SFSKIDS.org:

An informal music learning environment

A Walkthrough Guide for Teachers and Parents

Kira Fluor-Scacchi
Walt Scacchi
Alex Szeto

In cooperation with the
SAN FRANCISCO SYMPHONY
Ron Gallman,
Director of Education

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1. Overview tour of SFSKids.org Web site

Welcome to the new SFSKids.org, an informal music learning game environment! This is an online website where we want people both young and old, but especially 8-13 year old students, to be able to discover, listen, play, perform, conduct and compose music through fun and games with classical music. Along the way, users will be able to Discover, Listen, Play, and Conduct musical performances by the San Francisco Symphony, and users can Perform and Compose their own musical creations. Really? Yes, we do mean to tell you that through SFSKids.org, we provide new ways and means for actually enabling users to play different orchestral instruments, and to conduct recorded performances of the San Francisco Symphony, as well as providing tutorials for how to compose your own music using music notation creation tools we have created for users. We created this website with an eye towards making it easy to enjoy and learn about music, and to be a place that users can visit many times to do new things with music.

The SFSKids.org is designed to provide an introduction to the world of classical music. No prior experience or knowledge of classical music is required! Similarly, we do not expect are users to have had experience with musical instruments, since that is one place we can help, and help in ways that make initial musical instrument playing experiences fun and pleasant sounding. We also help to teach how to learn the gestures of conducting an orchestra, and in playing many different musical instruments, again in ways fun and pleasant for all. Beyond this, though SFSKids.org is designed for 8-13 year old students, those younger or older may also find this online environment engaging and fun, Younger learners, especially pre-readers, will benefit more by using the environment with a parent, teacher, older siblings or friends who can share the experience of reading and playing together. Similarly, we have many of our adult friends who enjoy playing with the environment, and some who readily identify things that they have learned new about classical music, music making, and music playing. So feel free to play along with family, friends, or on your own.

This guidebook is written for parents and teachers who may be new to the SKSKids.org website. It may also be helpful to those who are unfamiliar with computer games, or with interactive media designed for playful learning experiences. This book is not designed for students, since they may be able to more readily comprehend and engage in the music learning game experience by just doing so, as they are often quite ready to do. So do not feel the need to stop them, or expect to teach them how to have fun and games with music. Just let them play! However, we also recognize that people young and old often want to do fun things together, and this helps make for better learning experiences. So we want to be sure that adults can play along, and be able to participate in enjoying the world of music experiences and selections that we have assembled. We want you and other adult friends to be comfortable with this interactive media, in ways that may be easier for you to engage, and we know for many adults, they prefer to read and learn about a new online interactive experience before they want their children to use such an information system or website. So if you are in this category, please feel free to browse through this guidebook, as well as to try out the SFSKids.org website, as we want you to be comfortable with it, and we want you to be able to enjoy and participate with your children or students this world of music.

SKSKids.org is organized into six sections or modules as we call them. The six modules are:

- ***Discover*** -- where users can explore a web of relationships between music compositions, composers, and musical instruments across time within a sea of symphonic knowledge
- ***Listen*** -- where users can sit back and enjoy listening to different classical music selections in music streams, where headphones or external computer speakers will make it better
- ***Play*** -- where users can play in dynamic musical skys with music visualizations
- ***Perform*** -- where users can try out playing different musical instruments in a musical garden from a selection of string, winds, brass, and percussion instruments
- ***Conduct*** -- where users can learn about conducting in a symphonic hall, and they interactively conduct selected performances of the San Francisco Symphony

- ***Compose*** -- where users can learn about reading and writing music using music notation on a music mountain, as well as making their own compositions with different instruments that can be shared with friends and family.

Each has its own chapter in this guidebook, and each chapter provides a walkthough with pictures (screenshots from the SFSKids.org website) and words that describe what is going on, or what can be done at each step along the way. Much like the website, the choice of what to do first or next is up to the user, or to the parent or teacher who wants to engage a specific module. Teachers may choose to independently develop their own lesson plans around each module if they want to bring SFSKids.org into their instructional curriculum. For those who do, we recommend consulting the National Music Education Standards, developed by the National Association for Music Education found at http://musiced.nafme.org/resources/national-standards-for-music-education/

As such, the remainder of this chapter provides a walkthrough of your initial experience when visiting SFSKids.org. The format of the guidebook presents a screenshot from the website accompanied by a description of its content or purpose. We begin with with the "landing page" or opening scene for the SFSKids.org website, as seen below.

Figure 1.1 The SFSKids Fun & Games with Music opening screen is central command for users. Upon launch, the program takes the user to the welcome screen to introduce what they will be able to do throughout the site. The audio (computer speakers or headphones) should be turned on to enable the complete interactive experience so that users can listen to pieces and start learning audio cues that can be heard throughout the website. Within the browser window, the central game frame sits atop a stage with curtained proscenium and a special large-scale cursor is used to interact with the different programs (seen above at the *Let's Start* link). The six interactive modules, Discover, Listen, Play, Perform, Conduct, and Compose are accessible at any time by clicking a category listed under the SFSKids logo, which itself will return the user to this home screen by clicking on it. On the lower right corner is a button (*Change Size* +/-) that gives users the option to adjust the game frame size in any browser. You should try to change size to see which size you prefer, but all of the activities happen only within the central game frame. On the other side, a button (Looking for *SFSKids Classic?*) can redirect the user to the site's previous version while beneath the game frame are links to the Kids and Family concert series, an in-depth About section that gives a detailed overview of the program for parents and educators, as well as requisite user privacy information and credits of the

program's creative team and contributors. In the top right corner, the San Francisco Symphony will whisk the viewer to the symphony's full website, whereas the search field beneath it, identified with a magnifying glass, allows users to search the entire SFSKids website with a key phrase like "Mozart", "trombone", or "note".

Noticeably absent is any sort of cue for users to register or log in. So as not to collect any data from the users, or require them to create and remember a username and password every time they want to explore the program, the site is available to anyone at anytime, granted they have permission to do so (the *About* and *Privacy Policy* links are parents' resources to assure them that the site exists to enrich and educate, not track user activity nor require any personal information). Whether new explorers or seasoned experts, new and returning users will be able to access all games and programs in any order or frequency.

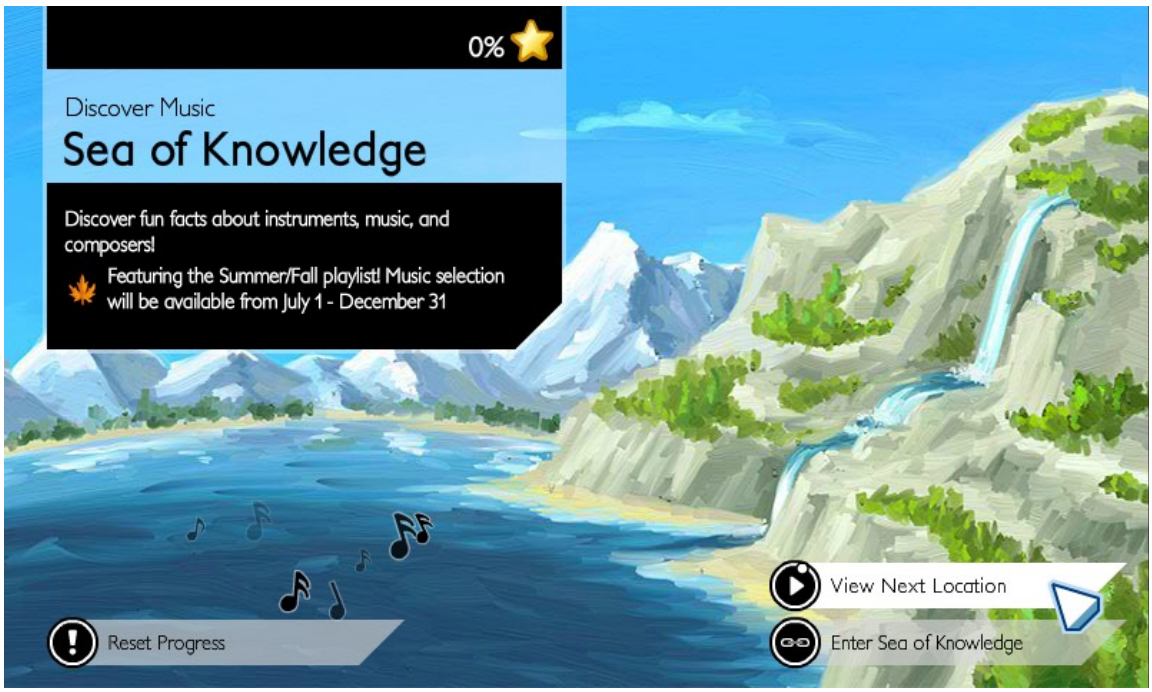

Figure 1.2 From the welcome page, clicking on "Let's Start!" will immediately transport users to a brief walk-through of all the available modules and what they will be able to do in each, beginning with Discover. In the bottom right of the screen, users can opt to either continue with the tour by clicking "View Next Location" or can launch the module by selecting the chain "link" icon, in this case, "Enter Sea of Symphonic Knowledge". This tour also intoduces the user to the maple leaf symbol which appears next to certain compositions throughout the game in the Music Library denoting that the piece is available for summer and fall. In the lower left corner, the "Reset Progress" button, identified with an exclamation point icon, allows a user to erase whatever content may have been uncovered in a previous session. Cookies enabled in the program automatically saves each session's progress (see the Privacy Policy for further explanation), but in case the game is being accessed on a shared computer, this button creates a refreshed experience by selecting "Yes" in its drop-down control. Selecting "No Thanks" will retain whatever progress has been completed in the level, designated by the percentage completed star (which begins at and can be reset to 0%).

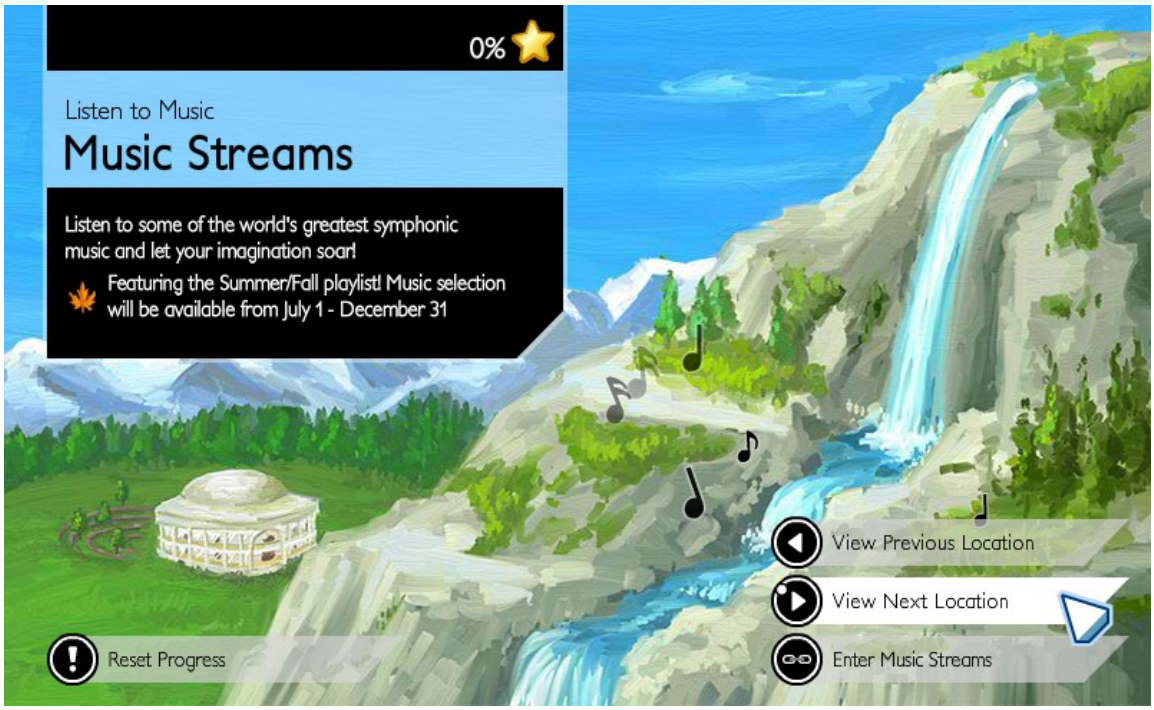

Figure 1.3 Moving along to Listen, the user has the option to start browsing and exploring the music options of the program by selecting the "Enter Music Stream" link. They also choose to continue the tour or jump back to the last page by clicking "View Previous Location".

Figure 1.4 Floating above the realms below is the third module, Play, where users can access the "Star Catcher" and "Mood Journey" games through the "Enter Musical Skies" link at the bottom of the game frame.

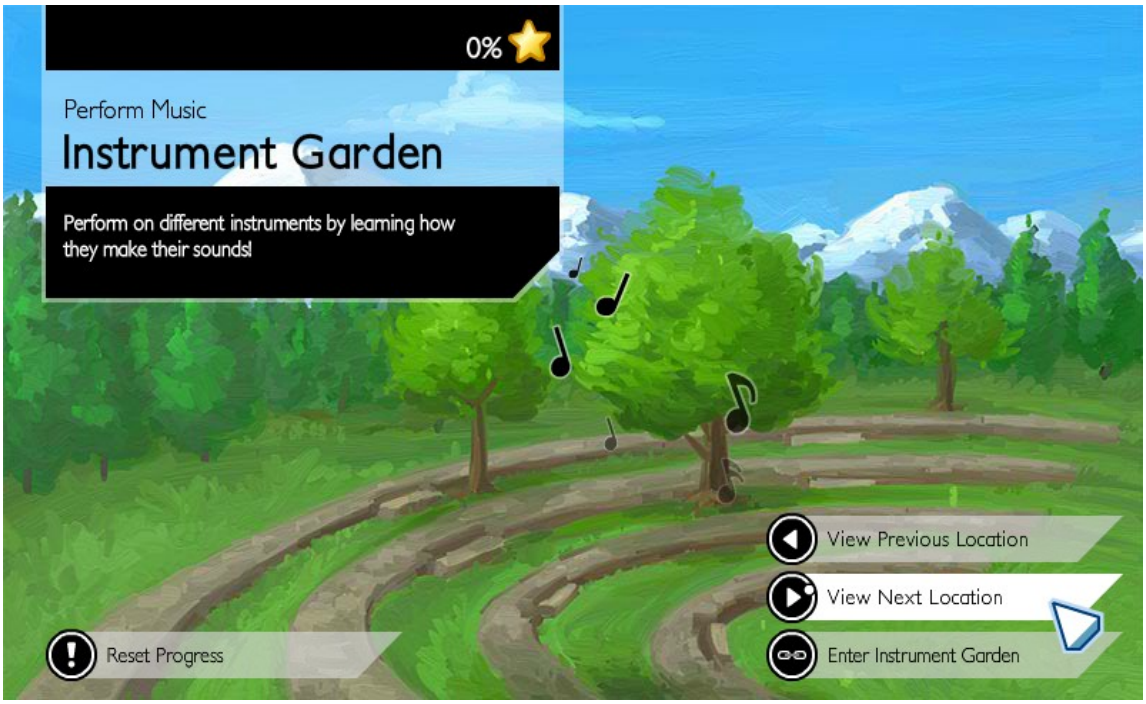

Figure 1.5 In the Instrument Garden nestled in a pastoral amphitheater we find Perform, the fourth module. The link "Enter Instrument Garden" will give users the opportunity to examine instruments and try their hand at playing scales.

Figure 1.6 Adjacent to the Instrument Garden lies the fifth module, Conduct. When users "Enter Symphony Hall" they learn 2/4, 3/4, and 4/4 time signatures as well as how to use their right and left hands to lead an orchestra of musicians.

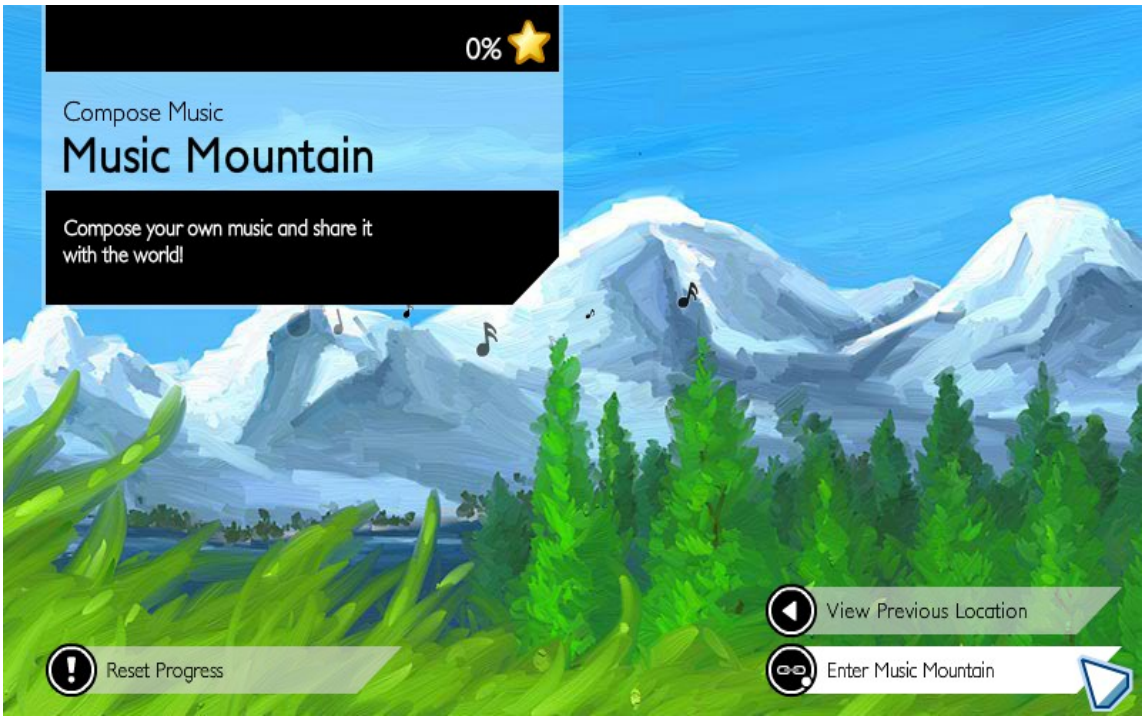

Figure 1.7 Lastly, high on Music Mountain brings us to the sixth and final module, Compose. Here, users can apply what they've learned from playing scales, conducting, and listening to some of the masters of classical music in the creation of their own few minutes of an original creation that can be saved, shared, and even retooled with the collaboration of friends.

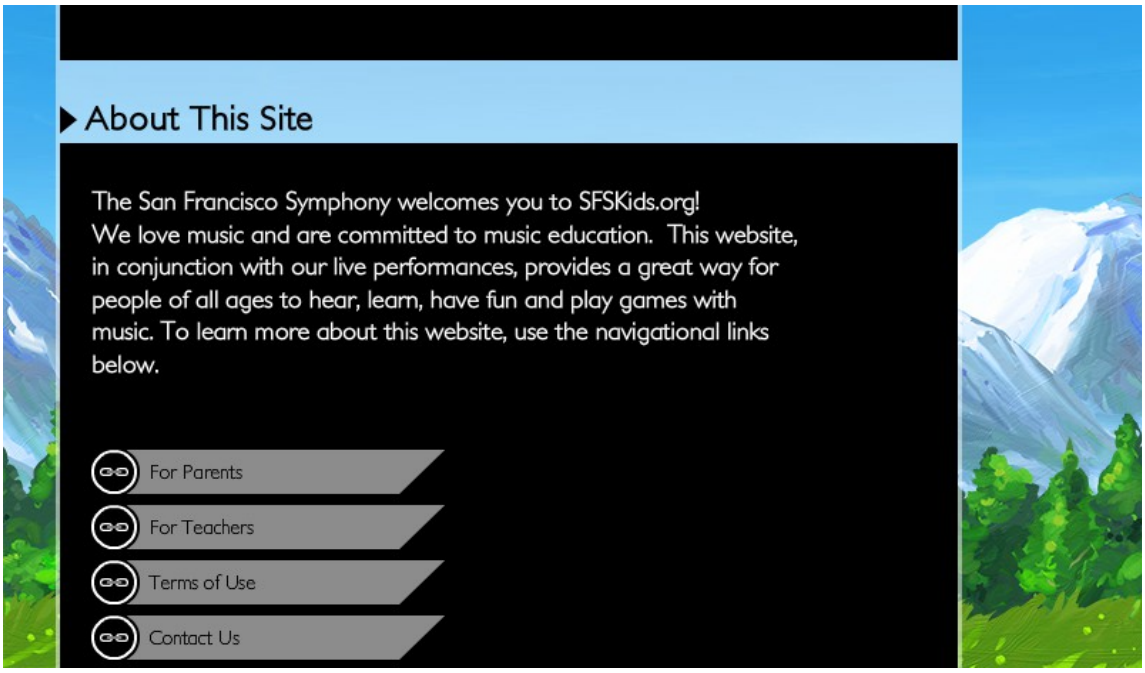

Figure 1.8 Just below the game frame, at all times, are the About, Credits, and Privacy Policy sections. They explain the purpose of the program and how it can be utilized at home or in the classroom. About includes links to four

options; one for Parents, one for Teachers, the Terms of Use and a Contact Us page that includes the website and physical addresses for the San Francisco Symphony.

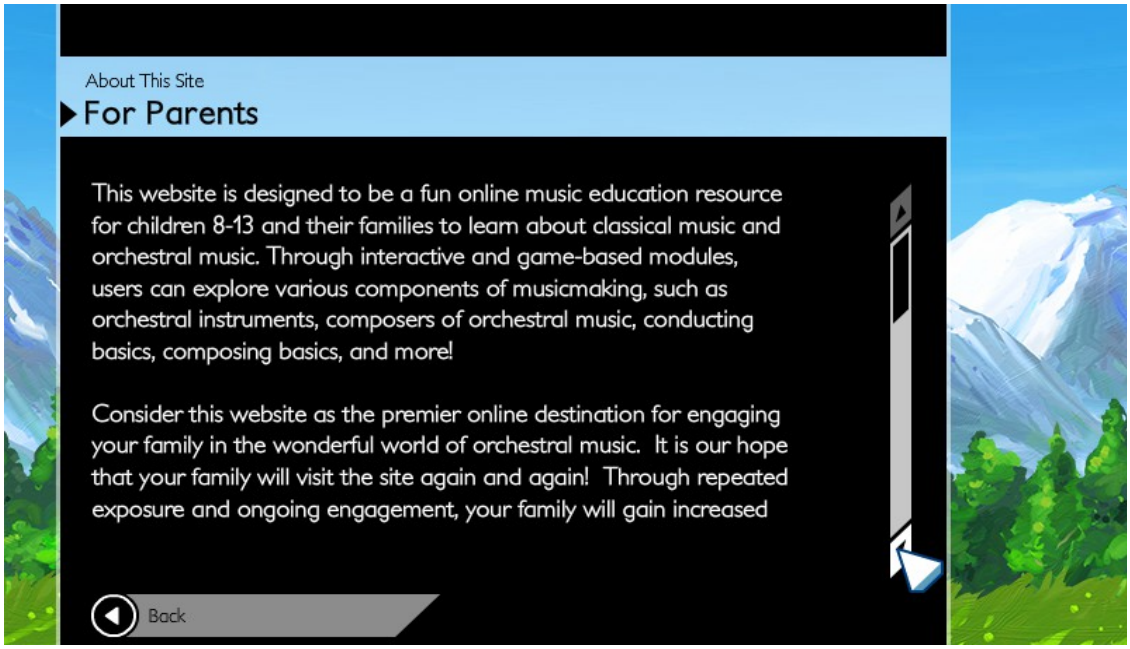

Figure 1.9 The entry written for Parents details the enriching experience their children can have through this and other integrations of classical music into their lives, and the reader can use their mouse cursor to scroll down for a brief descriptions or the lessons and games in the program. The user and Parents can access the complete text by using the scrolling control bar on the right, and can also drag the cursor over the arrows to click and control the text.

