controlling playback. To the right of these buttons, other buttons and fields will appear as necessary to enter additional information when creating ranks and commands. Below the top bar, there are buttons for adding different commands to ranks. These buttons are labeled with standard notation for marching commands such as Mark Time (MT), Forward March (FM), and Back March (BM). To the right of this bar is panel which will display all of the commands for the currently selected rank. There are also buttons for editing these commands to the right of the panel. The functionality of this bar and all of the buttons in it will be described in detail during the Adding a Rank and Adding a Command to a Rank sections later in this document.

The Move Bar

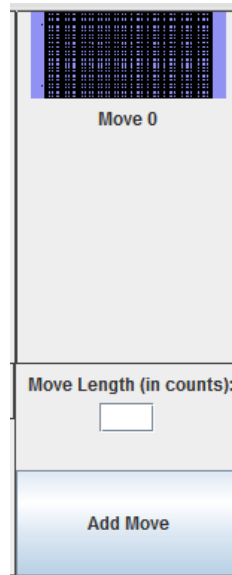


Figure 6: The Move Bar

The move bar is used to display the created moves and allow the user to select between them. What is displayed on the football field is dependent on which move is selected, as the football field will always display the end of the move (except during playback). At bottom of the move bar is an Add Move button used to create new moves. This takes in the number of counts for the move, and creates a new move immediately after the last move, initialized to the last moves end position.

Adding a Rank

Now that we have had a brief overview of the user interface, we can add our first rank to the project. To begin creating a new rank, click on the Add Rank button in the command bar. This will do two things: first, it will create a Rank Name text field and an Exact to Grid check box to the right of the bottom. Next, it will create a black dot underneath the cursor when it hovers over the football field. This black dot represents the location of the tail point of the rank you are about to create. By clicking once, you anchor the tail point to the football field. An arrow will not form between the mouse location and the anchored tail, indicating where the rank will be located. By clicking again, you will anchor the head into position.

Before clicking the last point, you will need to specify a rank name for the rank, which can be entered in the Rank Name text field that was created to the right of the button. You also have the option to snap the rank to the grid on the football field (every 2.5 yards) by checking the Exact to Grid check box mentioned above.

It is also possible to create a curved rank. In move 0 (and only move 0) after drawing a rank, you can right click on the rank which will create a center point on the line representing the rank. You can then drag the center point around to create a curve. There will be more on Move 0 in the next section.

Move 0 and Creating a New Move

As touched on in Adding a Rank, move 0 is slightly different from the other moves. It is known as the “preset” and has 0 counts associated with it. Move 0 simply defines the starting position of the drill. You cannot add commands to ranks in this move, but you can rearrange and drag around the ranks or the points of ranks in order to adjust their position after creating them. This can be done by simply clicking on the head, tail, or midpoint of the rank and dragging it to a new position, changing the individual point’s position. You can also click on the line of the rank to drag the entire rank to a new position. As mentioned in Adding a Rank, right clicking on the rank first will create a center point which can be used to create a curve. This allows the user to change a rank’s position after creating it without having to give it a command.

If you do want to create a command, though, you will need to add a new Move. The starting position of all ranks in the new move will be the set to the end position of the previous move. A new move can be added by clicking the Add Move button in the move bar. First, you will need to specify the number of counts you would like the move to last for. Once you have entered that number, you can click the Add Move button, and the new move will be added to the list. You will now have the specified number of counts with which to add commands to the ranks you have created. We will cover how to add commands to ranks in the Adding a Command to a Rank section.

Adding a Command to a Rank

Once a move is created, it is possible to add a command to a rank. First, you must select on the rank for which you would like to add a command (the selected rank will be highlighted green). Then you select the type of command by clicking on the proper command button in the command bar. You will always be prompted with a “Count” text field (appears to the right of the “Delete Rank” button). In this field, you enter the number of counts of the command. The counts of all the commands in a move for a given rank may not exceed the number of counts in the move.

After you have entered the count, click on the “OK” button to complete the addition of the command. After successfully adding the command, you will see it appear in the command list to the right portion of the command bar. You also have the option to select the “Cancel” button if you do not want to add the command.

