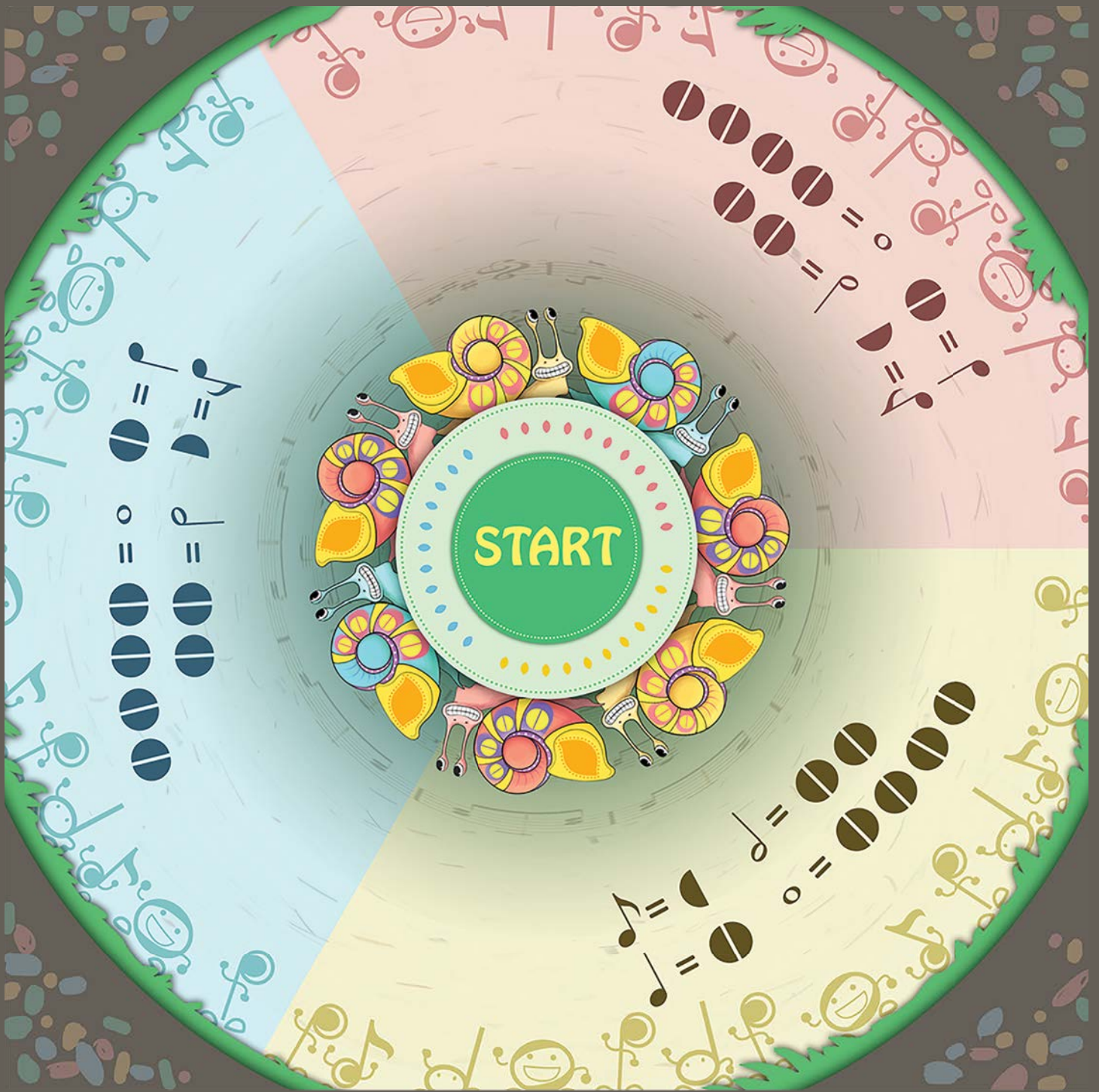


NATURAL RHYTHM



INSTRUCTION MANUAL





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Welcome to Natural Rhythm!