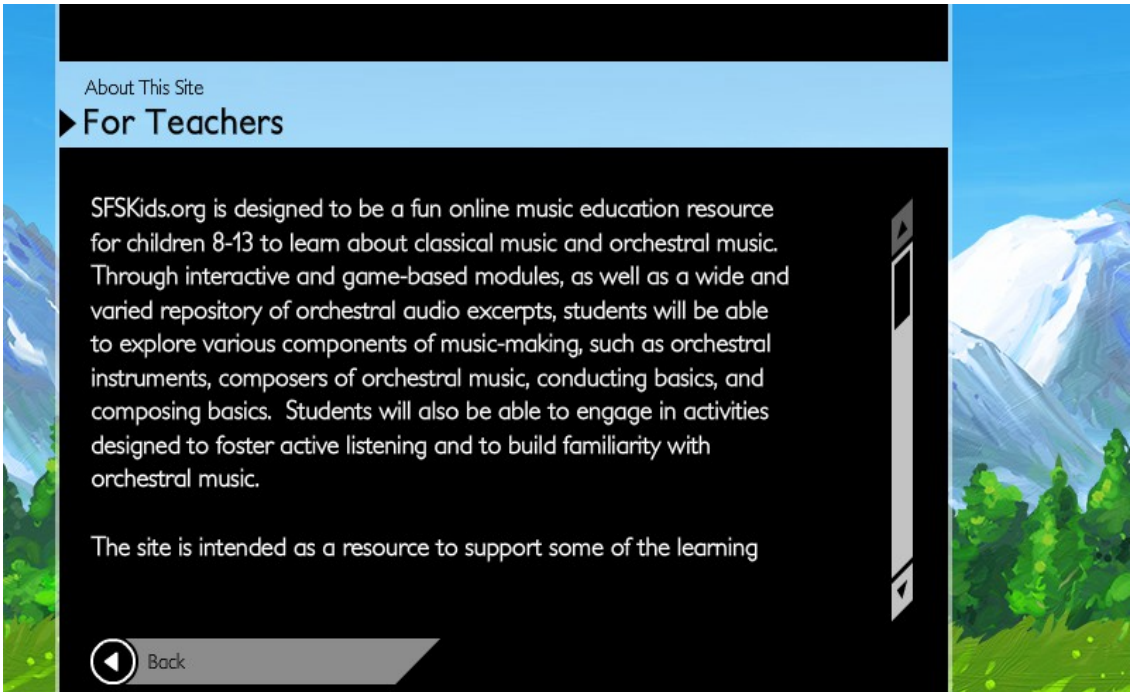

Figure 1.10 The entry For Teachers is very similar to that designed For Parents and also includes education-oriented details about the compositions that were selected for the modules and how they will cycle throughout the year.

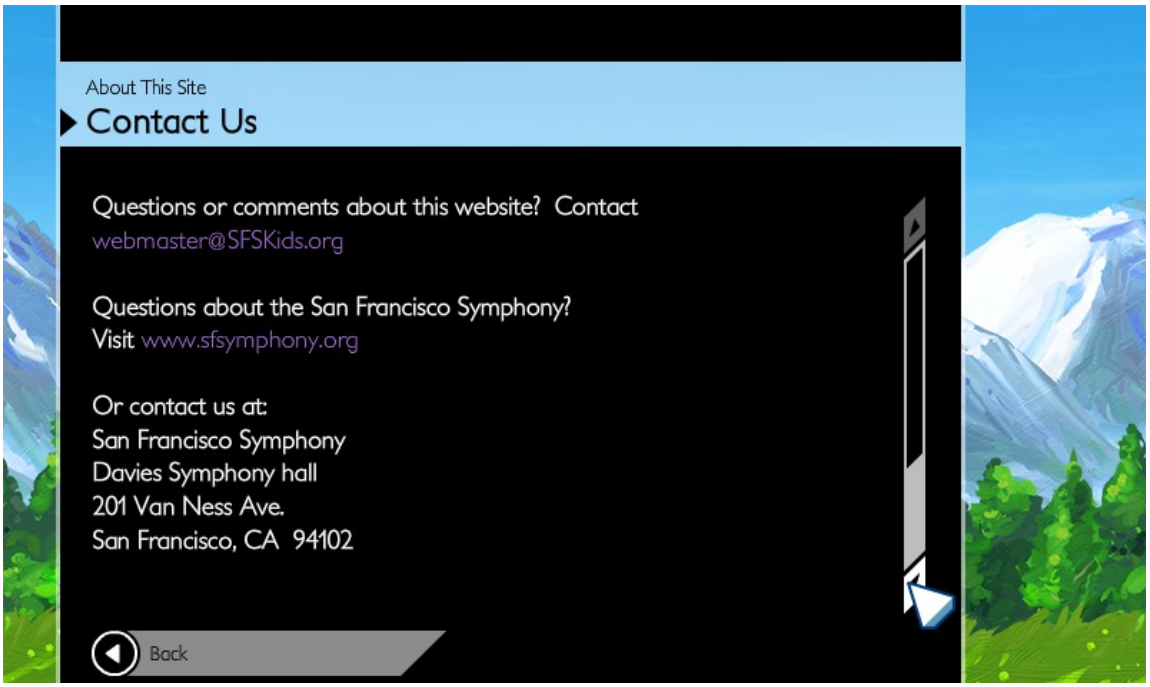

Figure 1.11 About also contains the Contact Us information that gives direct links to the SFSKids email address, the San Francisco Symphony website and mail address and, when the reader scrolls down, the phone number and website link for purchasing tickets to the Symphony.

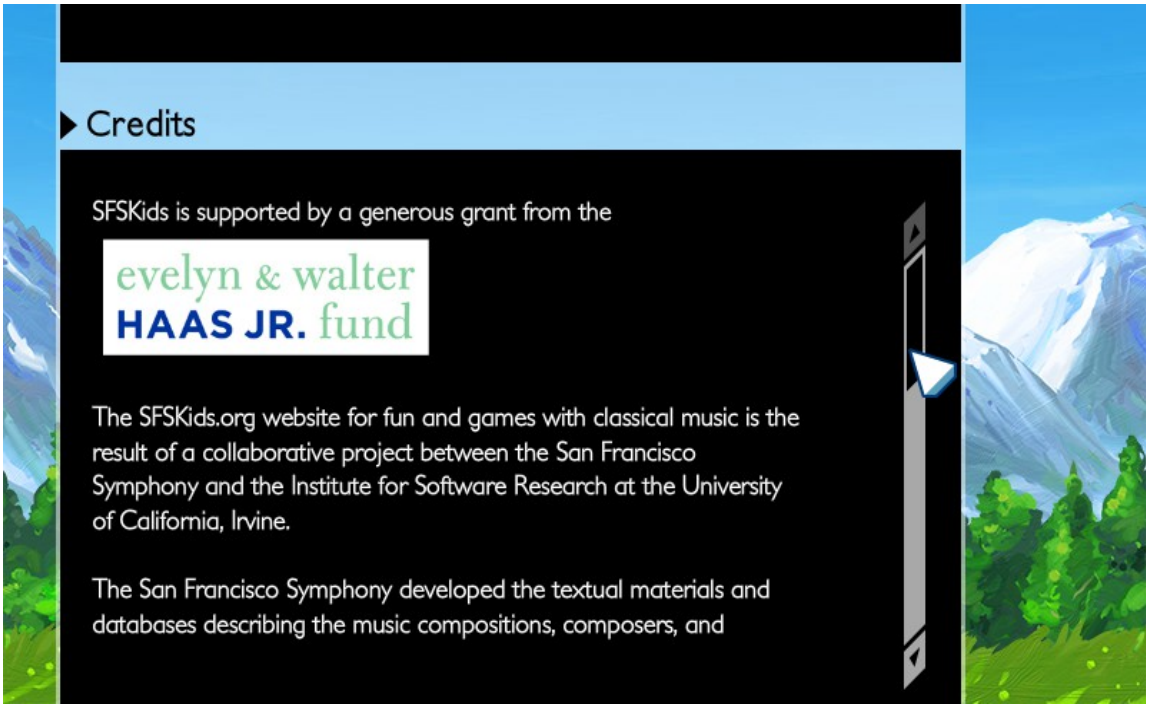

Figure 1.12. The Credits page acknowledges the project sponsors, along with the collaboration and participants from the San Francisco Symphony and the Institute for Software Research at the University of California, Irvine.

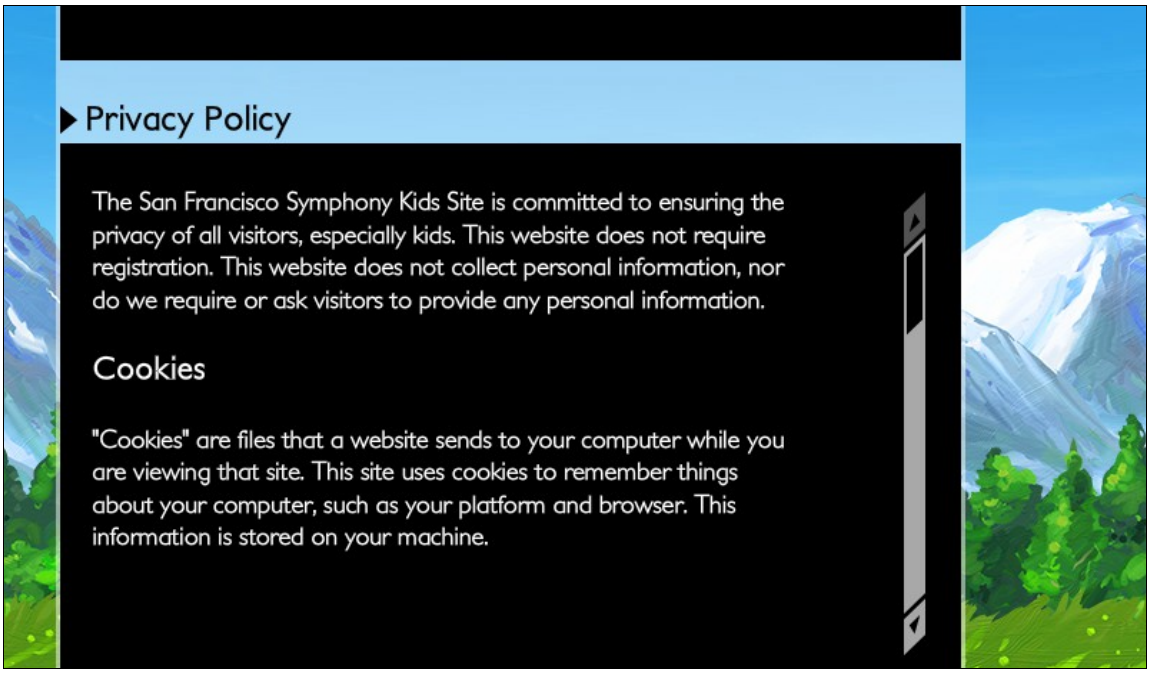

Figure 1.13 The Privacy Policy page explains the rights and participation of the San Francisco Symphony and its performances of the music excerpts. It clarifies in greater detail that the program will never request or collect any personal information from the users and will never track their usage of this program or other activity in any way.

Figure 1.14 If at any point during gameplay a user encounters the error reporting screen, it means that an unexpected error has occured. By copying the error link and sending it from an email account to the webmaster@sfskids.org, this step can help the developers address the issues and create a better SFSKids experience.

2. Discover music:
A sea of symphonic knowledge

Figure 2.1 In the Discover module, Bear introduces users to the world of music by connecting composers, their compositions and the instruments used to create the 120-piece catalogue. Discover takes the user into the Sea of Symphonic Knowledge and allows him or her to link the time in which the piece was written to the other works from the early 18th century to contemporary compositions. In the framing proscenium under the SFSKids logo, the Discover module is highlighted and underlined to signify it is the module in use.

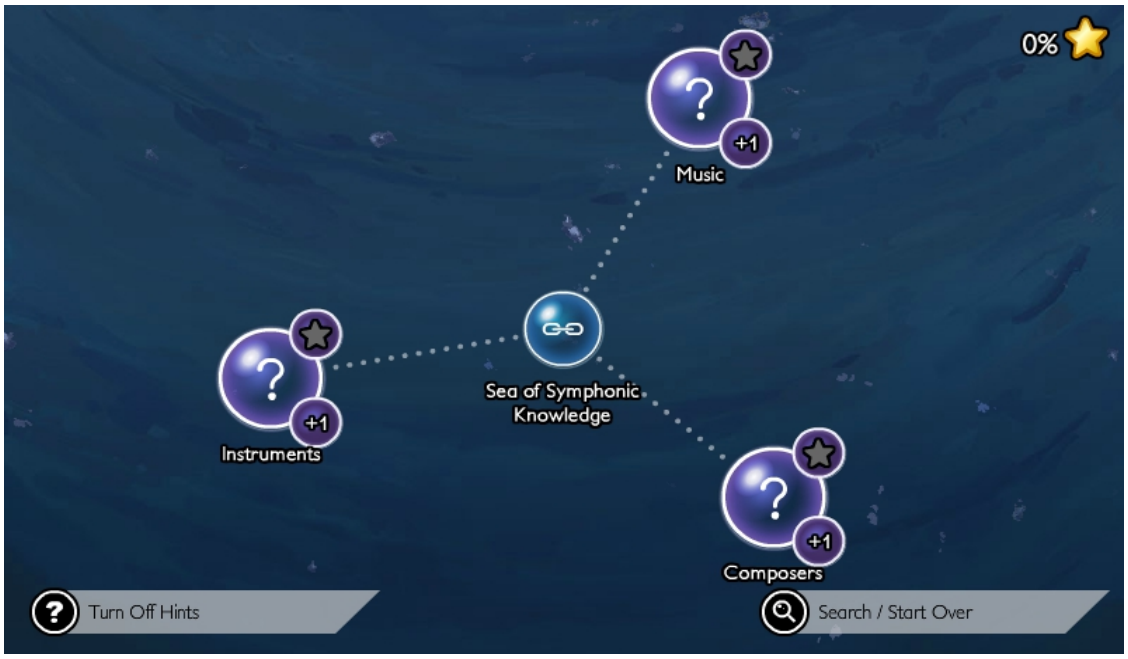

Figure 2.2 The network of three purple bubbles have question marks to signify that they can be unlocked to display

more content; once visited, each bubble will fill in its gold star which stays in shadow until that bubble has been explored while the "+1" indicates that there is another bubble extension in that branch.

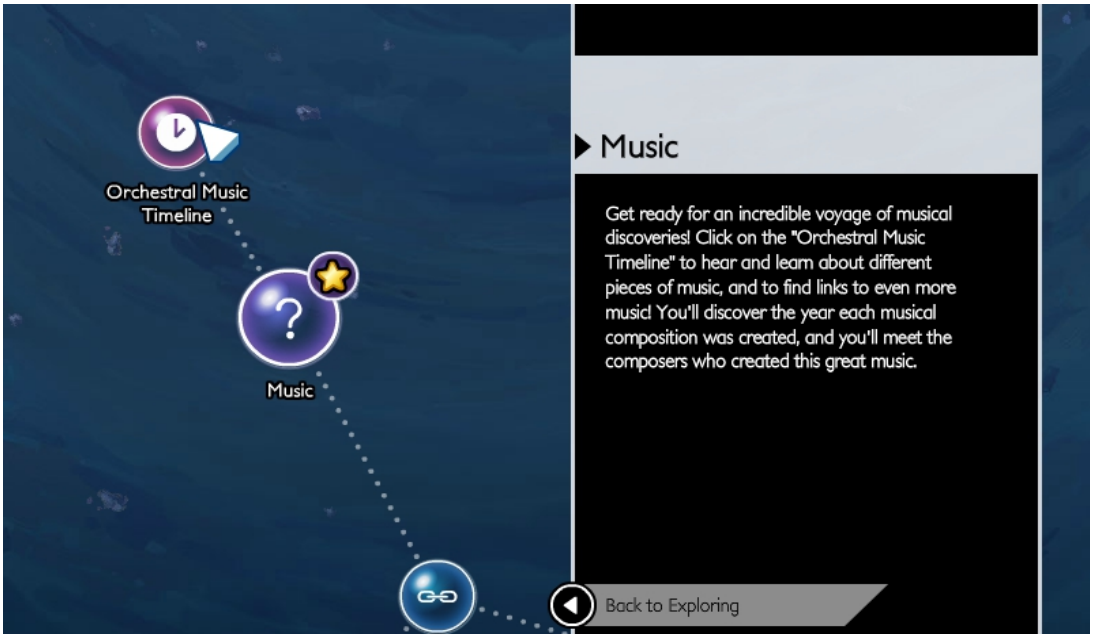

Figure 2.3 Once a category is selected, for instance *Music*, a brief paragraph describes what can be explored, and launching the Orchestral Music Timeline will progress them further into the Sea. After *Music* is clicked, the gold star gets filled in and the +1 extension became the "Orchestral Music Timeline" extension. In the bottom right corner, clicking "Turn Off Hints" will allow a more experience user to explore the levels without the interruption of the pop-up texts that explain how to use the program. If assistance is ever required when using the game, clicking "Help!" (which appears once "Turn Off Hints" is activated) will reproduce the hint pop-ups.

Figure 2.4 The *Orchestral Music Timeline* seen on the left side lets the user to swim through and select bubble compositions as they like while the timeline on the left side of the window contextualizes when the piece was

published between 1717 and 1995. The timeline can also be used as a navigation tool by clicking on a year or range that the user wants to access. The blue bubbles with 16th note represent that the bubble contains music and the +4 and +5 shown above indicate that the bubbles can expand to show other elements of Discover, like composers and instruments related to each root bubble.

Figure 2.5 On the far-left and far-right of the screen, the arrows and numbered bubbles indicate to the users that more bubbles and content can be found navigating (clicking) on either direction arrow.

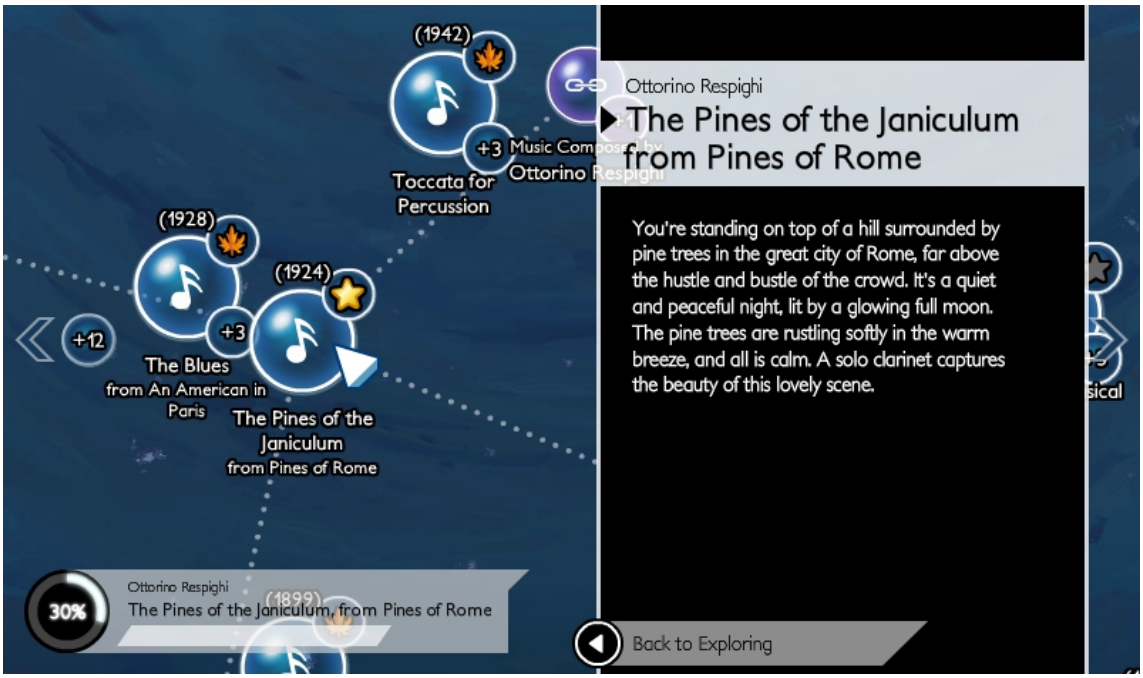

Figure 2.6 By clicking on a bubble, all other compositions within the catalog by the same composer will pop out and connect to the piece while a gold star is filled in denoting that that composition has been viewed and an audio

excerpt will load the piece in the bottom left of the frame so that users may also hear what they are learning about. When a music bubble has a smaller Maple Leaf bubble attached to it indicates it is available in Summer and Fall.

Figure 2.7 If at any point throughout "swimming" through the compositions the user wants to return to the beginning of the module or find a particular item, the *Search/Start Over* button at the bottom of the screen enables them to do so by clicking on the magnifying glass icon. The smaller purple bubbles with three chain links show that connections can be made to other elements of the Discover module.

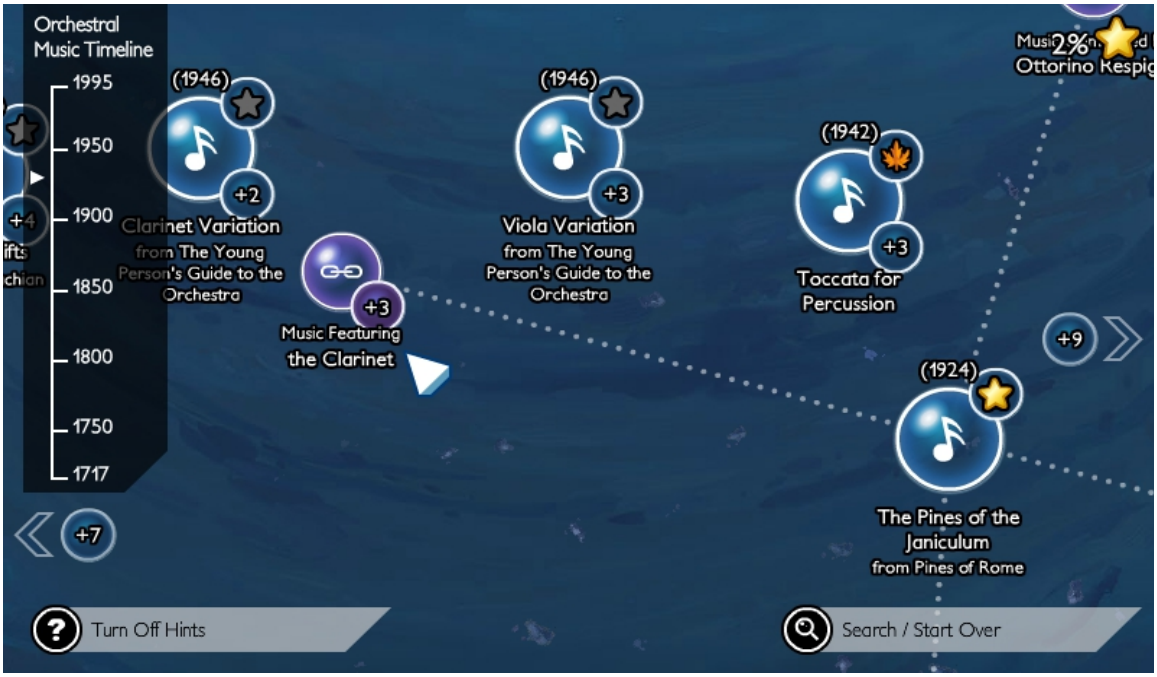

Figure 2.8 The same bubble network, in this case stemming from Ottorino Respighi's *The Pines of Janiculum* will connect them to not only other pieces by Respighi, but to other compositions (by any other catalogued composer)

that utilize a featured instrument, like the clarinet. The magenta cello bubble with hand print can be opened in the Perform module so users can experience a close-up, hands-on introduction to the instrument.

Figure 2.9 By swimming to another branch of the Respighi bubble network, the user can click on the composer's profile to learn more about the artist's biography and particular styles of music he is recognized for. The magenta composers' bubbles, identified by the bust silhouette, include their birth year and star that is filled in once viewed.

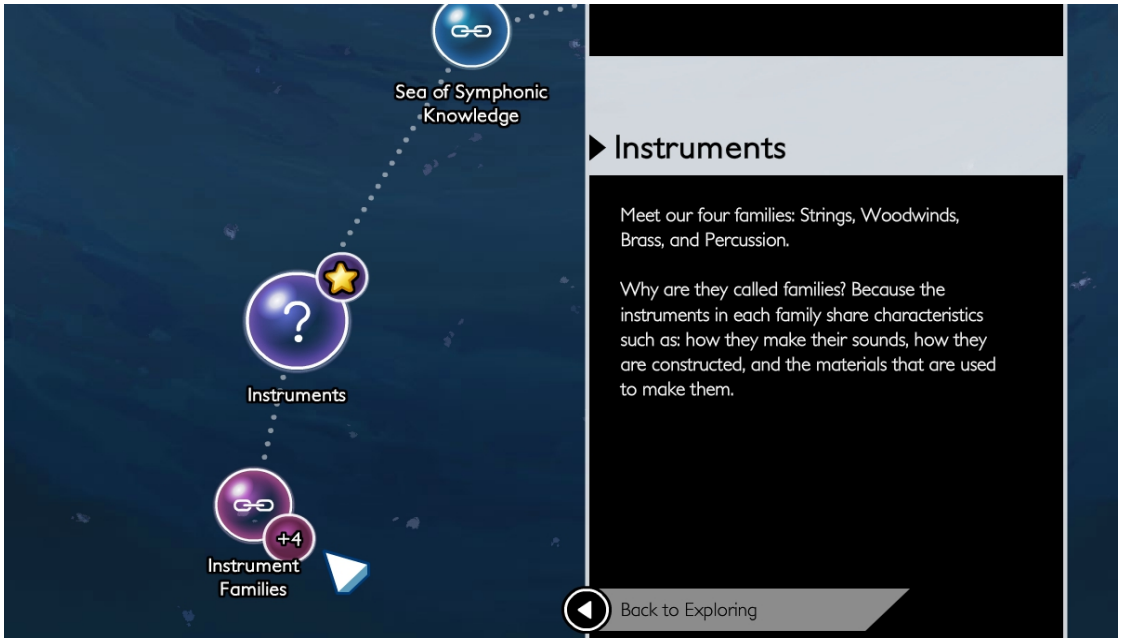

Figure 2.10 After returning to the Sea of Symphonic Knowledge, a user may dive into the other categories and become acquainted with the composers (like Respighi) or can explore the four instrument families found in a chamber orchestra. Here, the magenta link bubble indicates that this branch can open four new bubbles.