If a special command is selected, the user will be prompted with additional radio buttons or text fields to enter additional information. The following table shows the additional fields that will appear for each command button selected:

Command	Additional Specifications for Command
MT	Only Count

Halt	Only Count
FM	Only Count
BM	Only Count
RS	Only Count
LS	Only Count
Flat	Only Count
GT	Head/Foot and Clockwise/Counterclockwise
PW	Clockwise/Counterclockwise
Exp	Head, Tail or Both
Cond	Head, Tail or Both
DTP	<i>Not implemented at the time of writing</i>
FTA	<i>Not implemented at the time of writing</i>
Curve	Left/Right
Corner	<i>Not implemented at the time of writing</i>

Editing Commands

After a command for a rank is created, the user has the ability to edit the commands for a rank through the command list in the bottom right of the command bar. There are 6 options for editing commands: Up, Down, Rename, Delete, Merge, and Split. Commands to be edited can be selected in the command list by clicking on them. It is possible to select multiple commands by holding ctrl and clicking on multiple commands to select them one at a time, or holding shift while clicking to select a range of commands. Regardless of the method, you will only be able to select commands that are next to each other. Below is a list of the different ways you can edit the commands.

- Up - This will move the command up in the list. If multiple commands are selected, it will move them all up one spot and move the command that was before them behind them all.
- Down - Similar to up, this will move the command down in the list. If multiple commands are selected, it will move them all down one spot and move the command that was after them before them all.

- **Rename** - This will allow the user to rename the specific command. This still keeps the same command type, it'll just display a different name to the user (for example, if it was previously a FM, the rank will still forward march). This allows a specific command to say a custom command, such as "high step forward" rather than FM. Quotes will surround the name to indicate that the command has been renamed.
- **Delete** - This will delete the selected command from the command list. All other commands will move up one position.
- **Merge** - This will merge two selected commands of the same type. A new command of the same type with the sum of the counts of the two commands will replace the merged commands. If one of the commands (or both) has been renamed, the name will be lost.
- **Split** - This will split the command at the specified number of counts, creating two separate commands whose sum of the counts is equal to the original command. For example, splitting a FM 8 at count 6 would create a FM 6 and a FM 2. If the original command was renamed, the name will be lost.

Creating Move Comments

In many cases, it is useful to provide an extra comment about each move that will be displayed on the PDF, to give those reading it more information. This can be added to the currently selected move by going to Edit > Edit Move Comments. A dialog box will open up which will allow you to enter your desired comment. If a comment has already been entered, it will be displayed in this text box when the dialog opens so you can edit it. Once you are done, you can select "OK" to save the comment or "Cancel" to close the dialog without saving.

Saving and Loading Drill

Now that you have created some drill, you are ready to save your work. Navigate to the File menu in the top left corner of the screen and select Save or Save As. Type in your name for the file and select your save location. Clicking Save will generate a .pnd file in your storage location. The new name of your file will appear on the top of the Project Screen.

If you click Save in the File menu after making further changes to your project, your file will be overwritten to include your new changes. If you prefer to create a new file with these changes, navigate to the File menu and select Save As. You will then create a new file after saving.

If you have already created a project in Rank Panda 2.0, you can load this file from the Introduction screen by selecting Load and selecting the file. You can also load a file from the Project Screen. Select Open from the File menu to open your file.

You cannot open projects created in Rank Panda 1.0 in Rank Panda 2.0.

Exporting to PDF

To export your work to a PDF, select Export to PDF from the File menu, type the name of your PDF, select the storage location and click Save. Each page of the PDF will contain an image of the football field with the rank positions at the end of a move.

Below the football field on each page will contain the commands for each rank. If a command was renamed for a particular rank, it will appear written with its new name in the list of commands for that rank. If two or more ranks have the same commands for a particular move, they will appear in a list and their commands will only appear once. For example, if ranks A and B both FM 10 and LS 20 for Move 1, their commands will be written on the PDF as: A, B: FM 10, LS 20.

Any comments that were added for a particular move will appear on the bottom of the page of the PDF.

Playing Back Drill

Once you have created drill with your desired moves, ranks, and commands, you can play back the drill to see how it would be performed on the field. This can be done by simply clicking the Start Playback button in the top right of the command bar. Once playback has begun, the Start Playback button will change to Stop Playback and can be used to stop the playback at any time. Playback will begin at Move 0 Count 0 (the preset), and then go into the main drill of the song. During playback, all other buttons in the command bar and the Add Move button will be disabled until playback finishes or is stopped prematurely. Upon finishing or being stopped, the command bar and Add Move button will be re-enabled and the previously selected move will be displayed.

Note: At the time of this writing, the playback only played at a single tempo, regardless of what was entered in the song constants screen. The information was stored in the program, but due to not have a counts-to-measure-number conversion function, it was unable to be used by the playback.

Further Questions and Support

If you have any further questions about Rank Panda 2.0 and how to use it, feel free to contact any of the developers listed at the top of this document. Two members of the group were also in the marching band - David Kelly (dmk257) was a Class of 2014 percussionist in the marching band and Christian Compton (cbc74) was a Class of 2014 trumpet in the marching band - if you have questions you would like to direct to them.