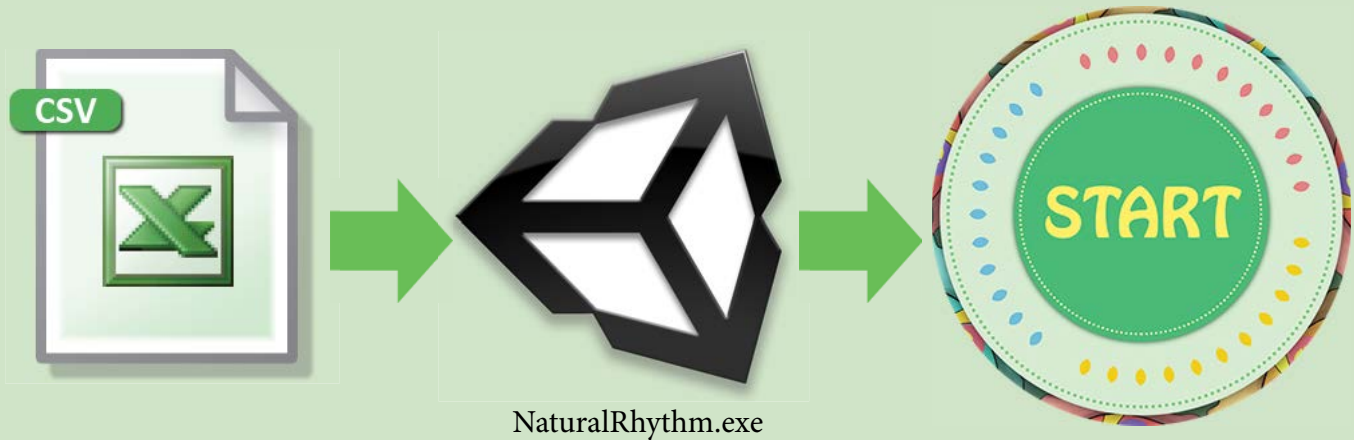
We've done our best to create an enriching experience for your classes and we hope that the students will enjoy this game. We also hope it will aide them in their budding musical journey.

Natural Rhythm is designed to augment the classroom experience of lower school music students. We created it with the idea that it would be used to communicate the concepts of eighth, quarter, half, and whole notes, their corresponding symbols, and their corresponding beat values.

Sections of the manual are color-coded according to topic, as indicated by the colored tabs below.

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GAME OPERATION



Procedure

Be sure to open the SMALLab Tracking Tools before operating any SMALLab game. The application must be running in order for the system to track the wands.

(1) Click and hold the mouse button down to select the desired .CSV file. While holding the mouse button down, drag the .CSV file onto the 'NaturalRhythm.exe' executable file.

Be sure that the associated .WAV audio file is in the same location as the CSV file on your computer.

(2) You will see a quick Unity logo followed by the 'Start' screen. Use your computer mouse to click start, then move the mouse cursor to the edge of the screen (so that it is not visible in the projection during gameplay).

The game supports input tracking for up to 3 simultaneous wands, i.e. 3 simultaneous players.

(3) Once the game has started, no further computer actions are required for operation; however, we have provided action keys for in-game adjustments:

Pressing the 'm' key increases the trigger height for the game's registering of input.

Pressing the 'n' key decreases the trigger height for registering input.

Pressing the 'Esc' key ends the game.

HOW TO PLAY

Objective

Each player must play continuously spawning notes with a rhythm.

Physical Requirements

One player stands behind each snail. At the beginning of the game, wands should be raised in the off position (about the height of the player's chest/shoulders). During gameplay, lowering a wand past the requisite trigger height registers as the on position (as indicated by the snail's mouth opening). The wand must be lowered on top of a snail to register as on. Keeping the wand lowered sustains input.

Interface

Note symbols appear on leaves in the center of the display area. The leaves are color-coded according to each player's snail. They travel outward from the center and stop on top of the leaf silhouette on a snail shell. When they arrive at a snail, a burst of leaves appears, indicating that the player should lower their wand and initialize their snail's note. The semi-circles on the snail shell will fill according to how many beats the current note is. The last semi-circle will turn green to indicate when the player should release their note.