Figure 2.11 Users get a chance to learn about some of the instruments that fall into the Strings, Percussion, Woodwind, and Brass families and make connections to the musical compositions that feature the instruments and by which composers they were written in the red instrument family bubbles.

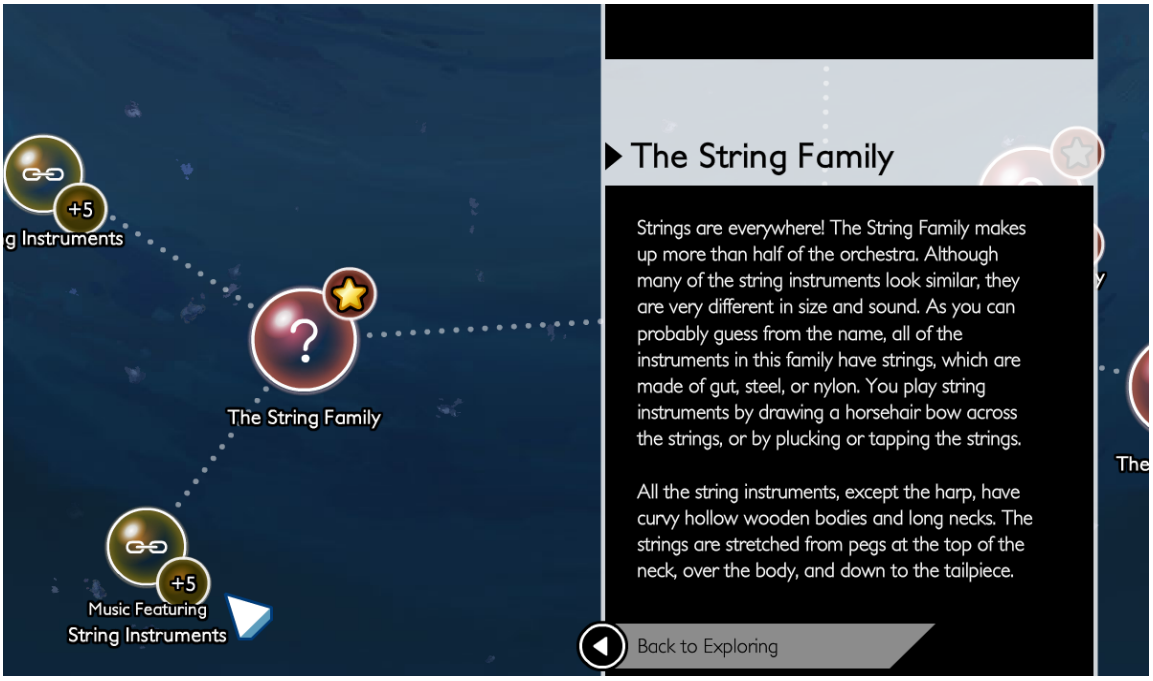

Figure 2.12 By selecting an instrument family, like *The String Family*, users can examine the types of instruments in that family and then explore various compositions that utilize those instruments.

Figure 2.13 Launching the Instruments link will show the network of featured instruments in that family that gives users the opportunity to learn about each instrument and in what ways composers feature its particular sound. The red instrument bubbles expand to two green link bubbles that connect to the Feel the Instrument activity in the Perform module as well as *Music Featuring* that returns users to the Music portion of Discover.

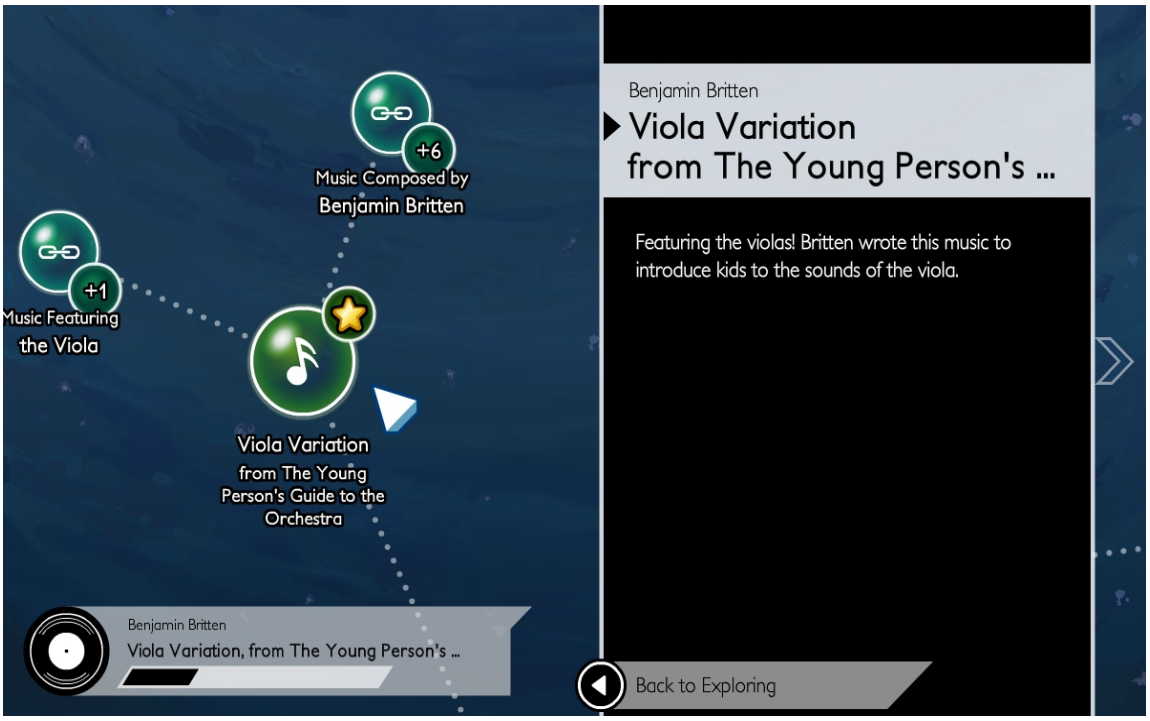

Figure 2.14 Each instrument is automatically linked with the featured San Francisco Symphony catalogue and allows users to make connections to other composers and pieces that they may have discovered elsewhere in the

program, like Benjamin Britten's *Viola Variation* from The Young Person's Guide to the Orchestra (now filled in with the gold star). Selecting a piece will also start an audio excerpt of the piece, with the length depicted with the progress bar and vinyl record icon on the bottom-left of the game window.

Figure 2.15 The green hand link bubbles each contain an expansion link that pairs the instrument to other pieces of music in the catalogue that feature the instrument or other compositions written by the same composer. In this case, music featuring the Viola and music composed by Benjamin Britten, respectively. Completing the connection, the user can listen to an excerpt as performed by the San Francisco Symphony, and gather biographical information about who wrote the composition, when they lived, and what instruments they featured in the piece to create a fully realized network of the catalogue.

3. Listen to music:
Music streams

Figure 3.1 Rabbit introduces the second module, Listen, which lets users sample the 120 piece catalogue in the program that surveys classical music from the early 1700's to the late 1990's. Here, Listen is highlighted and underlined in the navigation bar above the game frame.

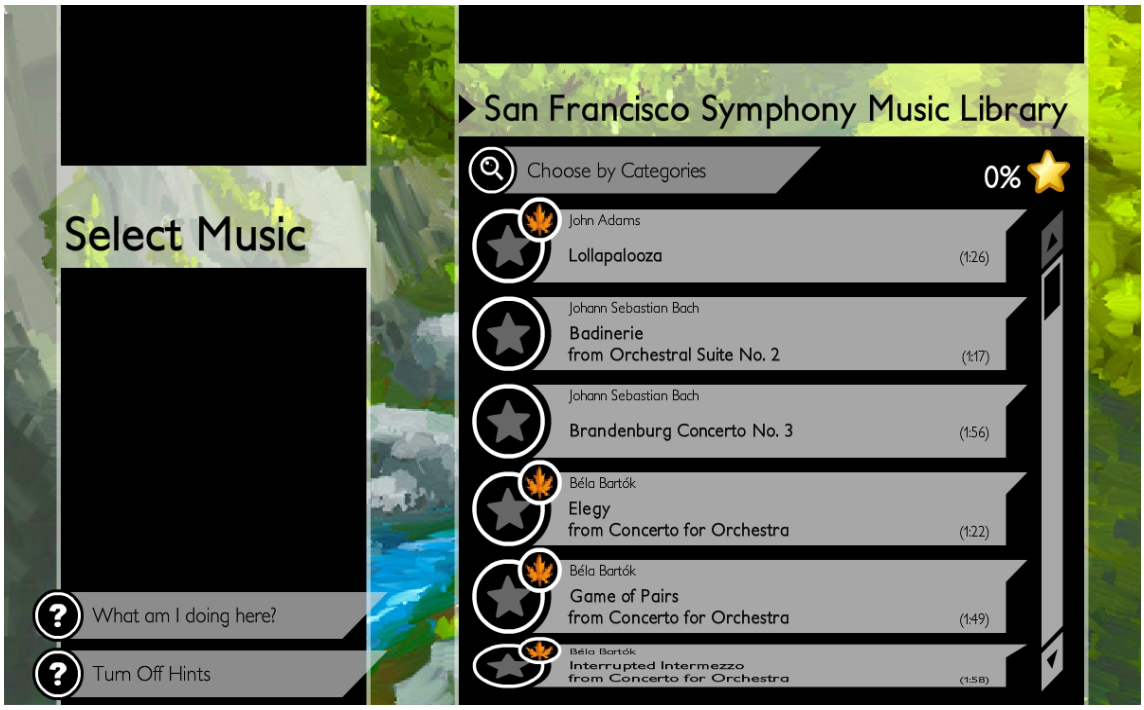

Figure 3.2 The Music Library lets users scroll through the featured compositions marked with Stars that will be filled in once listened to. Selecting "What am I doing here?" denoted by a question mark icon, will return the user to the module cover, seen previously in Figure 3.1.

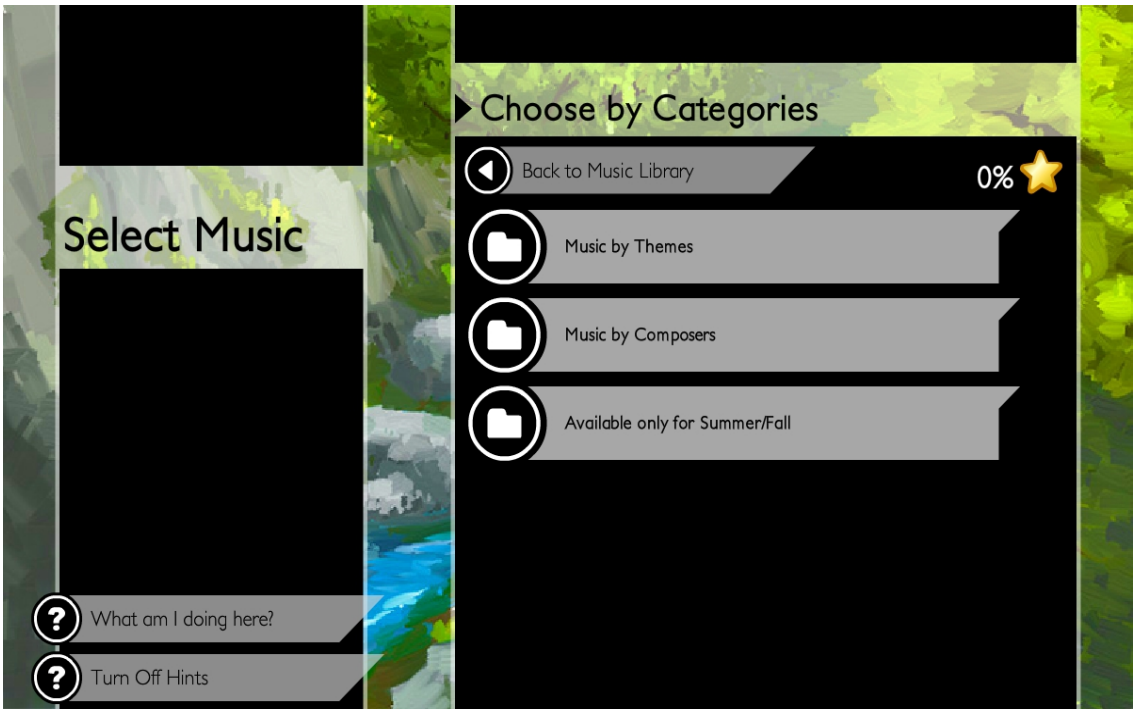

Figure 3.3 Sorted by composer, users can also select a piece through Choose by Categories, denoted with a magnifying glass, that are grouped by Theme, Composer, or those songs seasonally available for Summer and Fall (denoted with a maple leaf).

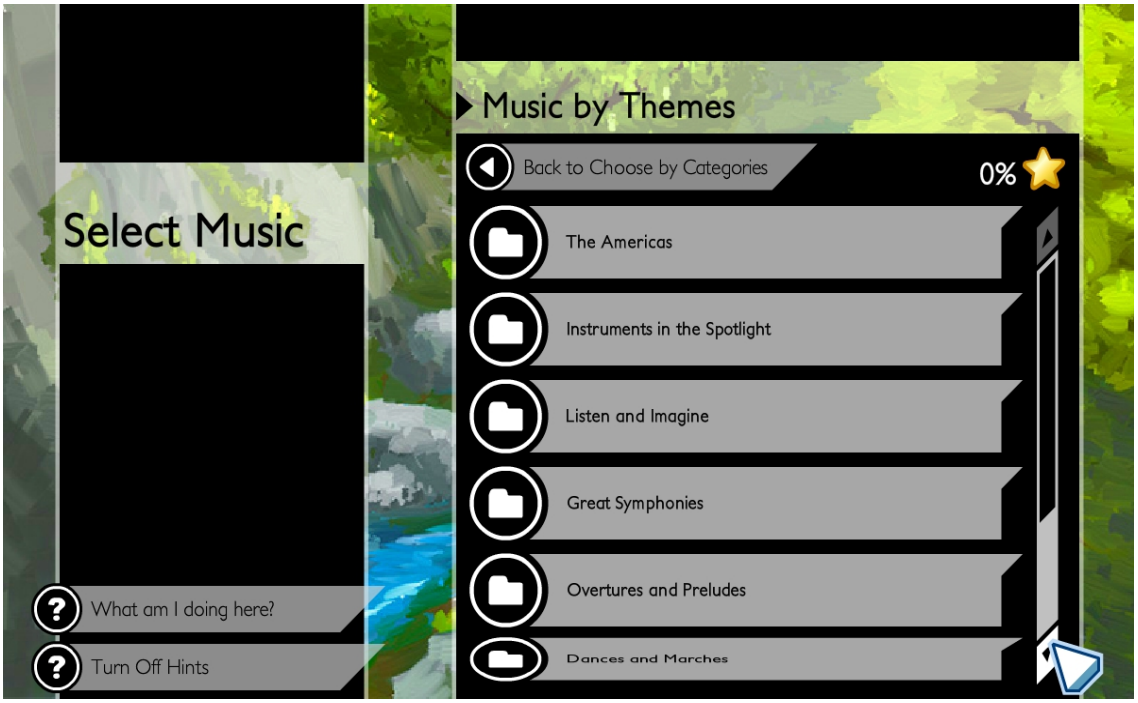

Figure 3.4 By browsing through pieces by one of eight musical Themes, users will explore works categorized as The Americas, Instruments in the Spotlight, Listen & Imagine, Great Symphonies, Overtures & Preludes, Dances &

Marches, Nature, and Great Stories. These themes feature Folder icons that indicate each theme can be clicked on and expanded to display its contents of multiple compositions.

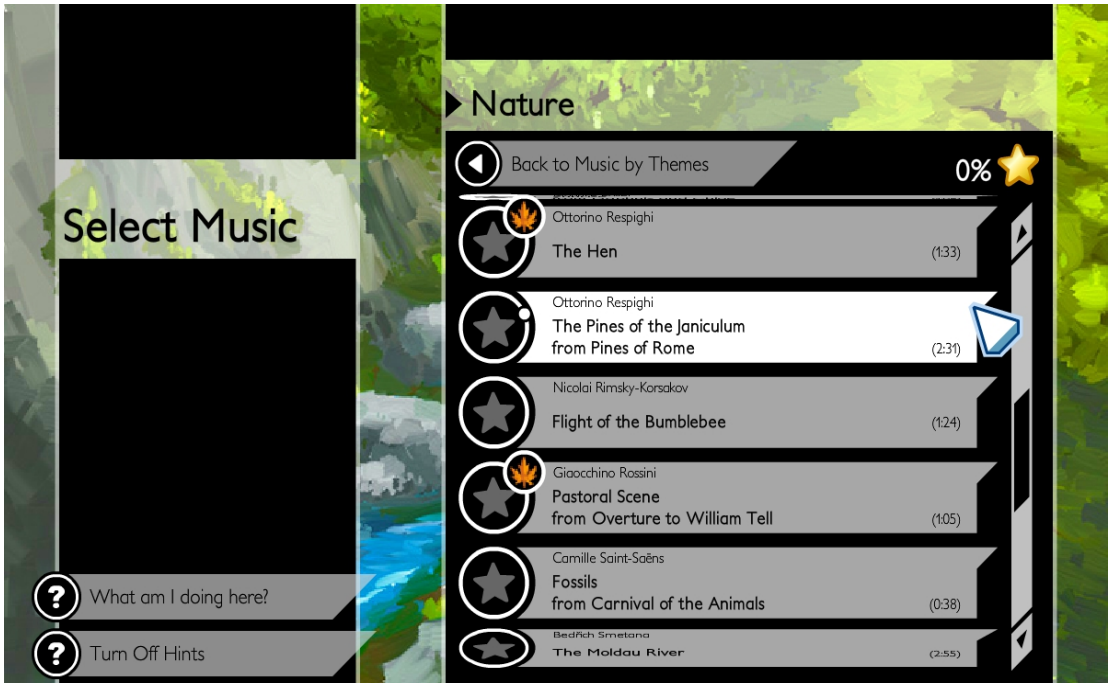

Figure 3.5 Searching by a theme, such as Nature, users are presented with compositions categorized either in the stories they tell or places they illustrate, using evocative music (instead of words or paint) to create an expression of the theme.

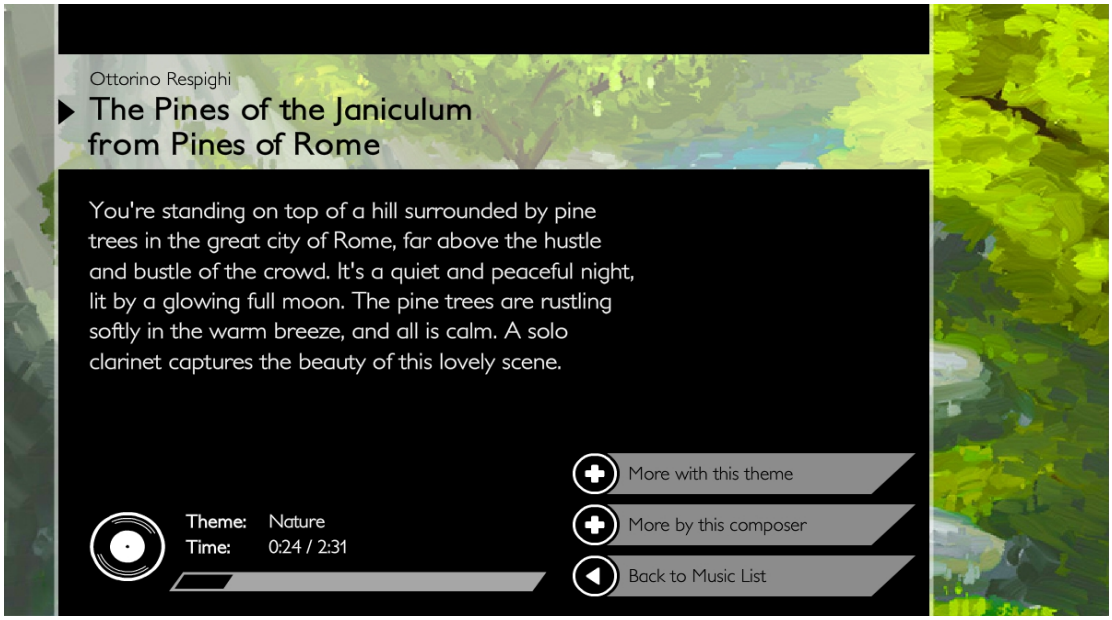

Figure 3.6 Once a piece is selected, like Respighi's *The Pines of the Janiculum*, a description suggests what might be imagined from the piece while an excerpt plays of the San Francisco Symphony's performance. The music selection downloads into the user's computer, and plays automatically so the user may listen. Music selections in the catalogue are excerpts, so the *Time* mark indicates how long the selection will play for listening. The user can stop

the music being played at any time by clicking on the record disk displayed in the lower left corner, at which point the user is taken back to the *Music List* to make another selection. Users can then choose to view the entire catalogue to select the next song, choose another piece from the same theme, or explore other works by the same composer.

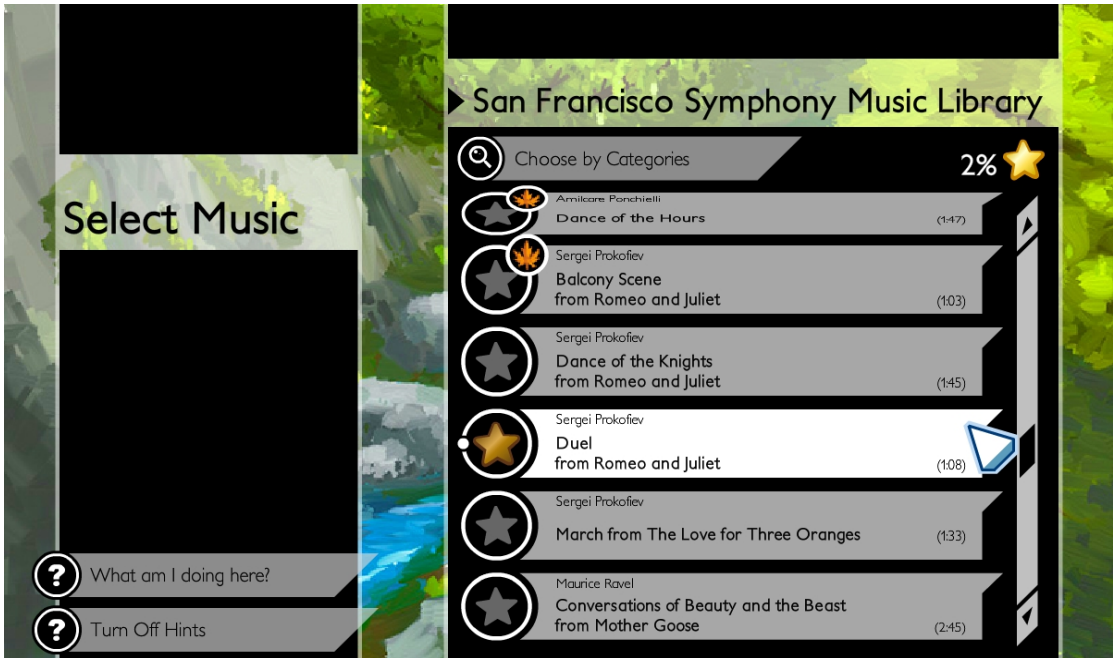

Figure 3.7 If the user opts to return to the Music List to scroll through the entire catalogue, they can select any piece, like Prokofiev's *Duel* from his score of *Romeo & Juliet*, and listen to it while connecting its theme (Great Stories) and where the excerpt takes place in the story.

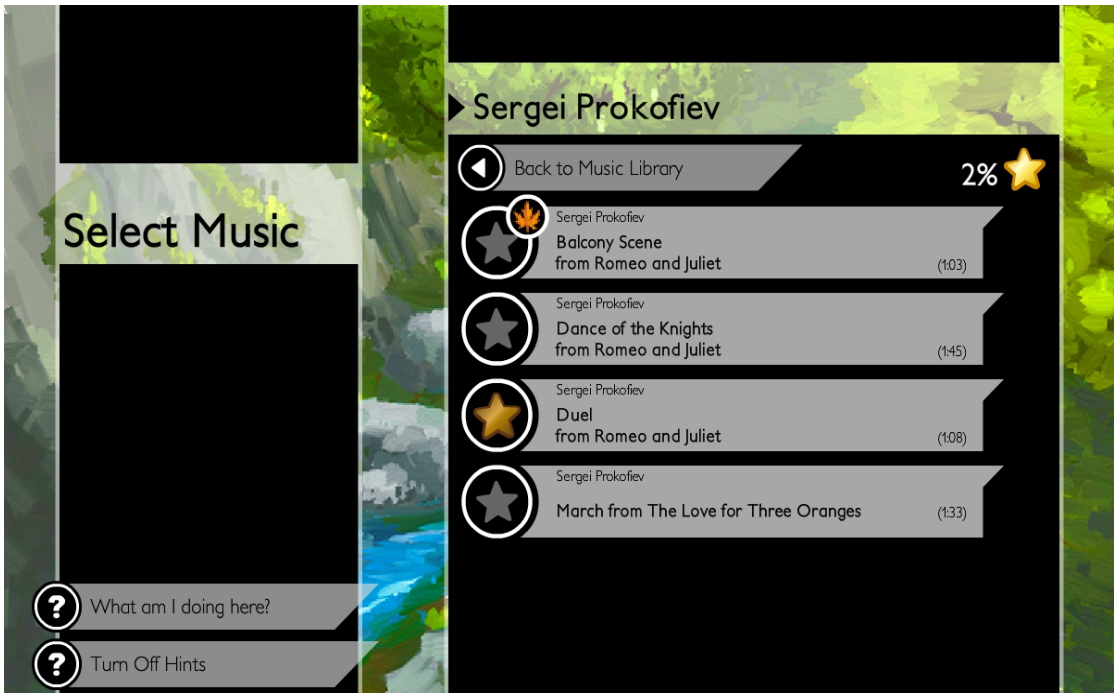

Figure 3.8 Here, should the user opt to explore other works by the same composer, he or she can sample all the

pieces in the module's catalogue and gold stars are filled in with each exploration to chart their progress. Of Prokofiev's four compositions in the SFSKids library, *Duel* was listened to, and so its gold star filled in.

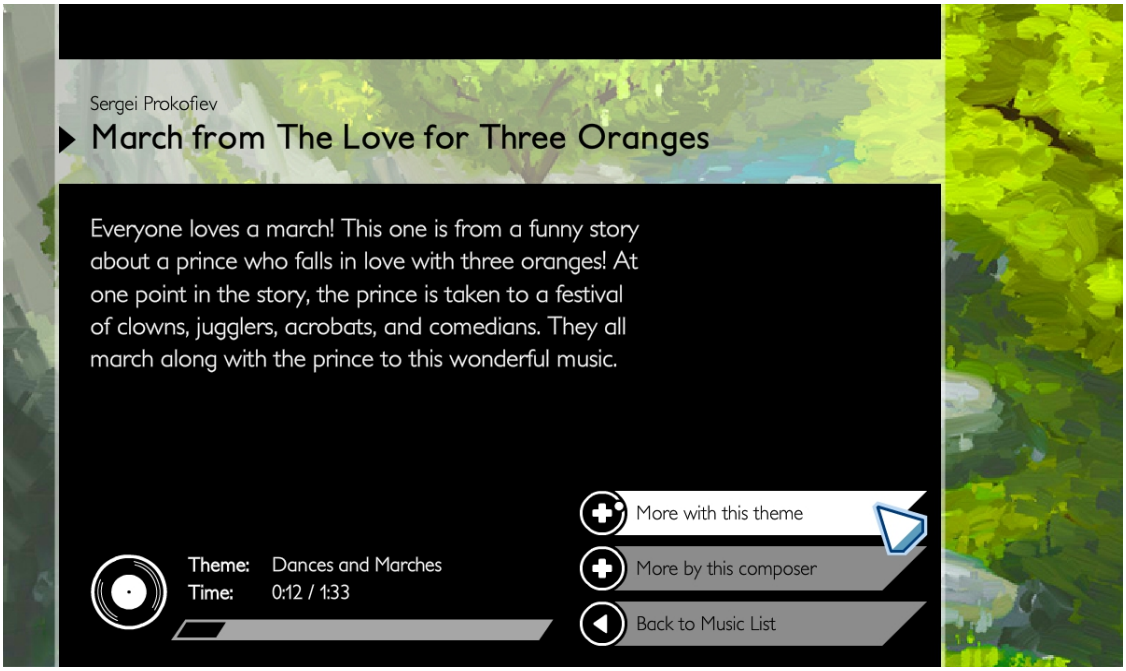

Figure 3.9 By selecting a new piece by Prokofiev, the *March from The Love for Three Oranges*, the user finds the link to a different musical theme, this one *Dances & Marches*, and the description gives the user a background in the story that accompanies the composition which is likely lesser known than Shakespeare's *Romeo & Juliet*.

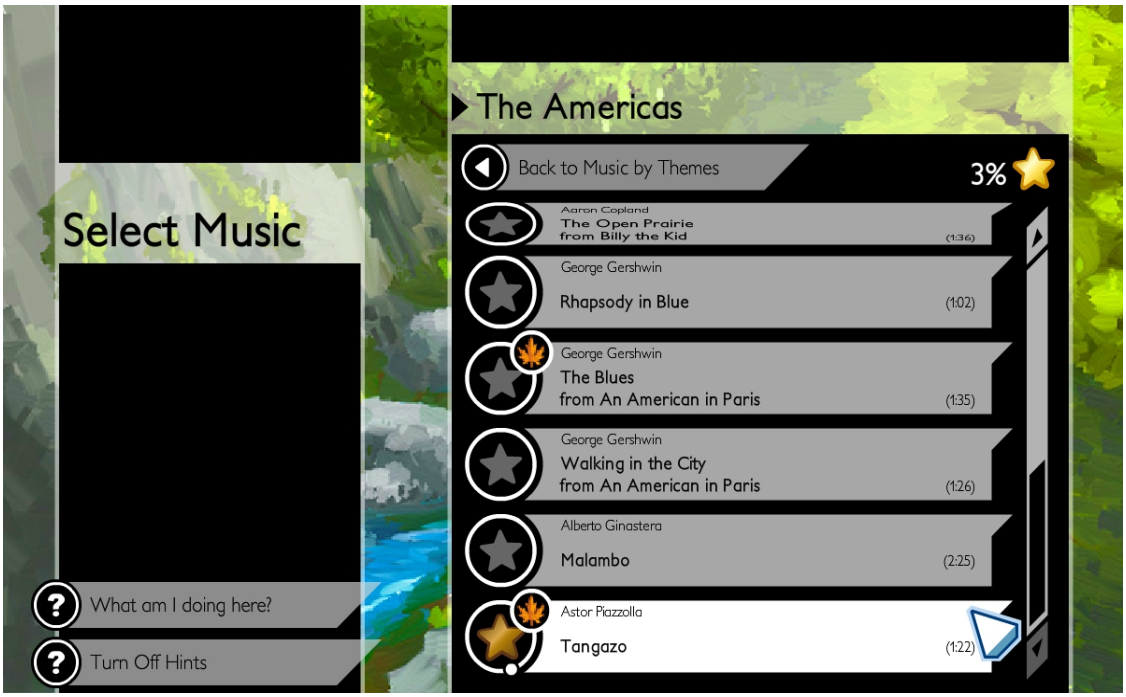

Figure 3.10 In exploring a theme like The Americas, the user is introduced to North and South American composers like Piazzolla whose *Tangazo* beautifully encapsulates the emotional dynamics of an Argentine tango.

4. Play with music:
Musical skies

Figure 4.1 Rabbit returns in the third module, Play. In the Musical Skies, users embark on two different interactive games: Star Catcher and Mood Journey. In the navigation bar above the game frame, Play stands out signifying it is the module being used and any other module can be accessed at any time by selecting another category.

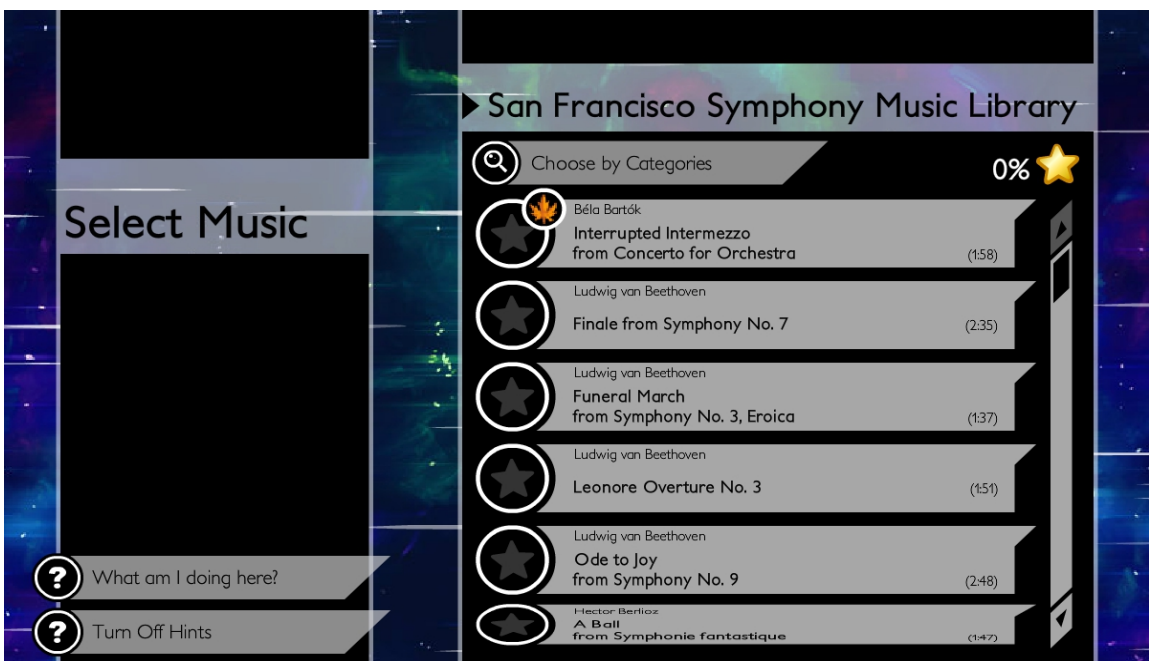

Figure 4.2 Users start at the familiar Music Library list that allows them to scroll down/up through the complete catalogue to find a piece they're already familiar with or be adventurous and try something brand new.

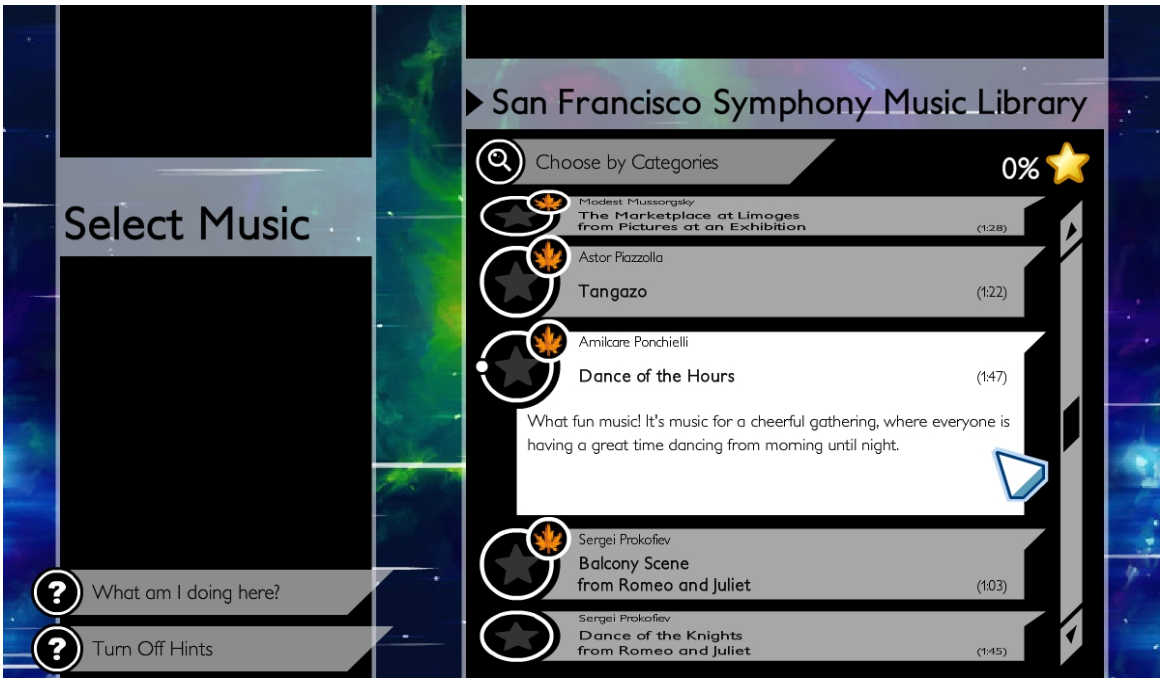

Figure 4.3 While scrolling through the catalogue of compositions, users can click on any piece to hear a preview of the song and from that brief introduction decide if its something they might want to explore further. Once they've heard a song and have decided to try it out, simply clicking on the piece again will give them the option to play either game.

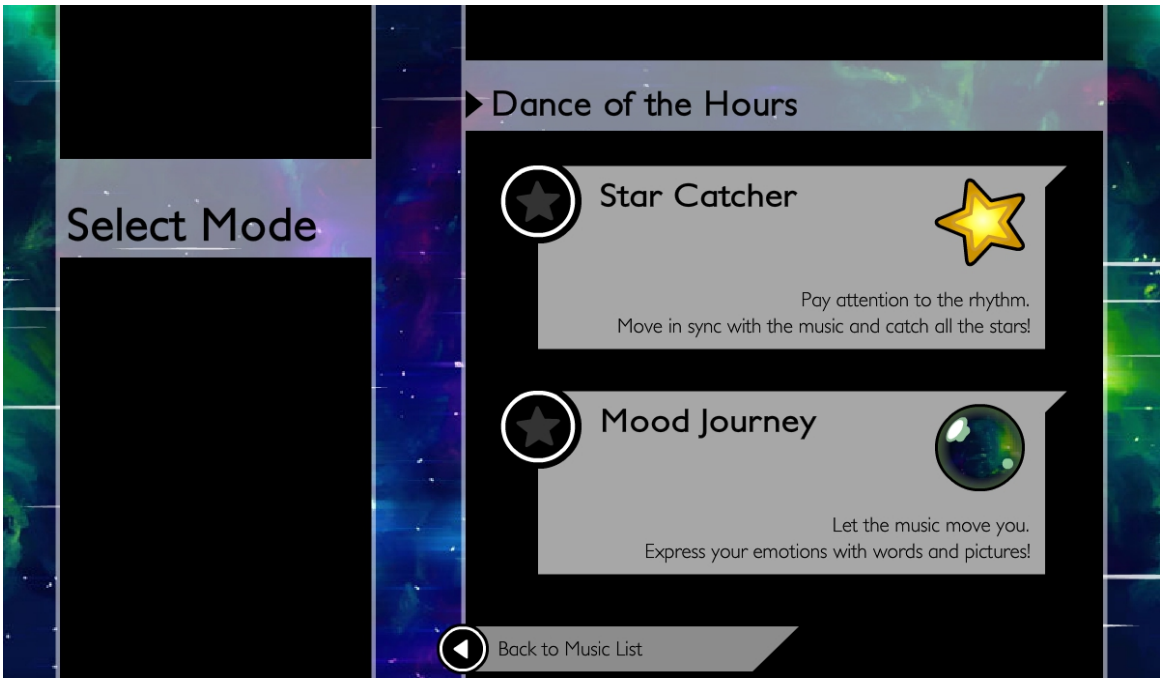

Figure 4.4 Once they've selected a piece, in this case Ponchielli's *Dance of the Hours*, the user gets to chose between the two games which they'd like to play. The first, Star Catcher, is a fast-paced game that challenges them to keep tempo with the music and grab as many stars as they can to earn points and a shiny star medal.

Figure 4.5 Star Catcher: The user moves Rabbit with his or her mouse cursor to catch as many stars as possible that are linked to the beats of the song; the faster it is, the more stars there are to catch. Bonus combos can be earned as more correct stars are collected.

Figure 4.6 Star Catcher: What's so hard aboutthat? The background theme of the game changes as the music progresses and introduces new distraction glyphs (balloons, dogs, baseballs and beach balls) that add a level of difficulty that forces the user to pay extra close attention to the stars and how they are choreographed to follow the music.

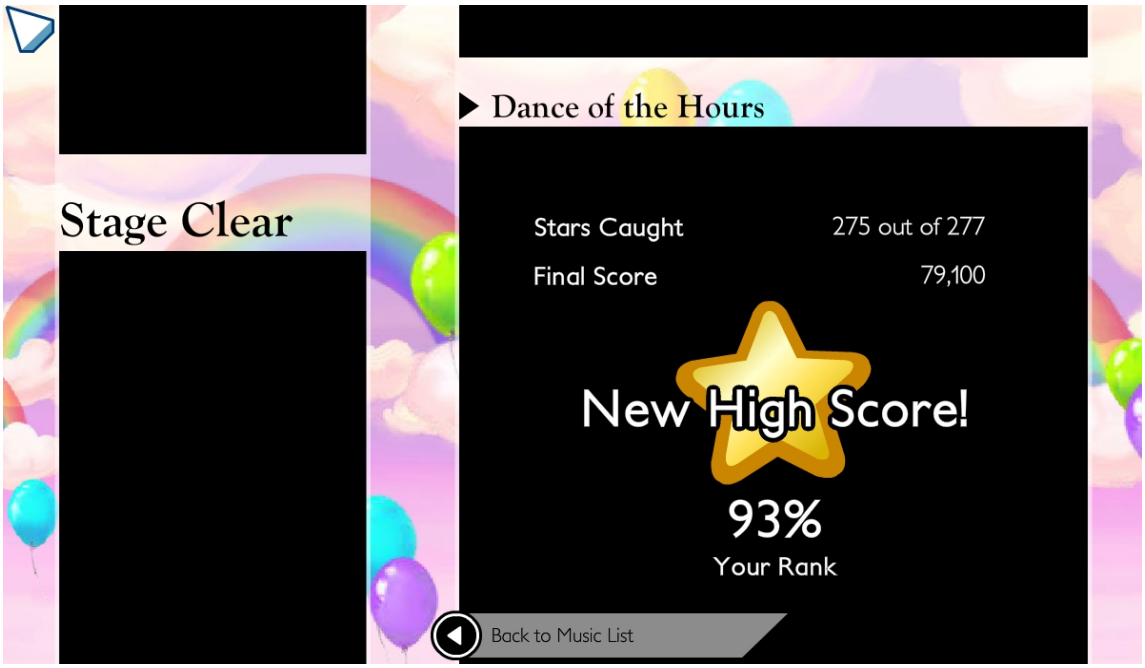

Figure 4.7 Star Catcher: Once the song and game are complete, the program tallies the number of stars caught and gives the user a bronze, silver, or gold star for the rank of accuracy. They can play the games with each piece as many times as they wish until they have earned the medal they want.

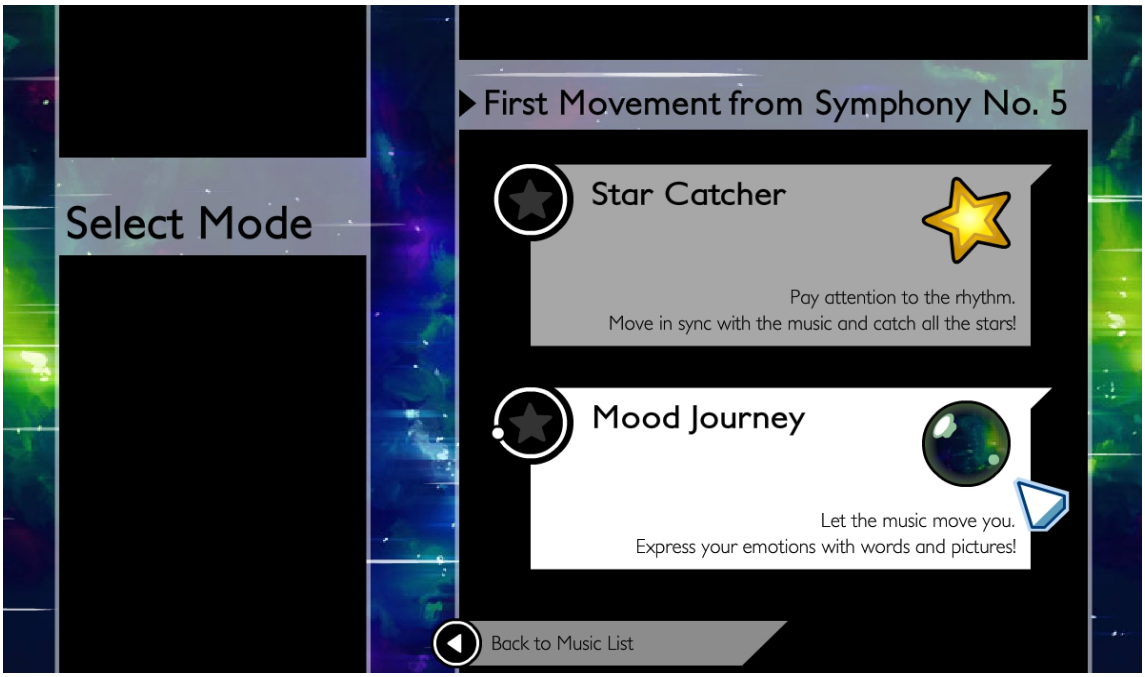

Figure 4.8 Mood Journey: This time selecting Shubert's *First Movement from Symphony No. 5* we get a glimpse of the Mood Journey game which gives the user total subjective freedom to create a storyboard of scenes describing how they feel while listening to the composition. Each scene can be altered by clicking on a phrase that suggests a feeling that could arise from the music while facts and anecdotes about the song are peppered throughout the excerpt.

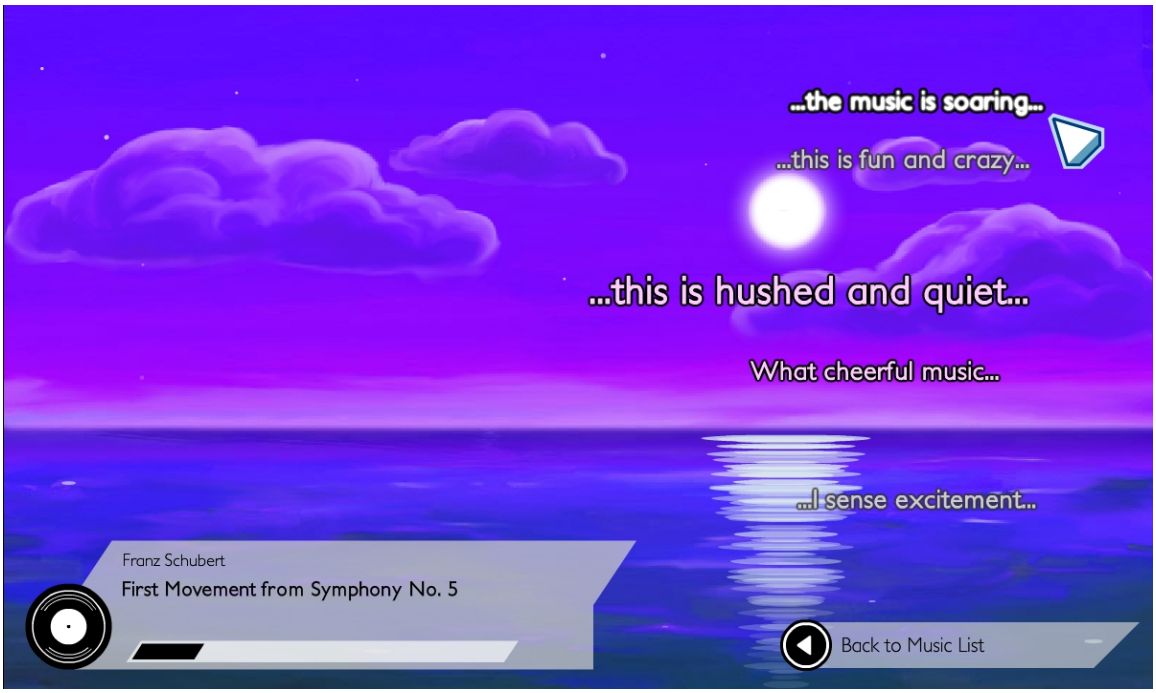

Figure 4.9 Mood Journey: Here, *First Movement from Symphony No. 5* by Shubert emphasizes the nature of the composition and lets users click on descriptions of the work to change corresponding backdrops.