In-Game Feedback

Player performance generates a rapid, textual feedback on the snail shell:

- Attacking and releasing a note in time, while sustaining for at least 90% of a note's time value generates a 'Perfect' feedback response
- Attacking and releasing within one half-beat early or late, while sustaining for at least 75% of a note's time value generates a 'Good' feedback response
- Attacking and releasing within one beat early or late, while sustaining for at least 50% of a note's time value generates an 'Okay' feedback response

Hint: In order to get a 'Perfect' note, the player's wand must enter the on position within one half-beat of the leaf burst that signals attack time. In other words, players must anticipate the notes and begin lowering their wand before the note-leaf stops.

Scoring

Scoring is based on the accuracy with which a player performs each note:

'Perfect' is + 10 points

'Good' is + 7 points

'Okay' is + 5 points

Sustaining a note during correct times grants points that are compounded continuously.

Once a song concludes, manually exit the game ('Esc' key) and restart as desired.

MUSIC INPUT SYSTEM

Music Input (Can use Google Sheets, Microsoft Excel, or any spreadsheet editor)

Natural Rhythm affords entry of songs and note-sequences of the user's choosing. It supports songs with a 4/4 meter only. See provided "Jingle Bells" song for example. **Always create a new copy of the music input template using 'Save As' before doing anything else.**

The game system supports a BPM (beats per minute) range of 60-100, in whole number increments (no decimals).

Enter the desired MIDI instrument name in the cells 'Instrument 1', 'Instrument 2', and 'Instrument 3'. *See next page for list of included MIDI instruments. Instrument names are case-sensitive.*

Each instrument has 2 columns:

Play = Start the note on corresponding beat to the left.

Enter 'eighth', 'quarter', 'half', or 'whole' into spaces of the Play column. *Make sure that the notes don't overlap in terms of time/beats (i.e. no legato, each note must finish before the next begins)*

If your song is longer than the provided number of measures in the template, you can create new rows below the last measure, then copy and paste measure, beat, and instrument cells below the existing ones, descending downward. Proceed to number the additional measures accordingly.

Be sure to type 'END' at the bottom of each measure column to indicate the end of your song. Save/export the spreadsheet as a .CSV file.

Custom Audio Playback

If you wish to provide an audio file that will be played in the game, place the file name and extension in the cell immediately under 'Backing Track', e.g. "Jingle_Bells.wav".

Audio Requirements

The accompanying audio track must be in .WAV format (24-bit or lower, 48kHz or lower).

The audio must start right at 0:00 of the WAV file; no opening silence.

The audio file must be in the same location as the .CSV file that calls it on the host computer.

The tempo must remain constant throughout the entire song.

The system does not generate a metronome; the audio file must contain it if desired.

TROUBLESHOOTING

Game Won't Start:

Be sure that the 'NaturalRhythm.exe' and the 'NaturalRhythm_Data' folder are in the same location on the host computer.

We recommend maintaining the provided file structure/hierarchy. We also highly suggest installing all files onto your local SMALLab host computer (rather than running the games from a USB drive for example).

Game loads, no music accompaniment is heard:

Be sure that the .WAV audio file (24-bit or lower, 48kHz or lower) is in the same location on the host computer as the .CSV file that is calling it. Check to see that your .CSV file has no typos in the audio file name and extension.

Also be sure to check that your speakers are on and that the volume on both the speakers and the host computer is turned up adequately.

Game loads, no notes appear:

This usually means that things are not placed in the correct cells of the spreadsheet that was exported to the .CSV file. The game can only parse the template exactly as it was designed. Check your spreadsheet against the master template file to make sure entries are not out-of-place. Also be sure that your notes are aligned to the 4/4 rhythm. If you add new measures, they should always consist of '1', '+', '2', '+', '3', '+', '4'. '+' cells in separate, corresponding rows for each instrument (i.e. player).

Error - Couldn't find MIDI id for key:

This means that you entered a MIDI key, i.e. a pitch, that is out of range of the system's capabilities. The game supports pitches between G2 and F5.

If you need to immediately terminate the game for any reason (and the 'Esc' key fails you), press 'Atl + F4' to terminate the program.