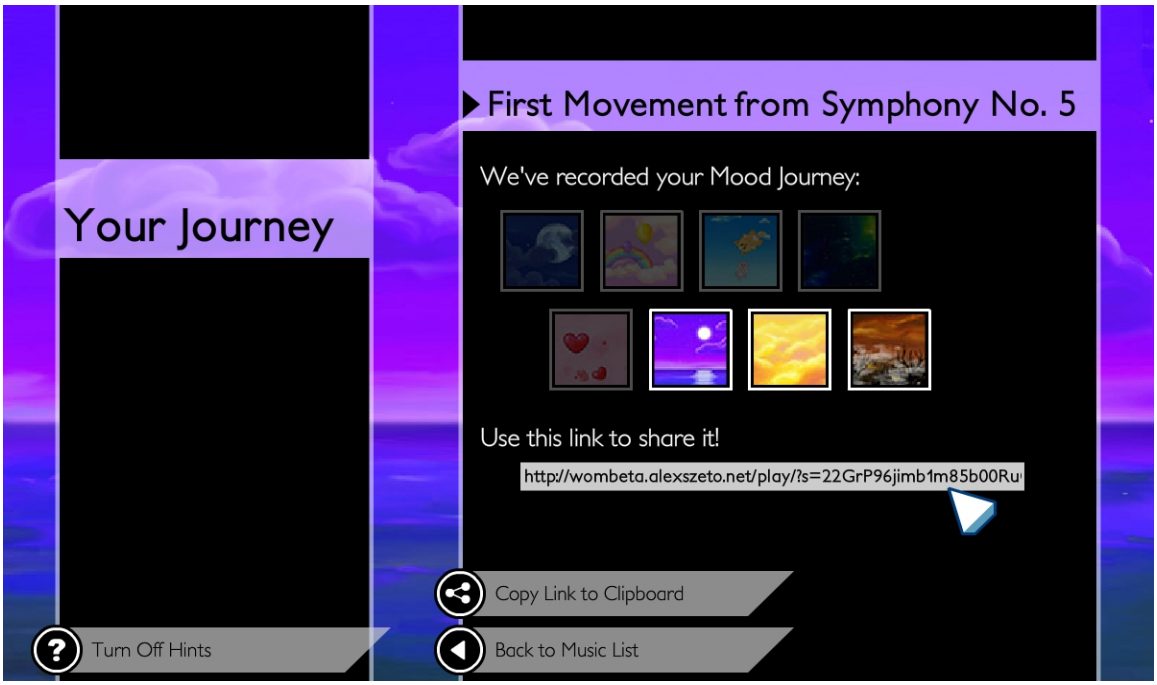

Figure 4.10 Mood Journey: Unlike Star Catcher, Mood Journey lets users have total control of the experience. Each Journey captures the scenes that the user selected to best represent how he or she felt listening to the piece. After every song, the Journey is recorded so that the user can cut and paste the unique URL link to their creation to save and share their unique vision for the work.

5. Perform music:

Instrument garden

Figure 5.1 The fourth module, Perform, gives users a hands-on exploration of the instruments and allows them to play members of the four instrument families found in the San Francisco Symphony orchestra. The Squirrel leads her fellow musicians into the Instrument Garden playing percussion instruments, the Rabbit plays strings, the Wolf the woodwinds, and the Bear demonstrates the brass instruments.

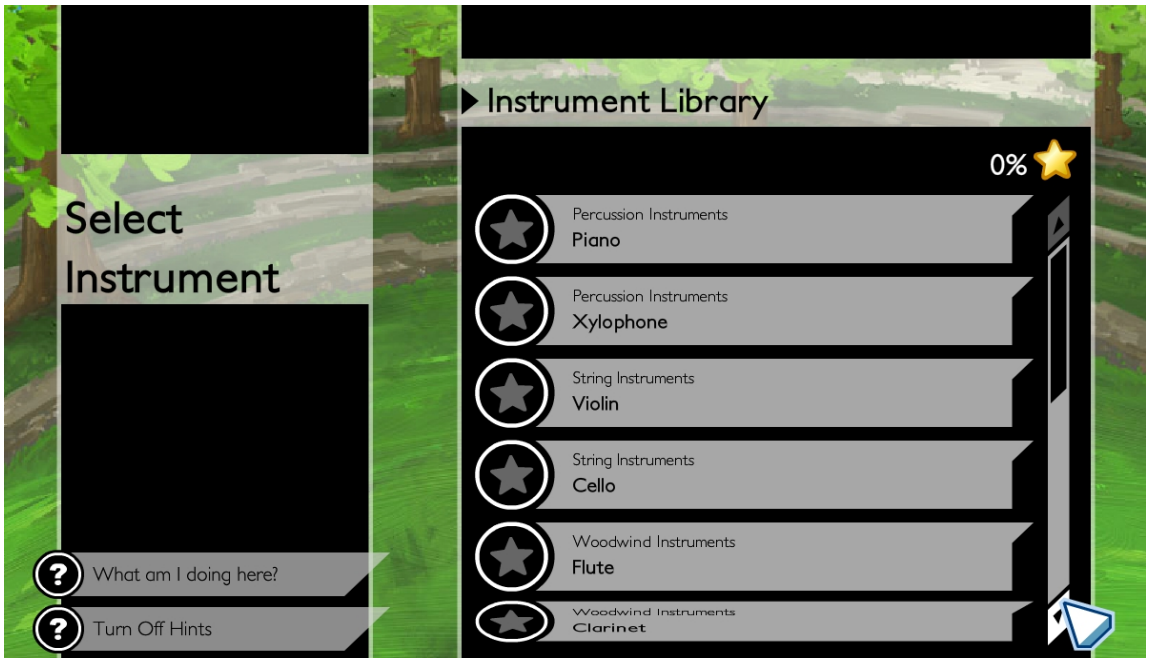

Figure 5.2 Once launched, the user will find a scrolling menu of the instruments available to try, a sample assortment from the Percussion, String, Woodwind, and Brass instrument families, by clicking on an instrument of interest, like the *Xylophone.*

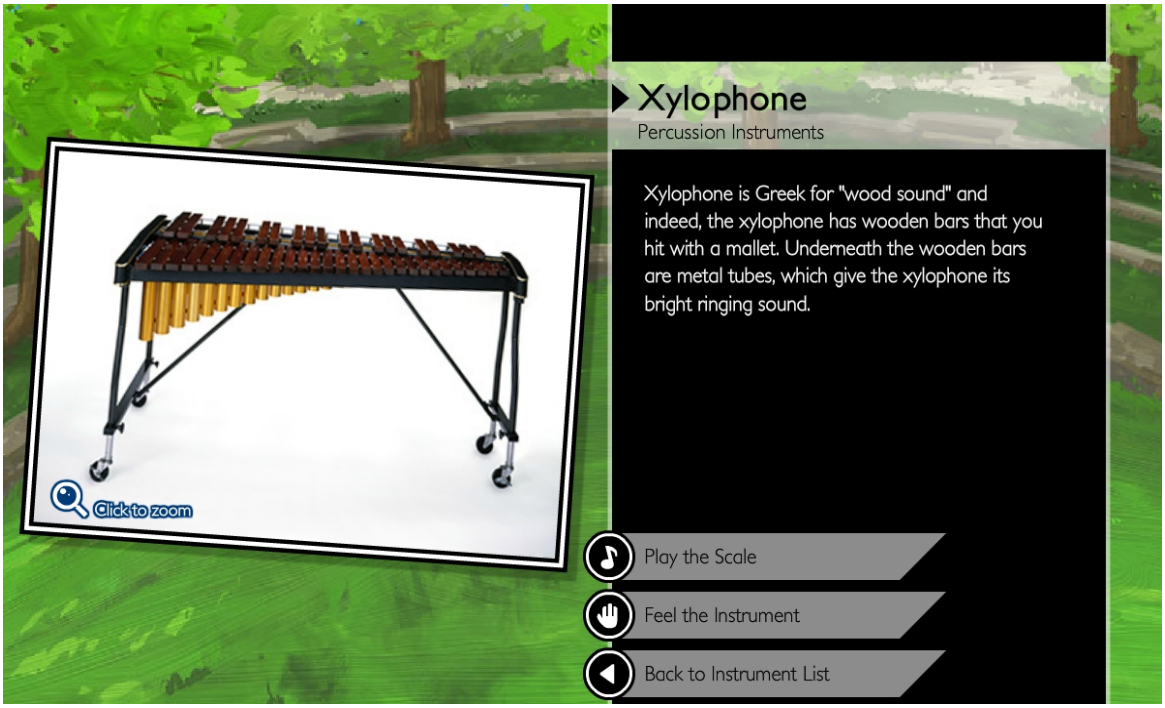

Figure 5.3 Once the user selects an instrument, in this case the *Xylophone*, the instrument profile will allow them to take a magnified look at a photo of the instrument and learn a little about its origins in the world of music.

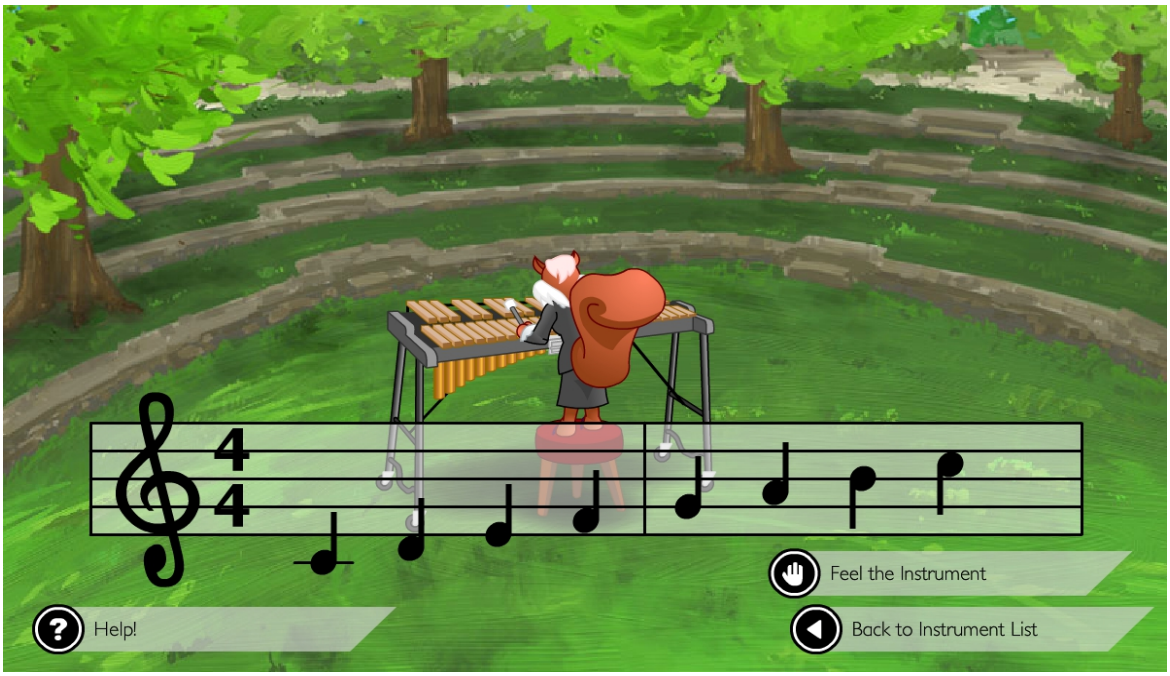

Figure 5.4 From there, the user can select *Play the Scale*, seen here, *Feel the Instrument*, or *Back to Instrument List*. The former shows the Squirrel in front of the selected instrument, the Xylophone, and the user will watch and listen as she plays a scale before they use his or her mouse cursor to click each note of the ascending scale.

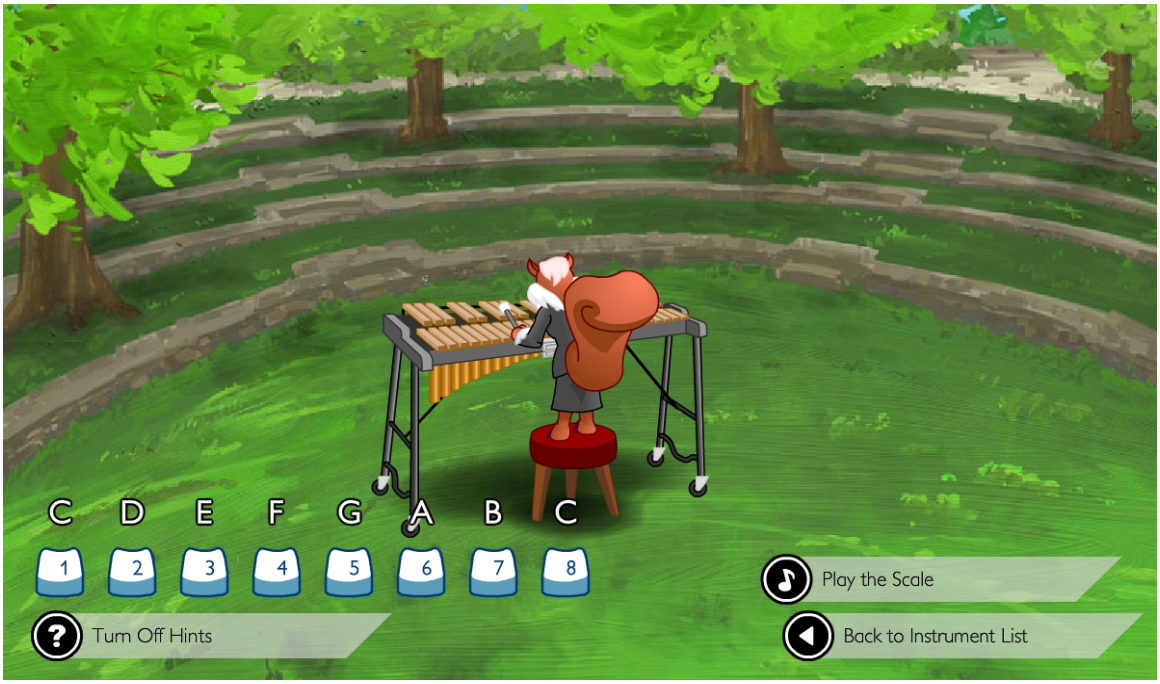

Figure 5.5 By advancing to *Feel the Instrument*, users get the opportunity to play the instrument with number keys one through eight on their keyboards while the Squirrel plays along to the user's cues. To closer simulate playing the instrument, the program also requires users to use both hands in syncopation to further develop the hand-eye coordination necessary to play and read music.

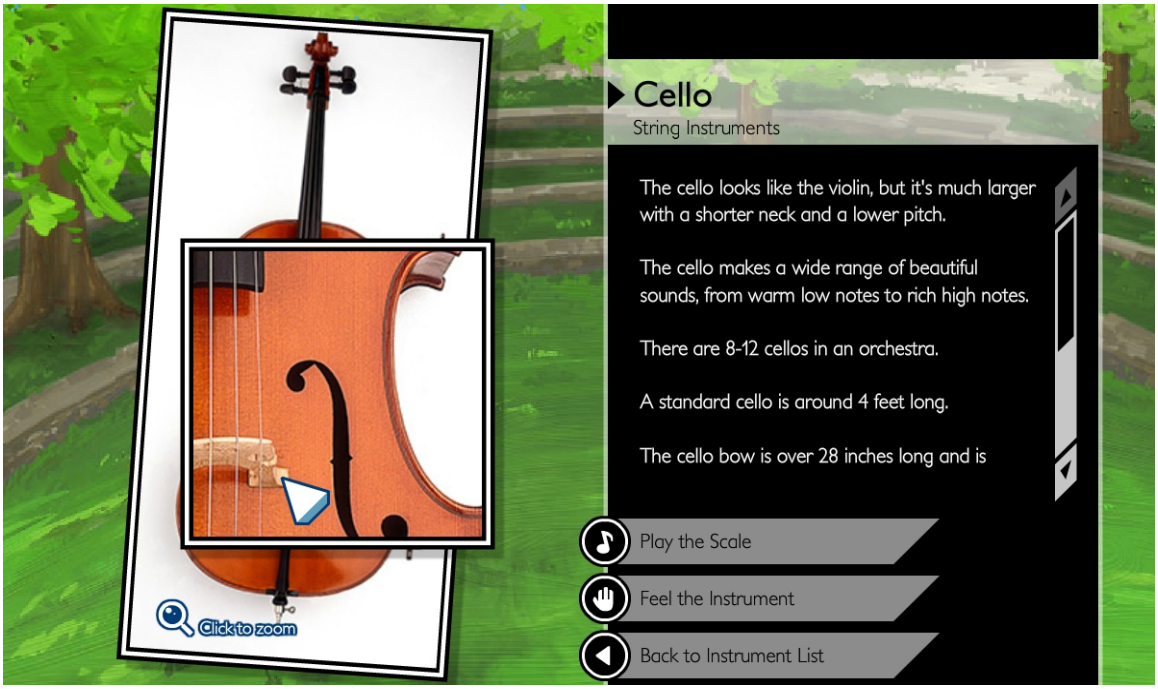

Figure 5.6 After returning to the *Instrument List*, the user is free to explore other instruments, such as the *Cello*. The cello's profile also lets the user learn a little background information about the instrument while getting a close up look at its design and appearance with the zooming feature.

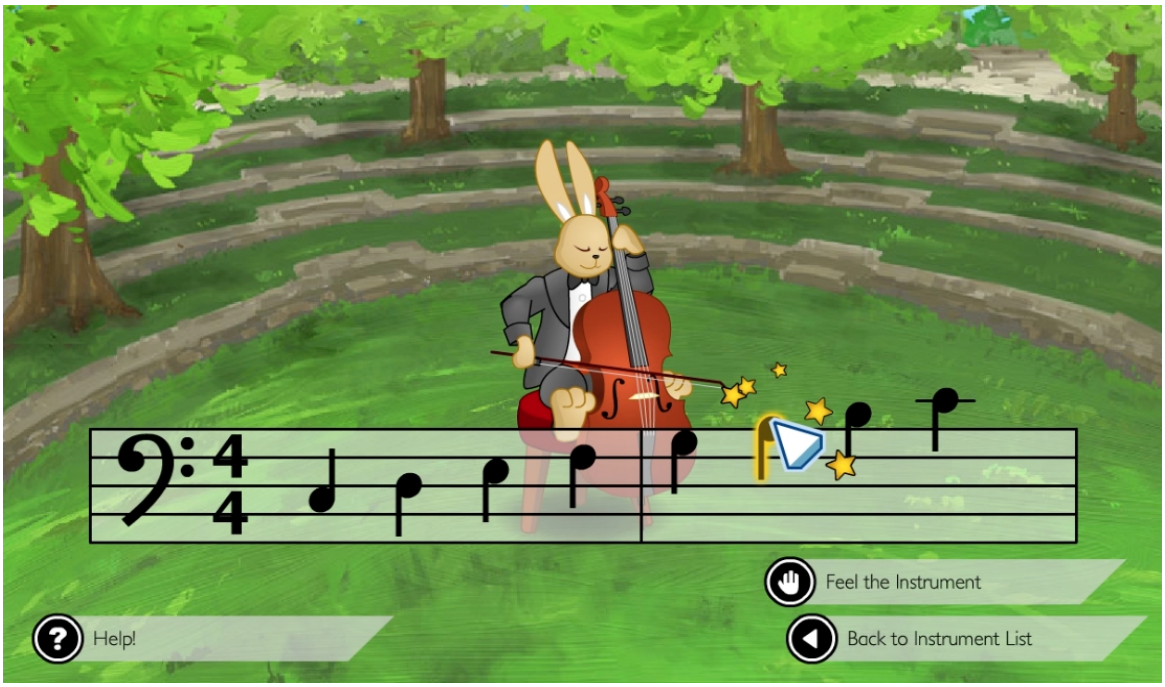

Figure 5.7 In this case, *Play the Scale* shows Rabbit bracing the Cello. Clicking each note in the scale produces a bust of stars while Rabbit draws the bow across the strings. A bass clef staff illustrates that unlike the Xylophone (or within the Strings family, the Violin), the cello often plays lower notes with a deeper timbre (lower tones).

Figure 5.8 Moving along to *Feel the Instrument*, the user once again has to utilize their left hands (to compress the keys corresponding to notes) and their right hands (clicking while dragging the mouse in a drawing gesture that moves the Rabbit's bow across the strings) together to simulate the experience of playing the Cello.

Figure 5.9 Here the user their left hand to press a number key corresponding to a note in the scale while their right hand holds down a mouse click to represent breathing into the instrument. The blue ring radiates around the Wolf and the instrument (in this case the Flute) while these gestures are performed in unison to provide visual accompaniment to the note being played.

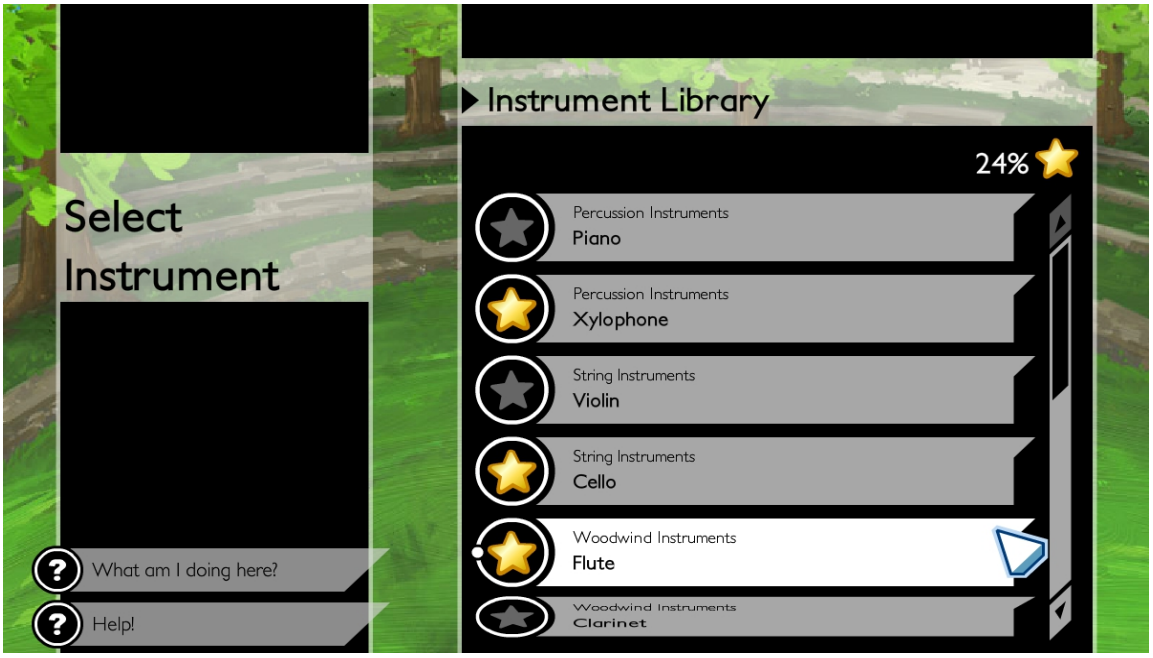

Figure 5.10 Back at the scrolling menu, the *Xylophone*, *Cello*, and *Flute* instrument profiles have been filled in with their gold stars signifying that the user has visited and played them while the others remain unmarked so that each user can chart their progress in the module. The progress star in the upper-right corner illustrates that completing this three instrument levels totals 24% of the Perform module.

6. Conduct music:
Symphony hall

Figure 6.1 Conduct, the fifth module, puts the conductor's baton in the user's hand. The Eagle is the user's avatar, mimicking the gestures that the user dictates. It includes lessons that introduce the intricacies of leading an orchestra, and the dynamic challenge of controlling tempo and performance dynamics.

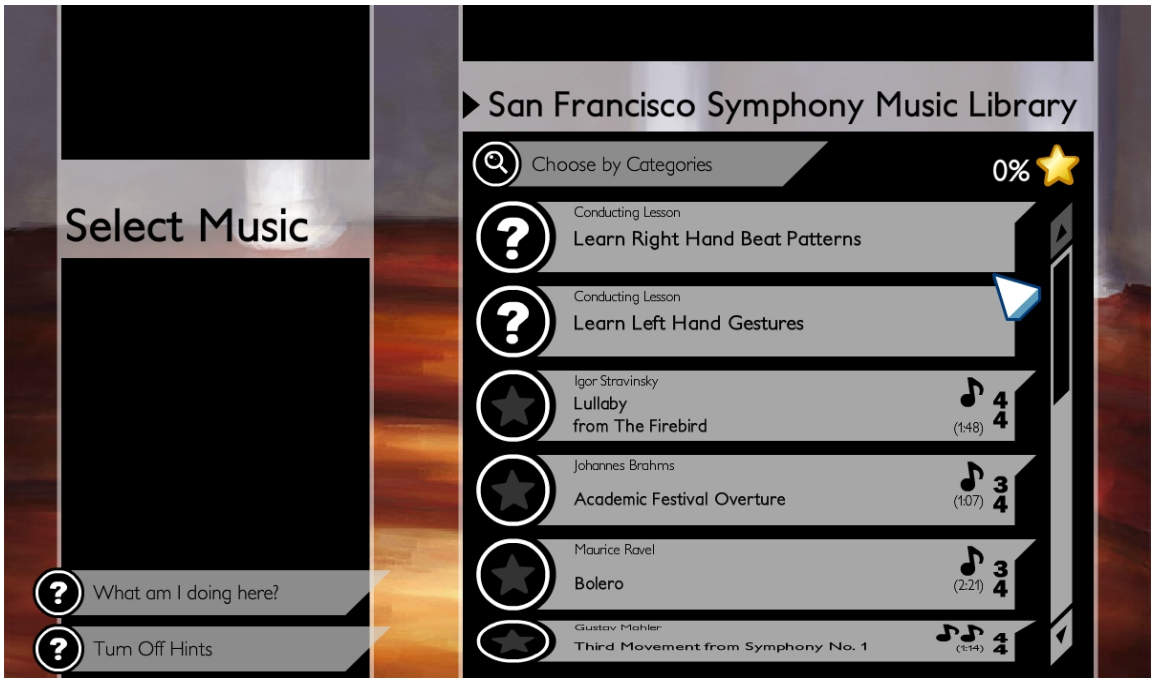

Figure 6.2 Here the menu includes two introductory lessons (designated with question marks, instead of stars) that users can access immediately or, upon a return visit, can jump straight into one of the more experience levels. The

lessons are distilled into exercises for the right hand that holds the baton and controls tempo, while the left hand communicates dynamics to the musicians.

Figure 6.3 The first lesson, *Learn Right Hand Beat Patterns*, uses a 4/4 time signature and instructs the user follow a star with their mouse cursor over the four regions necessary to keep time while maintaining a steady and even rhythm. After following the star for a few passes, it eventually dissolves and allows the user to lead on their own.

Figure 6.4 The second lesson, *Learn Left Hand Gestures*, isolates the left hand which, using the Up and Down arrow keys (or the W and S keys), controls the volume of the orchestra and the left wing of the Eagle who follows the user's controls: Up arrow/W increases the volume while Down arrow/S reduces the volume.

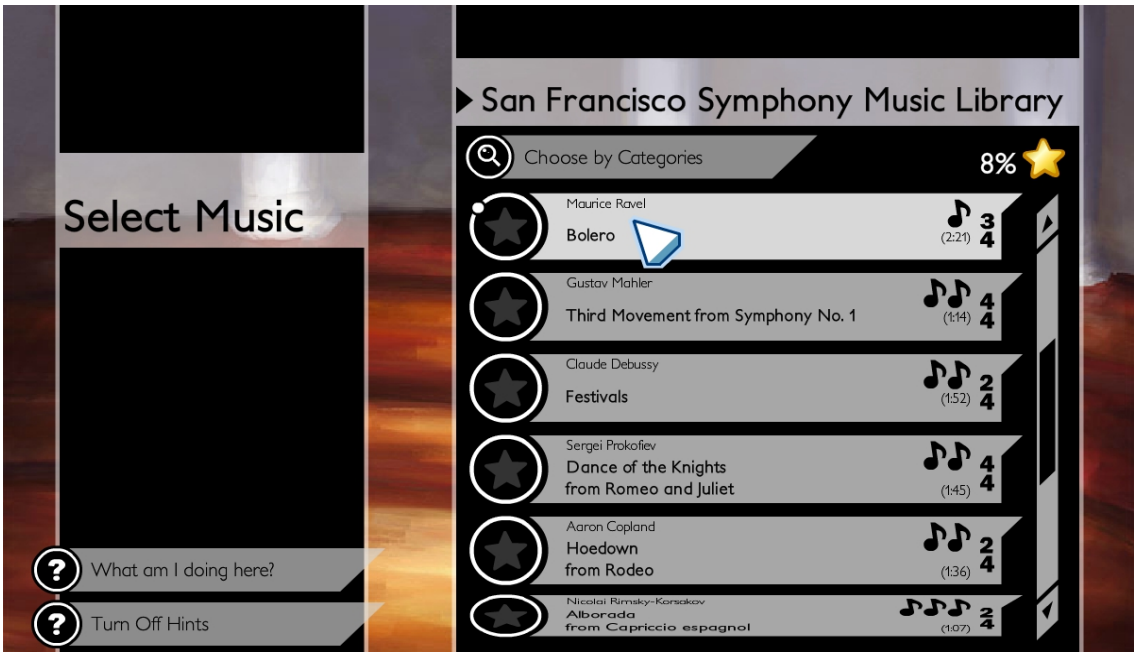

Figure 6.5 Now the challenge begins; once the user has completed the introductory lessons, they return to the module's scrolling menu to select a piece they'd like to try conducting. In order to provide an increasing challenge, the songs are ranked from beginner (one eighth note) to advanced (three eighth notes) next to their time signature.

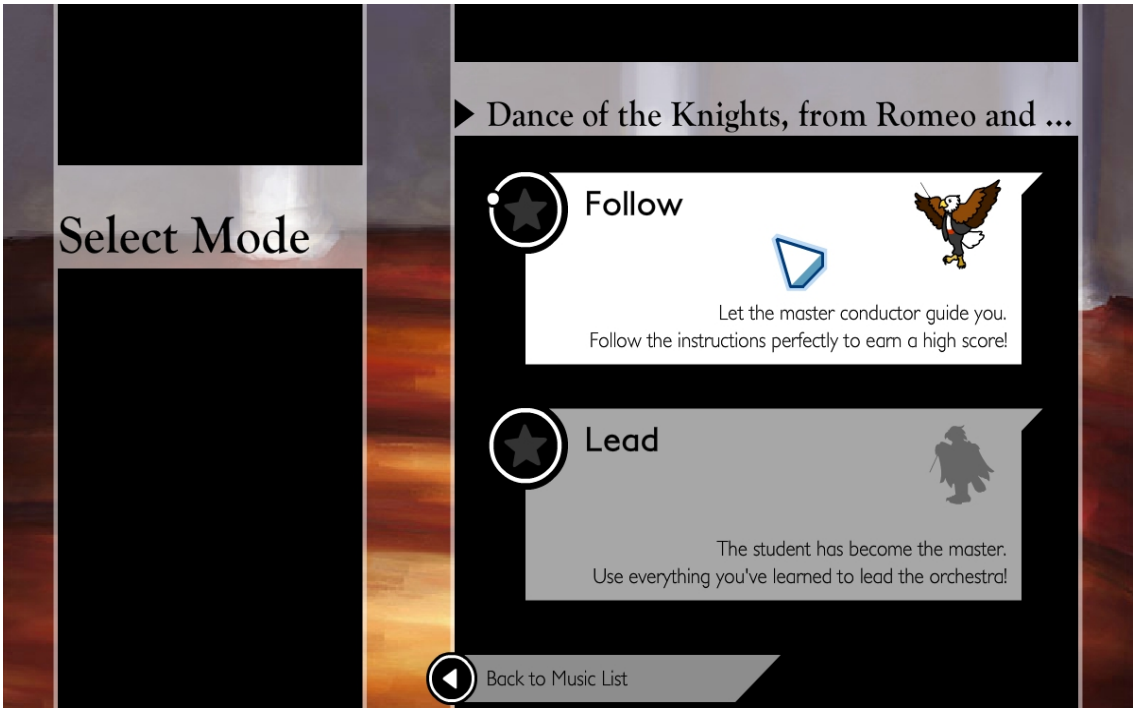

Figure 6.6 Upon selecting any piece from the module library, the user is given the option to *Follow* or *Lead* the orchestra. Beginners are advised to begin with Follow as it is the first time they will have to use their right and left hands to conduct simultaneously while staying in the tempo parameters of each composition's time signature.

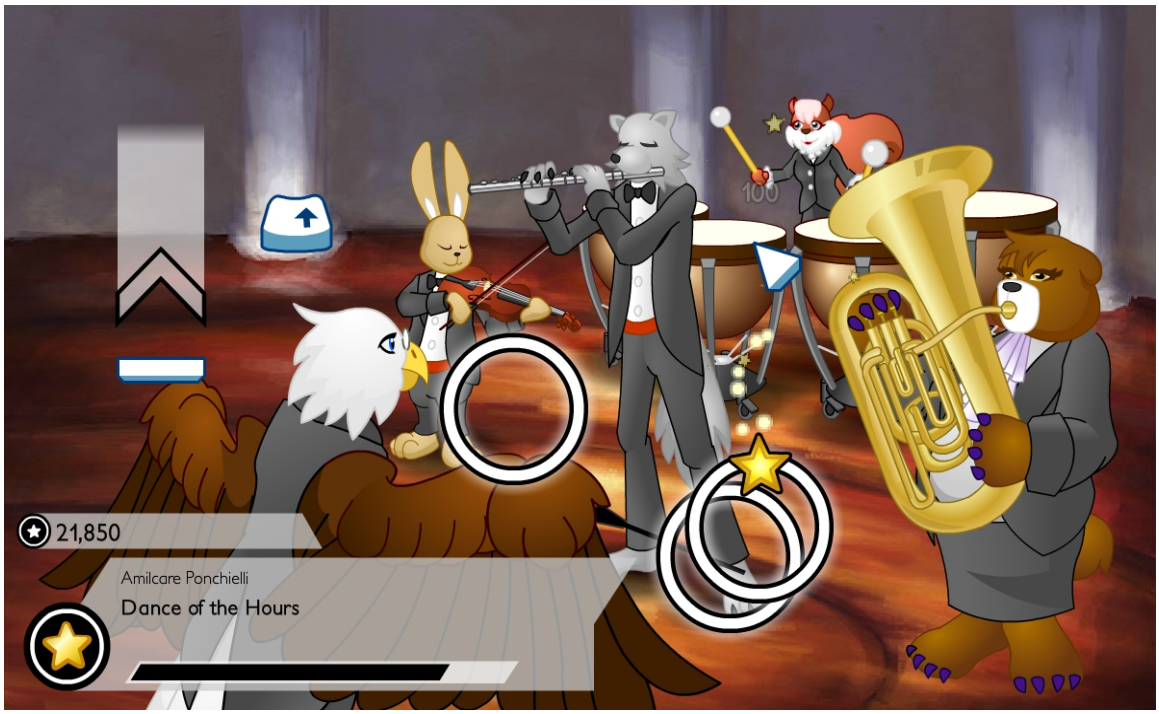

Figure 6.7 Here, participation of both the right hand conducting a *2/4* tempo and the left hand signaling dynamic adjustments are required to excel in the module (the left hoop monitoring right hand accuracy is red because the cursor missed that beat, while the right hoop and down arrow are marked with stars to signify they were correctly struck). The beat circle below the first beat circle with the star appears in the Figure unintentionally due to the fast speed of the game animation while getting this screenshot. Overlapping beat circles are not seen during regular use.

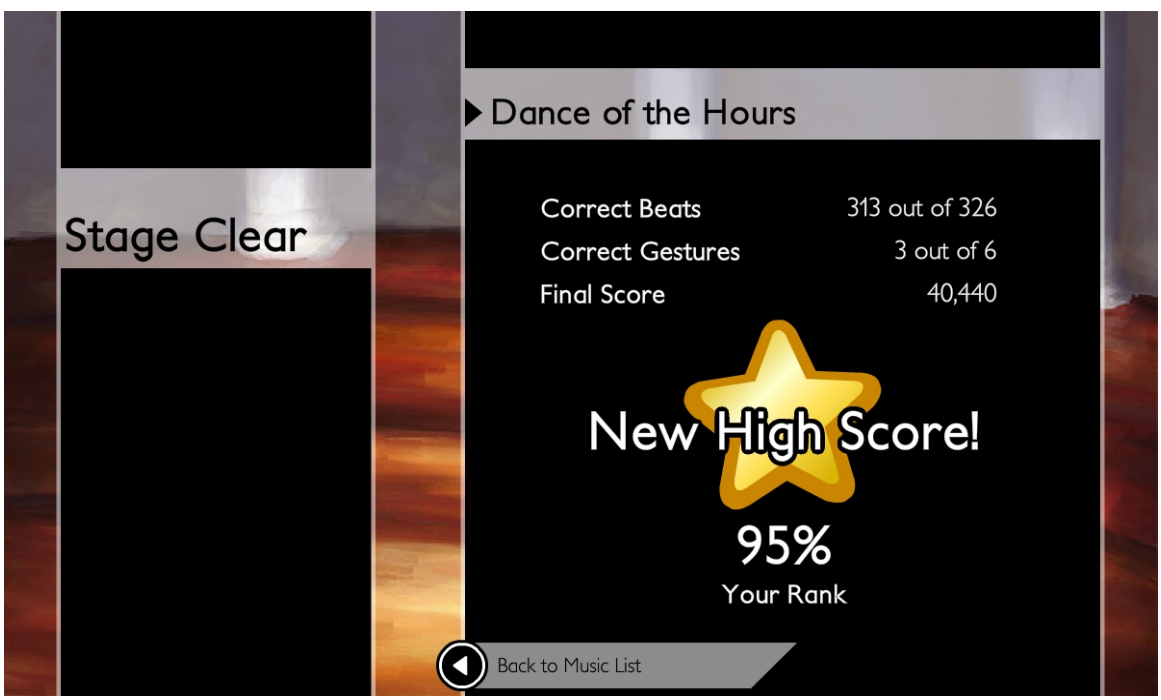

Figure 6.8 Once the song is complete, the program tallies the score based on accuracy of both the right hand *Beats* and the left hand *Gestures* and ranks the user's performance with a Bronze, Silver, or Gold star.

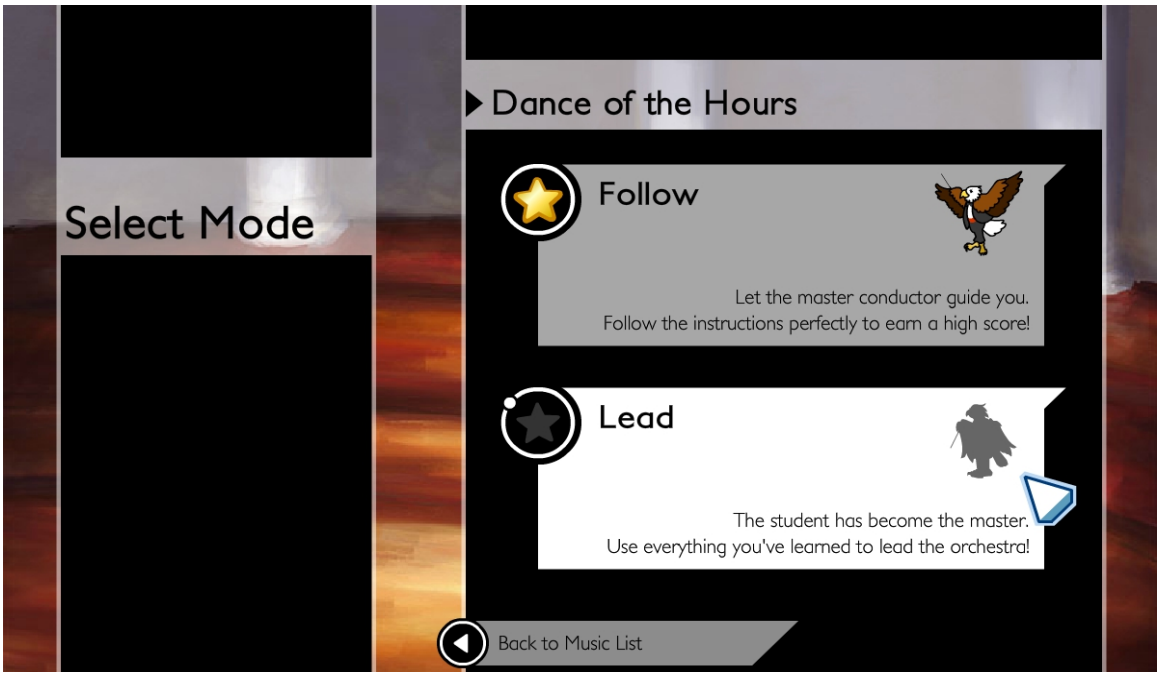

Figure 6.9 After mastering the Follow level (the star is filled in with the bronze, silver, or gold status that he or she most recently achieved) that cues the user to trail the path of a star, now completed and filled in with its own gold star, they can try their skills at Lead which challenges them to keep pace with every beat while controlling the dynamics at the same time. But this time they're on their own! No star trail will follow.

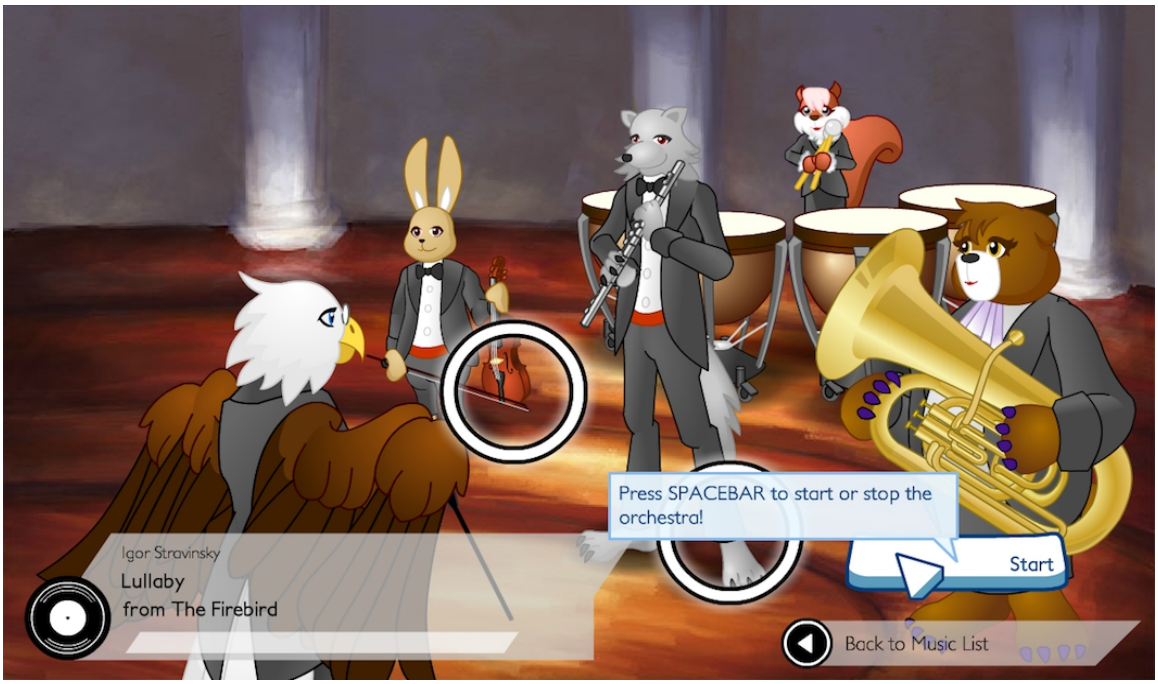

Figure 6.10 Users can opt to try a piece they have already followed or return to San Francisco Symphony Music Library and challenge their skills by selecting a new composition, like Igor Stravnski's *Lullaby*. By selecting *Lead*, users are in complete control of the orchestra and cue the musicians to play by pressing the space bar (and can stop the program by pressing the space bar again).

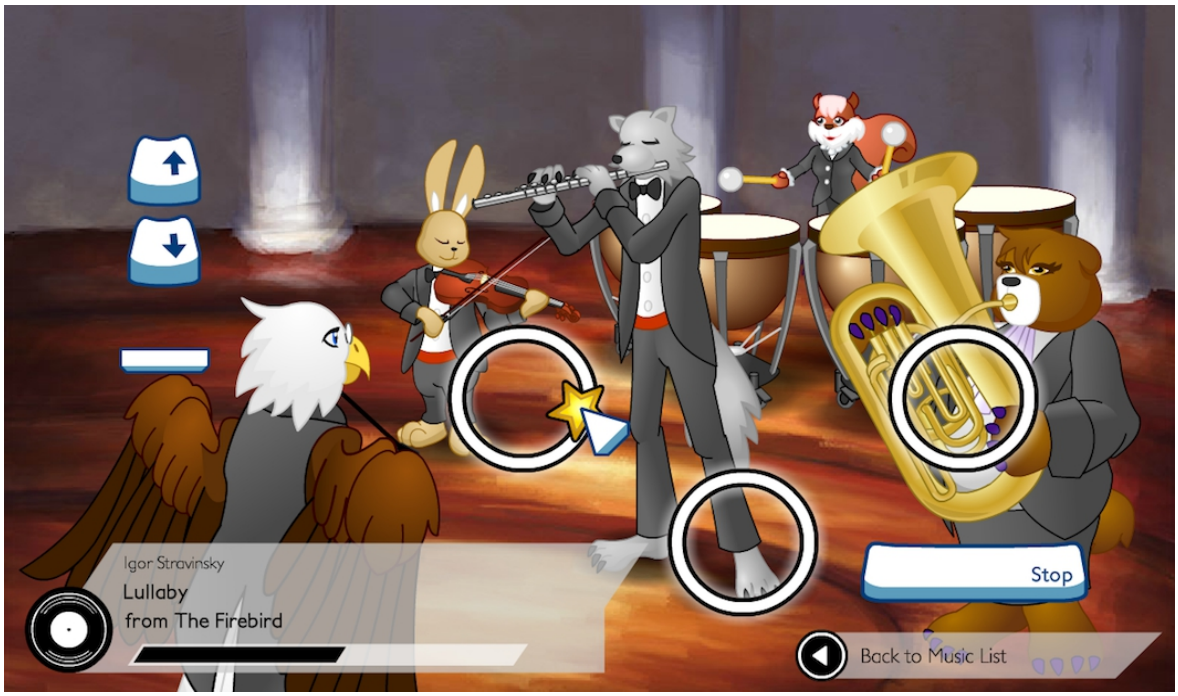

Figure 6.11 While Leading, the user controls the musicians' tempo with their right hand mouse cursor and use their left hand on the keyboard to control volume dynamics. Because the user is in control, the goal is not earning points but implementing lessons learned and mastered so no score is given at the composition's completion. After mastering basic skills in introductory lessons, users are prepared to face the challenge of following along with master conductor the Eagle and then move on to lead their own orchestra.

7. Compose music:
Music mountain

Figure 7.1 The sixth and final module is Compose, a ten lesson program that introduces users to the types of notes, staffs, and keys while including elements of all the modules so that they can create music of their own.

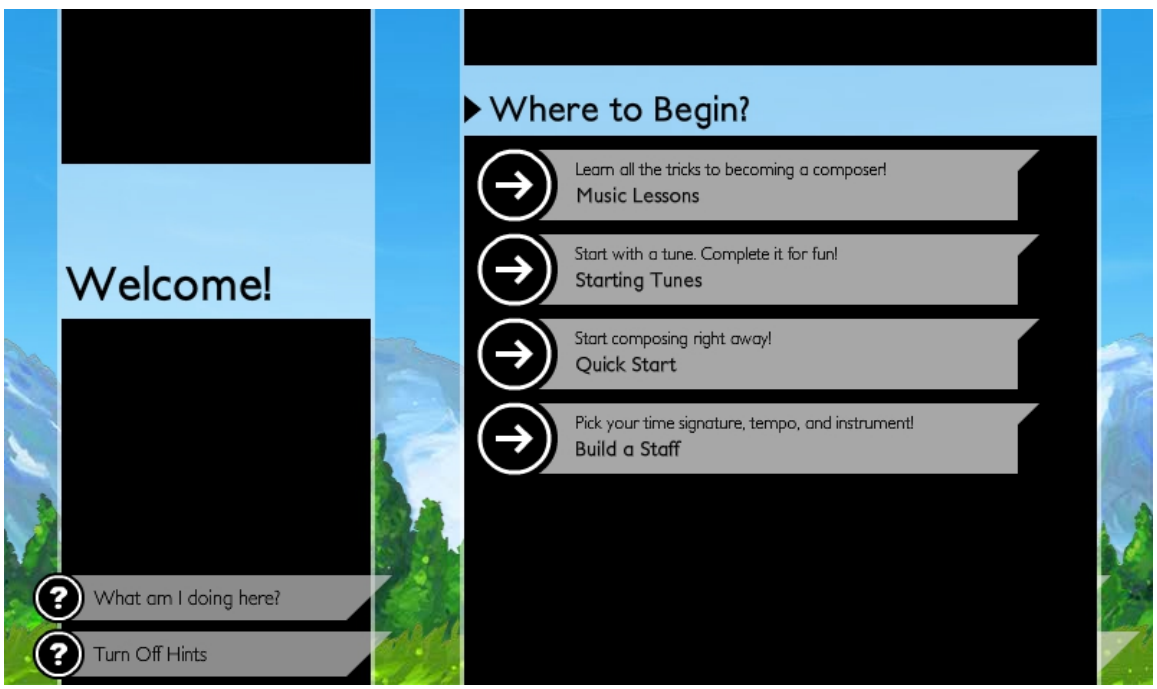

Figure 7.2 The top menu of the module gives new users the option to complete training in the program (*Music*

Lessons) while experienced users can return to the module and jump into a new composition with *Starting Tunes*, *Quick Start*, or *Build a Staff*.

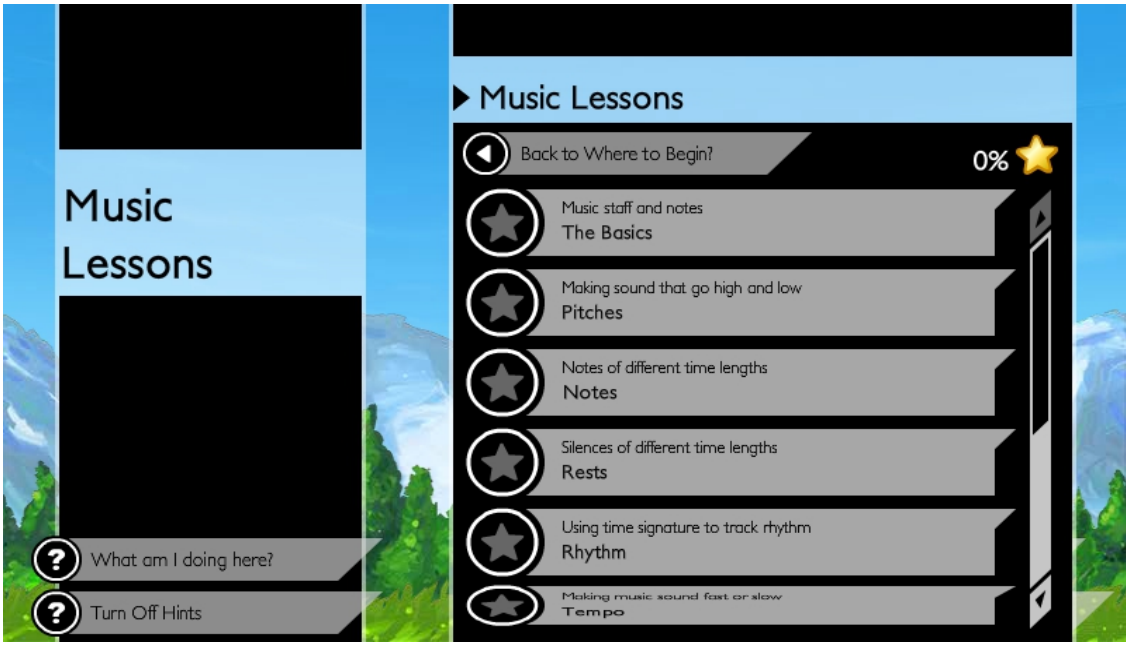

Figure 7.3 Music Lessons preesents ten introductory tutorials that are recommended as the first step to independent music composition, but can also be referenced by more experienced users to clarify concepts or refresh directions.

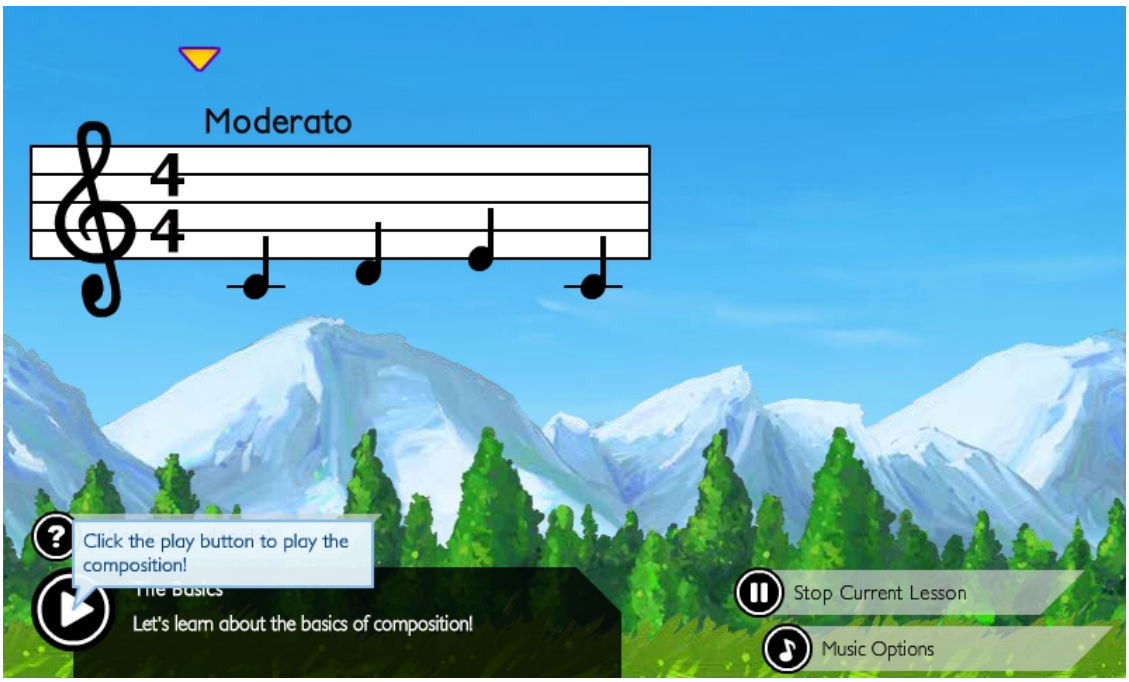

Figure 7.4 The first lesson, *The Basics*, instructs the user to press play and hear a simple four-note composition as printed on the *4/4* treble staff above with the notes played left to right. They are then invite to move the notes along the staff to hear how altering the note placement adjusts the sound we hear.

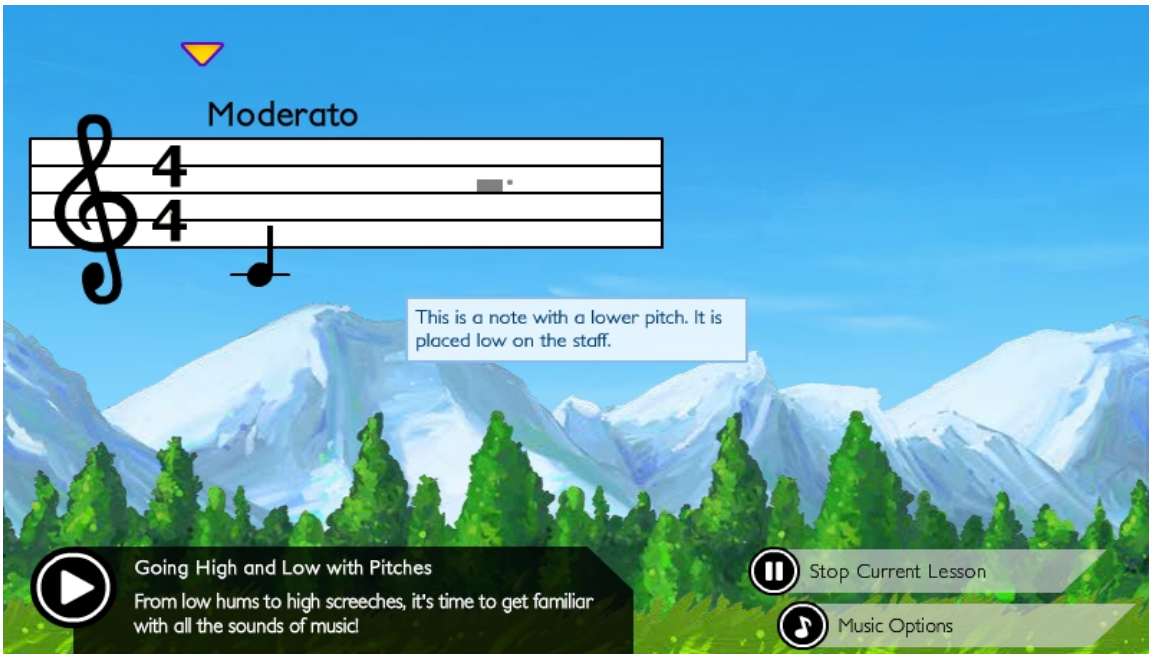

Figure 7.5 In the second lesson, *Pitches*, students are formally introduced to the treble cleft as well as how a note's placement on the staff will not only create its sound but also how high (more treble) or low (more bass) it is, as demonstrated above. By pressing *Play*, the program tracks the composition with a golden arrow that appears below the staff while a tiny burst of stars erupts from each note as it is played.

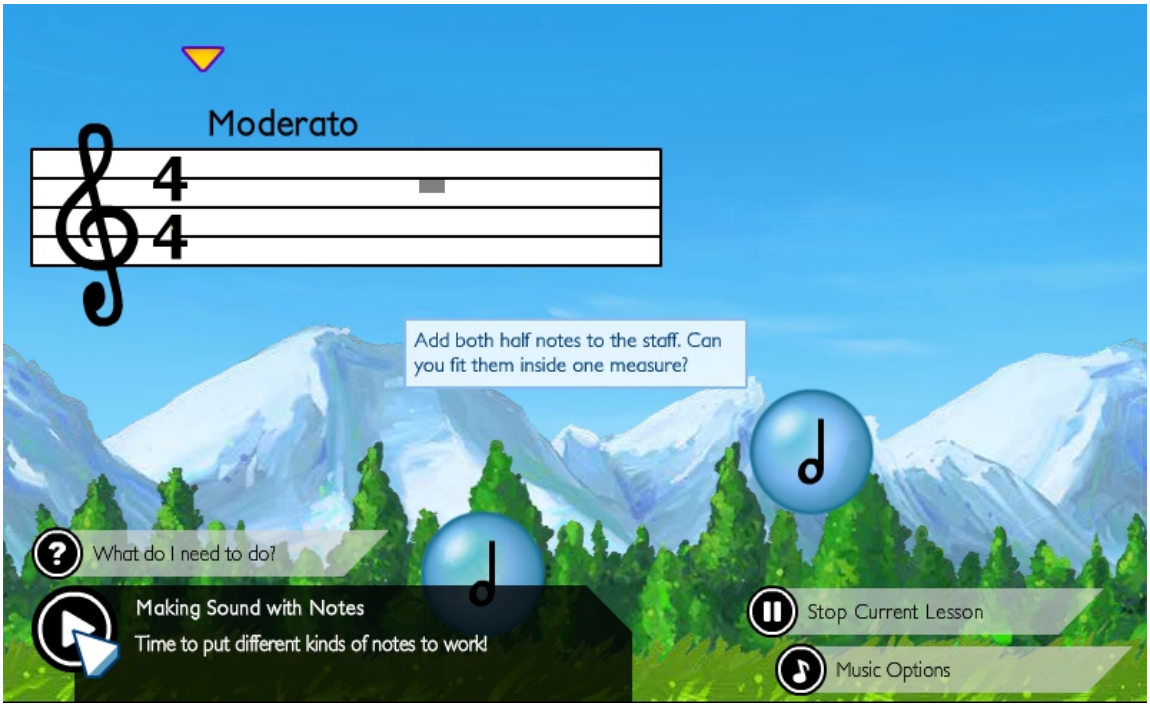

Figure 7.6 Notes, lesson three, introduces the user to different kinds of notes and what makes them different. In this case they will start with a whole note, and then divide it into halves, quarter, eights, and even sixteenths! Even if the user is not familiar with mathematical fractions, this is a great way to introduce them to this concept through music.

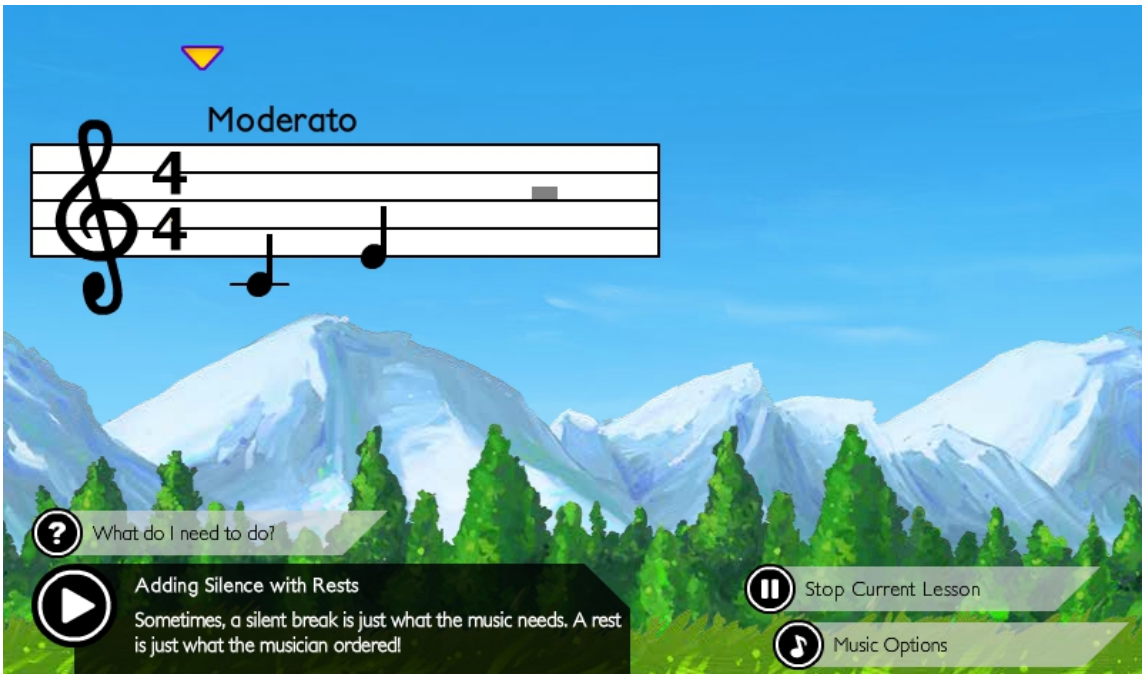

Figure 7.7 Even in classical music, silence can be golden, dramatic, or evocative. The fourth lesson presents *Rests*, symbols that are included in the measure of a music staff to signify a pause in the music. In the case of a composition that includes many instruments with individual music sheets, rests allow for certain instruments to be featured while others pause in playing.

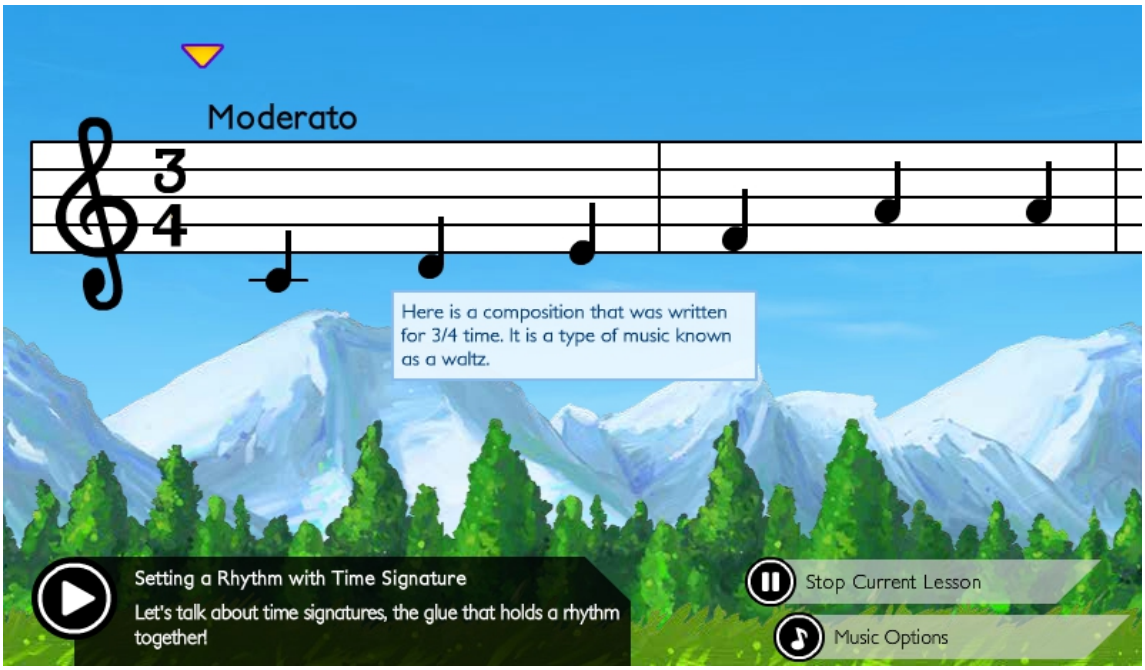

Figure 7.8 In *Rhythm*, the fifth lesson, users learn how many beats fill a measure depending on the staff's time signature. While this concept also appears in the Conducting module, here users learn precisely how sheet music is written to create a rhythm. The *3/4* time signature above, iconically recognizable as the boom-cha-cha rhythm of a waltz, fits three quarter notes per measure whose breadth is defined with the vertical line around each grouping of

three notes. For the first time, users can click *Music Options* (see Figure 7.10), in the bottom right of the screen, to switch between a *4/4* or *3/4* rhythm.

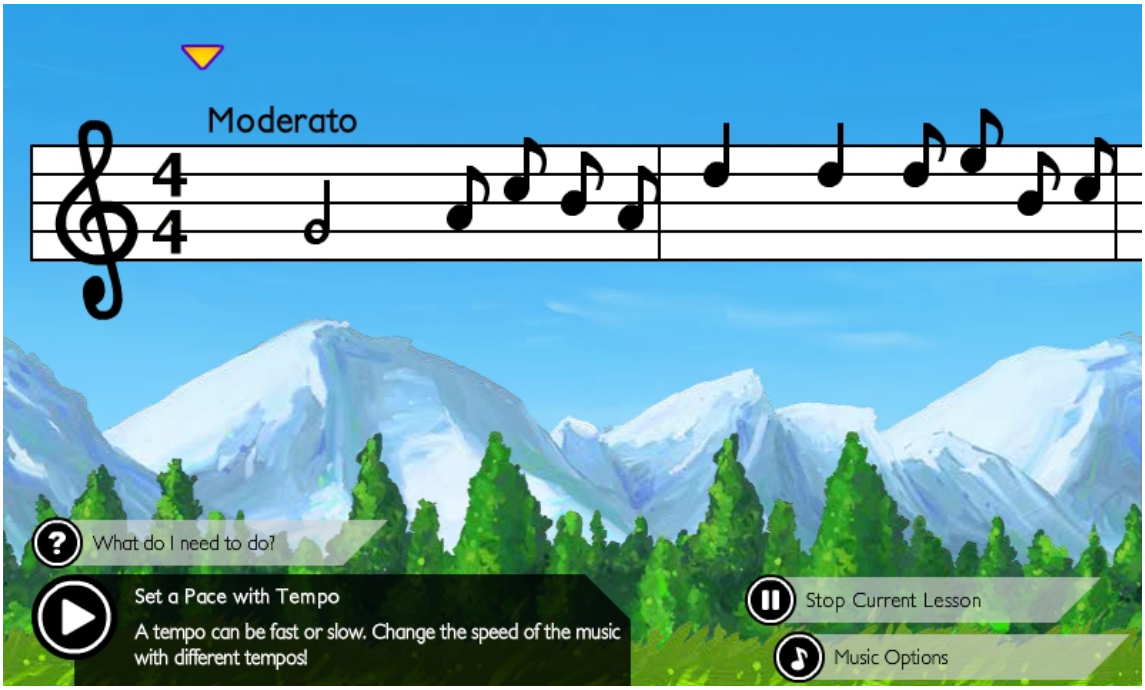

Figure 7.9 *Tempo*, the sixth lesson, introduces the various speeds at which compositions can be played and how that tempo often effects the mood the composer was trying to convey. The staff above plays the notes of the famous "Can-Can" dance routine and uses the fast-paced Presto tempo to alert the musicians that it should be played rapidly.

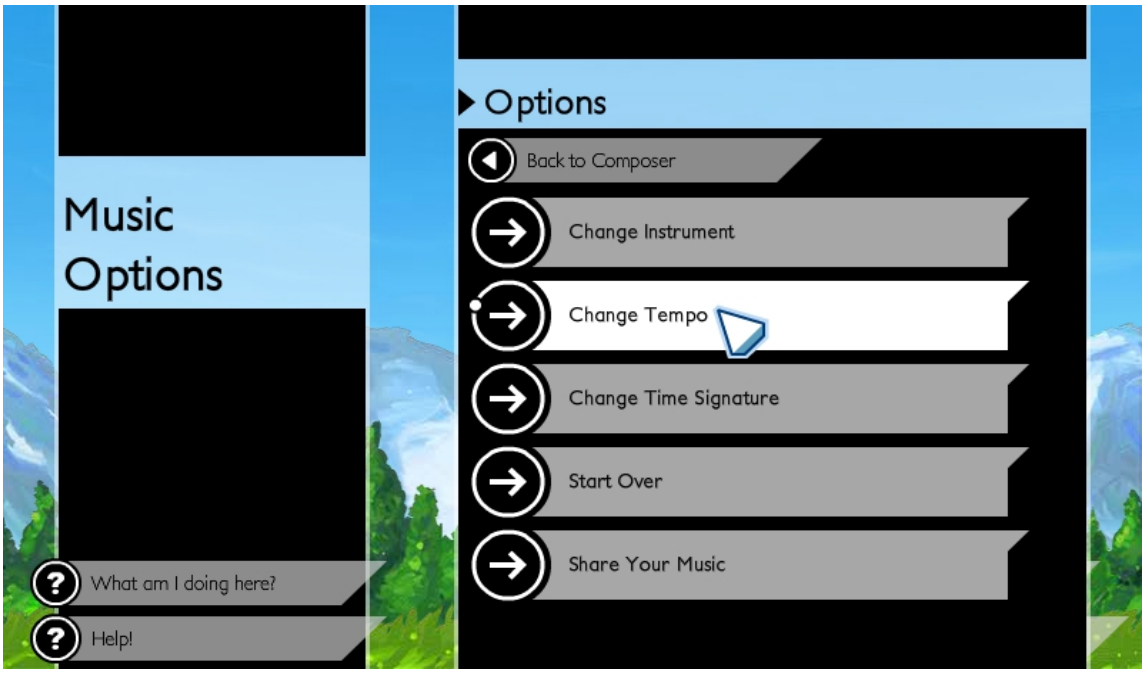

Figure 7.10 In clicking *Music Options* seen in Figure 7.9, the eighth note icon on the bottom-right of the screen, users are transported to this new option menu which allows them to *Change Tempo* for the composition they want to be played. The options range from slowest to fastest, Adagio to Presto.

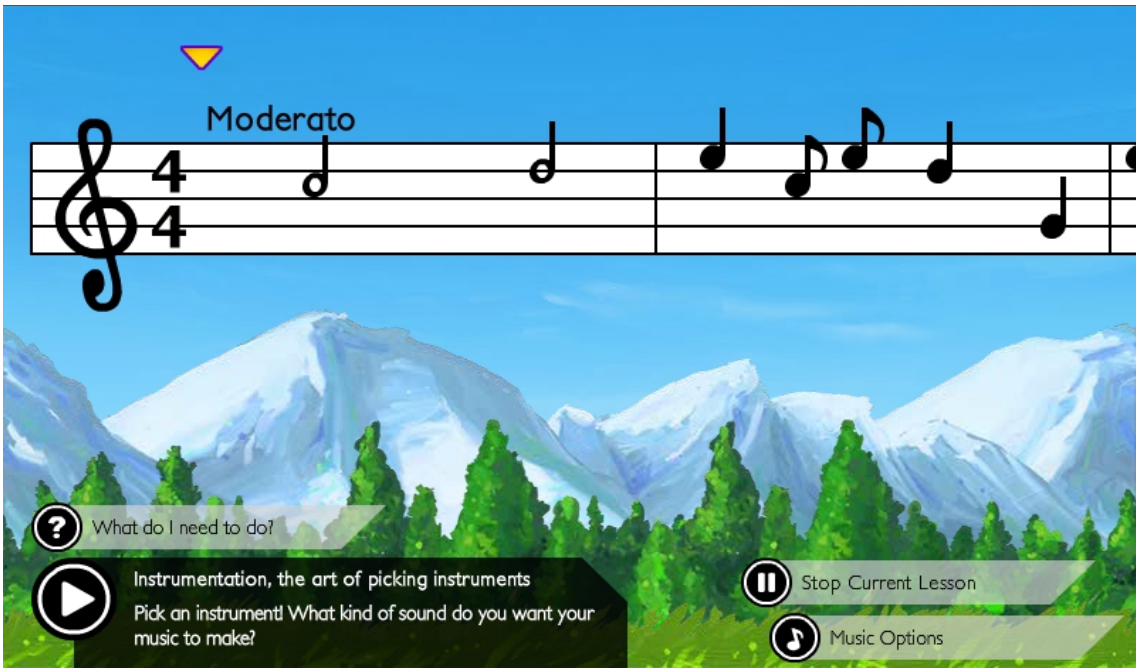

Figure 7.11 Lesson seven, *Instrumentation*, demonstrates that while any note can be played by almost any instrument, they will each sound different. In the module thus far, the user has heard the notes as played by a piano, like the staff above that plays perhaps the most iconic movement of Mussorgsky's *Pictures at an Exhibition*, "The Great Gate of Kiev".

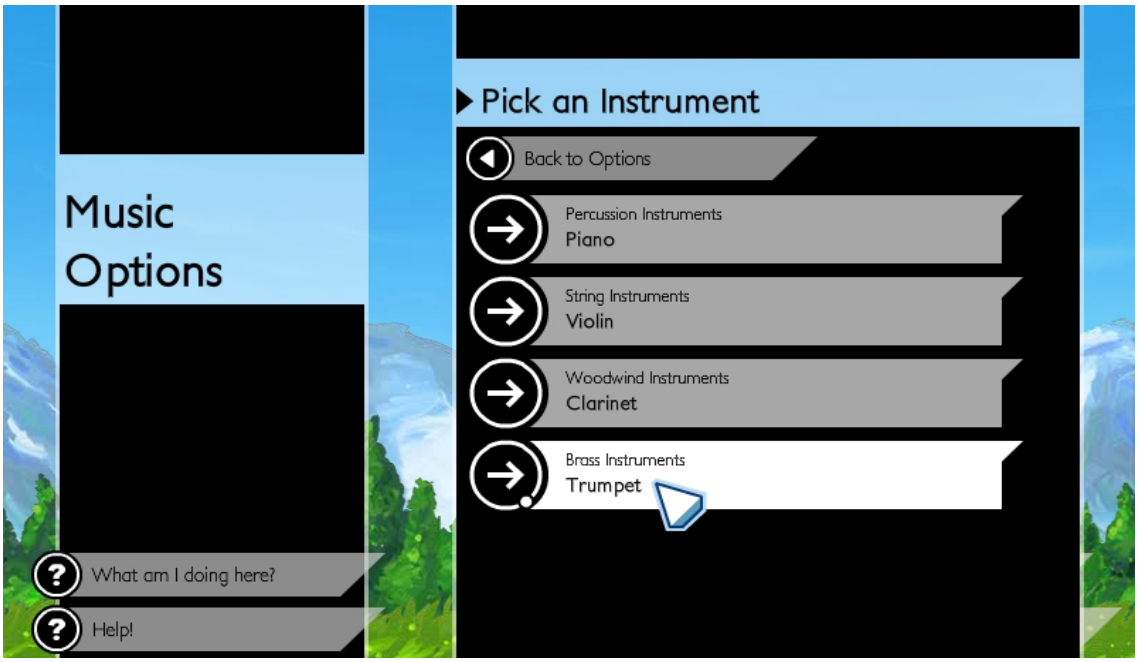

Figure 7.12 After clicking on Music Options users can select one of four instruments, each sampling from the Percussion (*Piano*), String (*Violin*), Woodwind (*Clarinet*), or Brass (*Trumpet*) families and return to the composition.

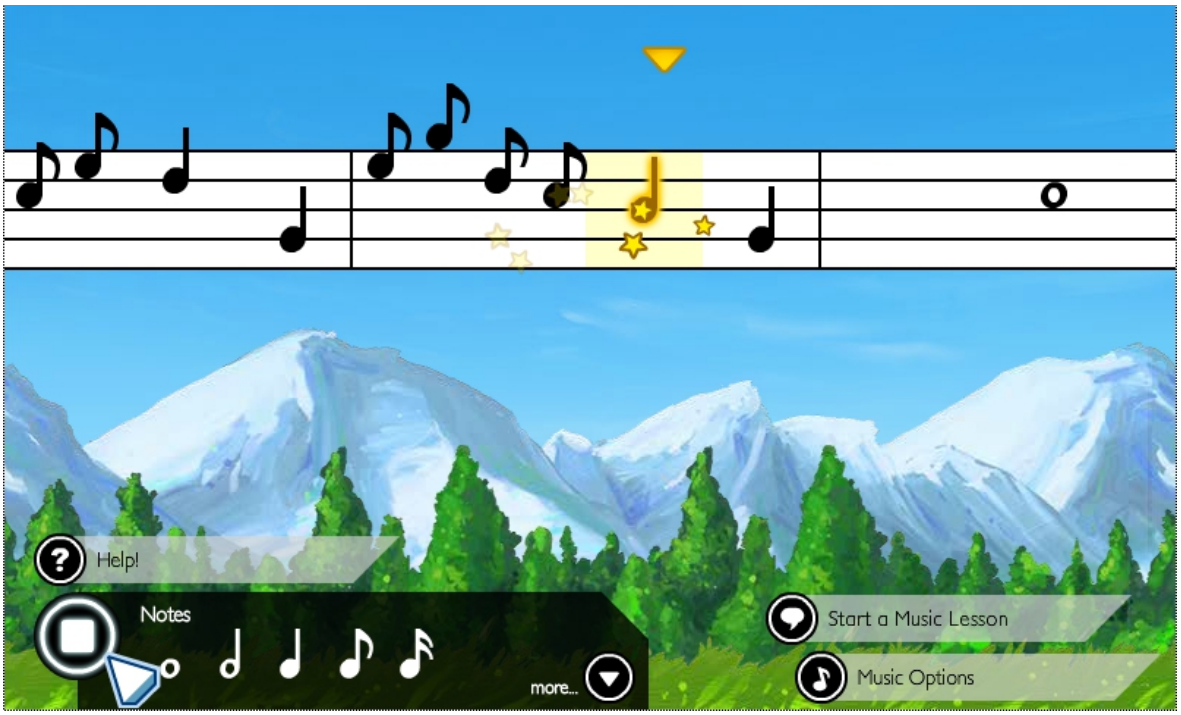

Figure 7.13 Mussorgsky's *The Great Gate of Kiev* is playing again but this time the user would hear the trumpet's sounds of the composition. Users will be able to hear the difference between two instruments playing the progression of notes, tempo, rhythm, and time signature from the same piece.

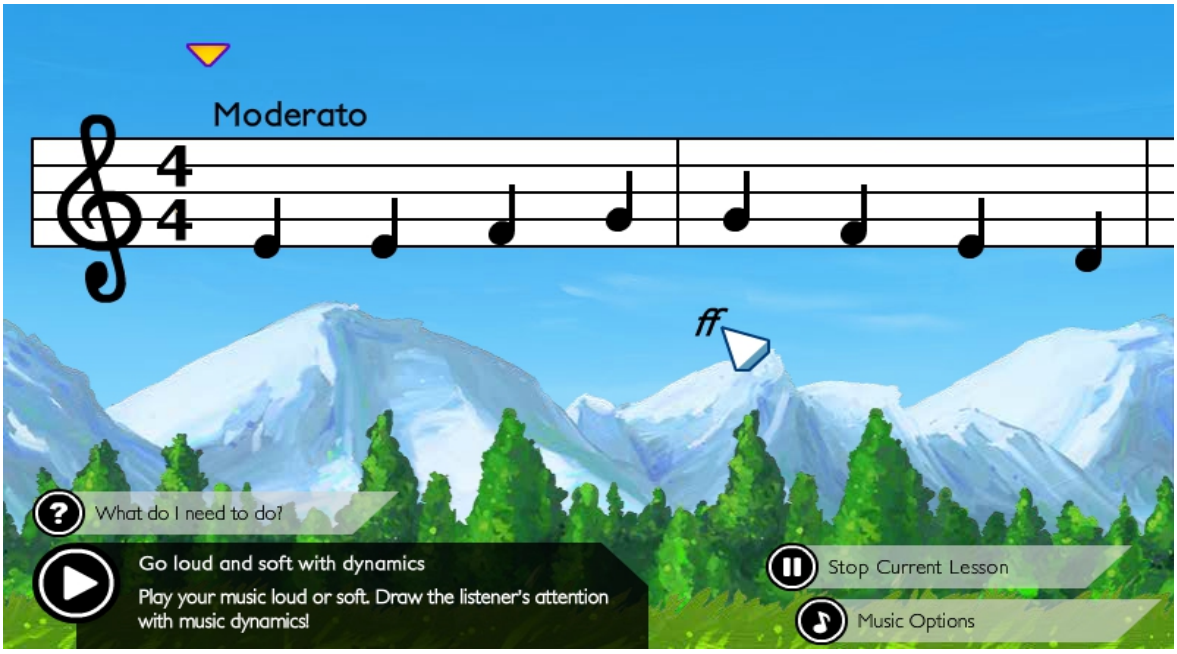

Figure 7.14 Like *Rhythm*, the eighth lesson, *Dynamics*, was previously introduced as the left hand gestures in the Conducting module with users controlling the volume of the orchestra by raising or lowering the Eagle's left wing. Here they will learn sixth Italian phrases that composers use to dictate how soft or loud a section should be played; they use the mouse cursor to drop the dynamics bubble just below the music staff. The *ff* symbol, short for Fortissimo, is the loudest option in the program.

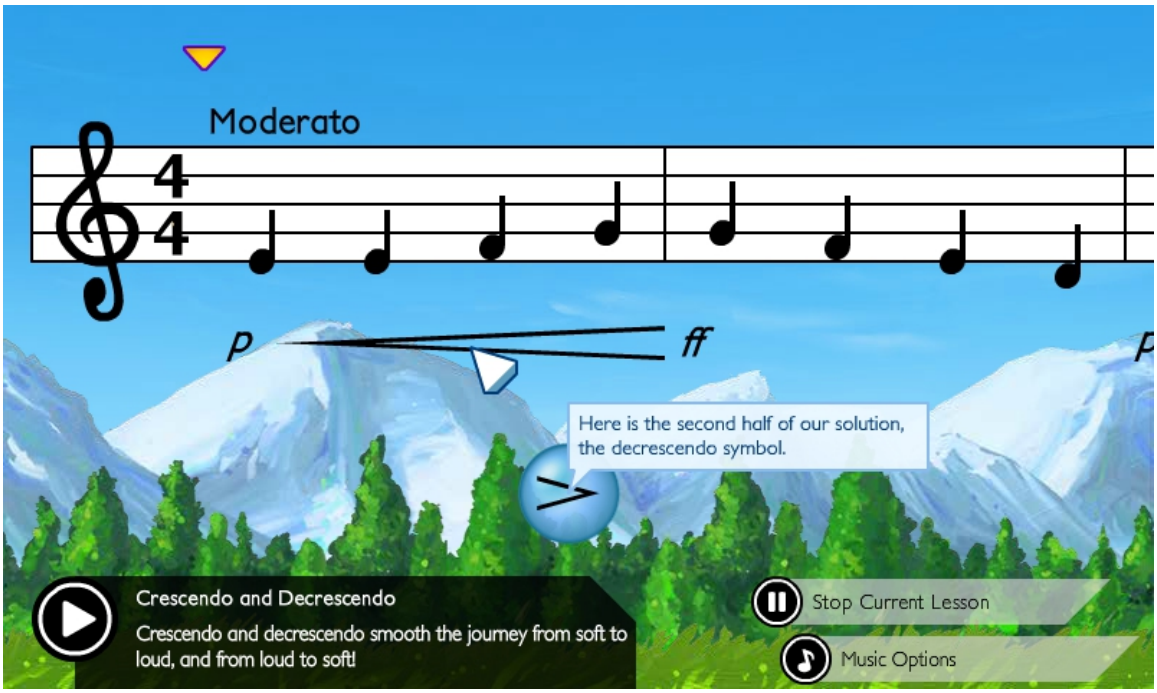

Figure 7.15 The ninth lesson, *More Dynamics* is as the name suggests an extension of the last. Here, a composition has *p* (for piano, referring not to the instrument but being not as quiet or softly played as *pp* for pianissimo) and *ff* to alter the volume levels as the piece progresses from the first to the second measure. The crescendo (closed to open) and decrescendo (open to closed) symbols create a more subtle transition between volume shifts that grow or reduce gradually, not suddenly. The user drags the symbol bubble under the staff between the two dynamic changes and plays *Ode to Joy* with the addition of subdued volume undulations.

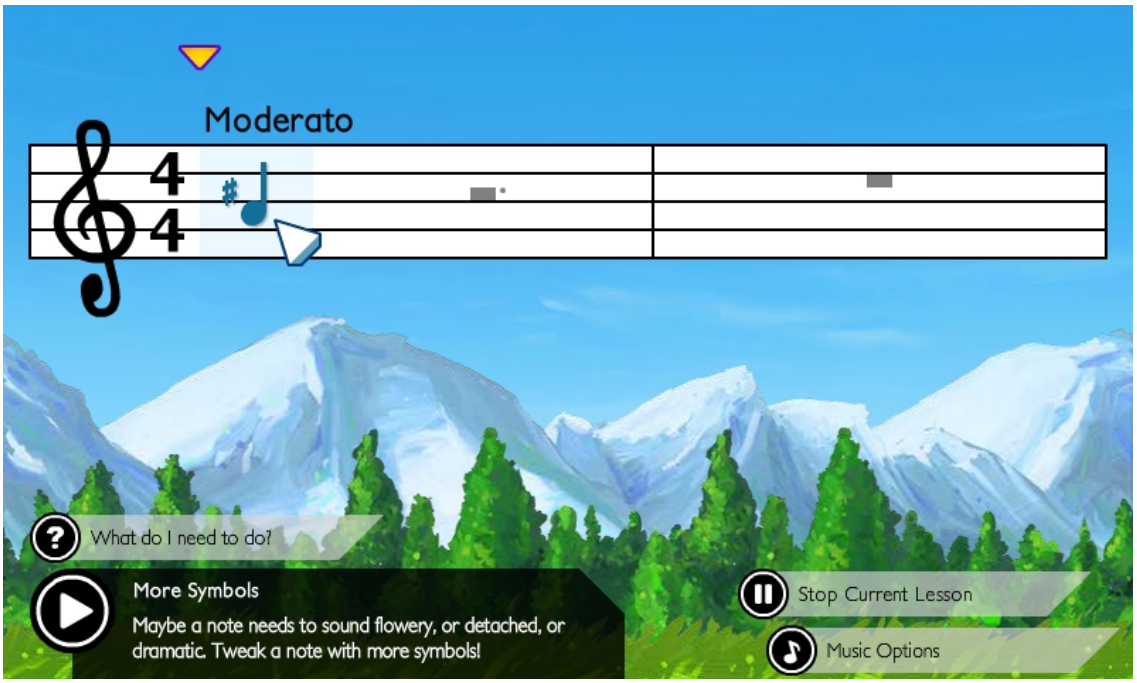

Figure 7.16 After making it through the first nine lessons, the tenth, *More Symbols*, presents users with a few more symbols they can add to a music staff to further customize the specific way they want the instrument to play each note. By clicking on "more..", seen next to the cursor above, users can find a menu with options to tweak this and other compositions.

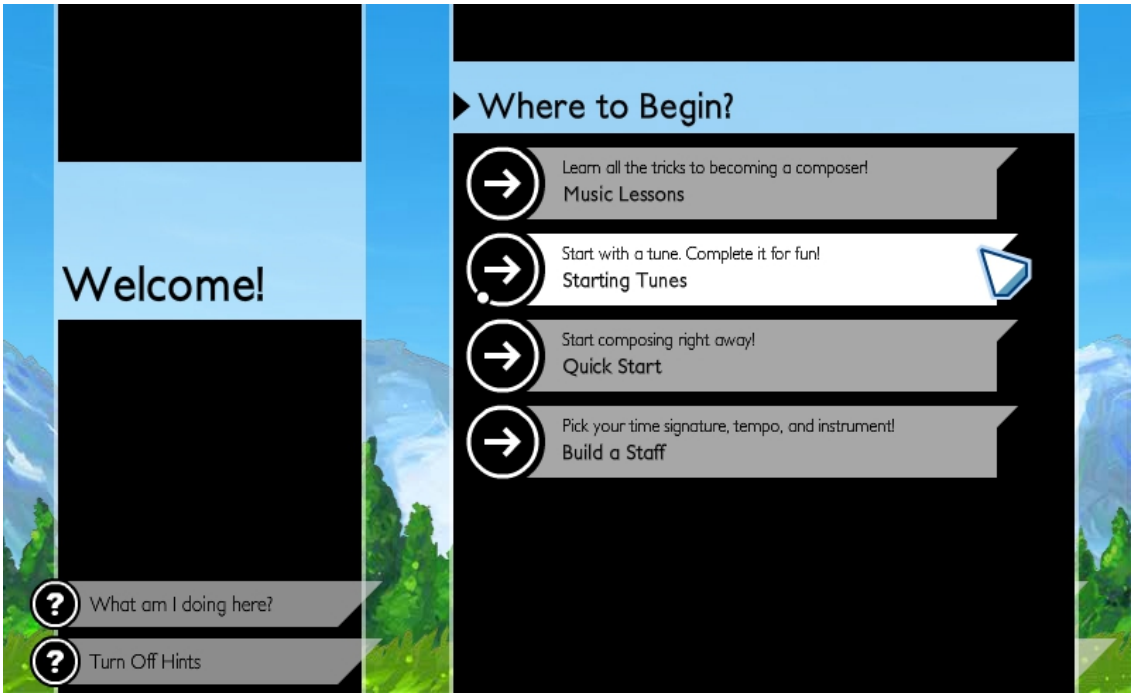

Figure 7.17 As they progress to the next programs in the module that allow them to create their own compositions with the lessons learned here, this pop-up menu will become especially useful. It acts like a tool kit where he or she can select all that they'll need to create a composition, like notes, tempos, and dynamic symbols. Once the ten

introductory lessons are complete, the users are encouraged to take the next step of listening to the first part of a song and using their skills to complete the composition in *Starting Tunes*.

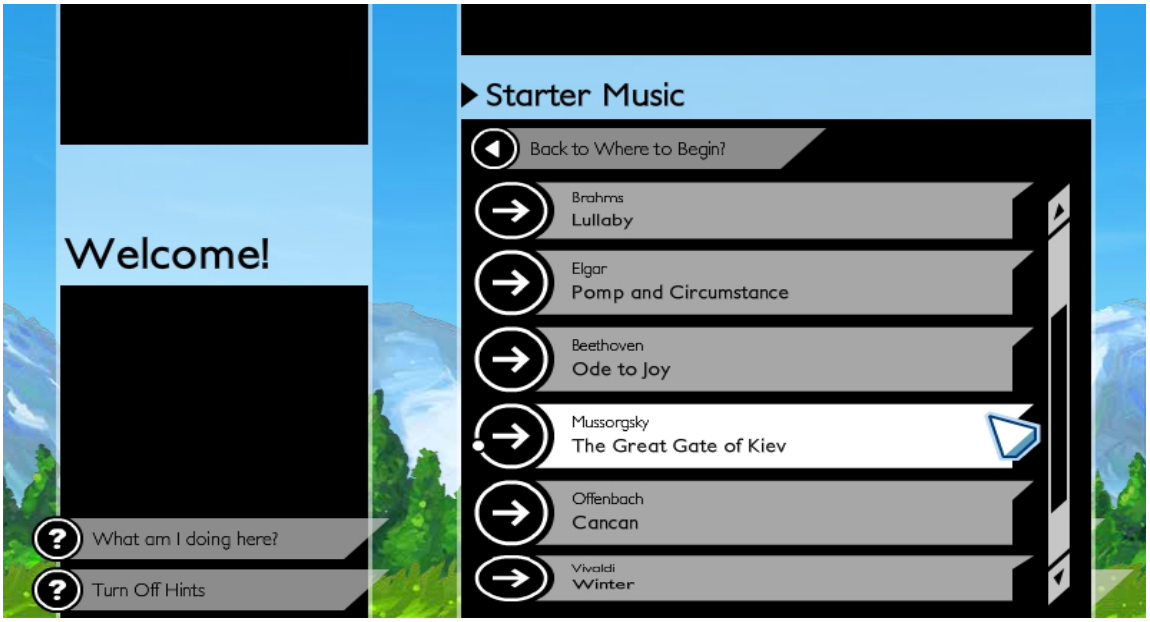

Figure 7.18 In *Starter Music* (following from Starting Tunes), the user has nine mini compositions to choose from including some pieces previously heard in the module like Mussorgsky's *The Great Gate of Kiev*.

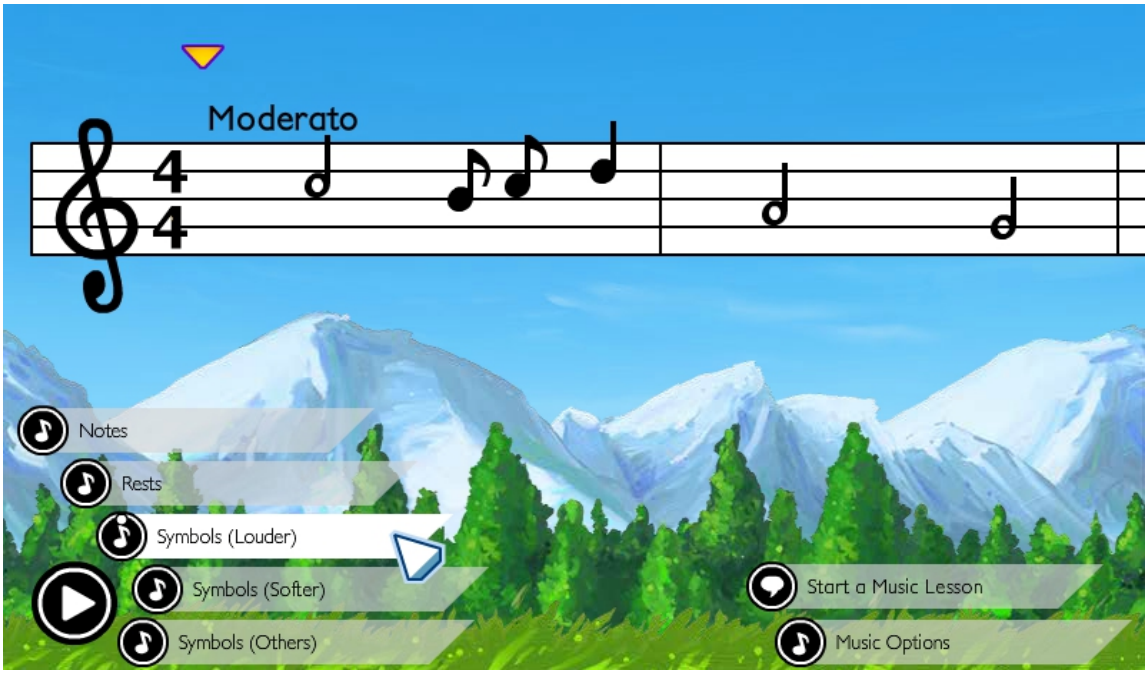

Figure 7.19 Once a piece is selected, the user is presented with a music staff of that composition and can play it as often as they want to reference the melody and hear their own addition. They grab notes and symbols from the tool bar at the bottom of the game frame and drag their selection to the trees. From there, the bubbles of any variety of notes, tempos, and crescendos can be placed in additional measures of the staff.

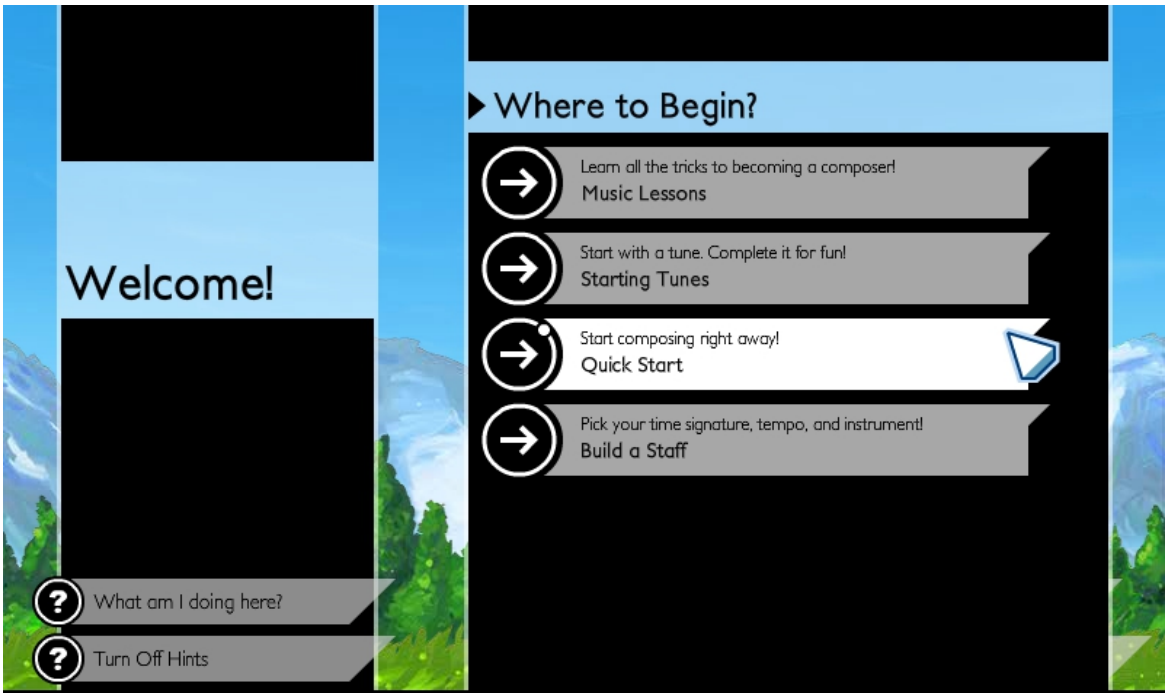

Figure 7.20 If users are ready to hit the ground running and want to apply the skills they've previously learned in the earlier lessons, *Quick Start* lets them experiment and try combinations of notes and tempos as they like.

Figure 7.21 A blank canvas, or music staff, in this case. Users can access their tool bar to drag and grab what they'll need to create a simple composition a few minutes in length. They can also access *Music Options* for further customization.

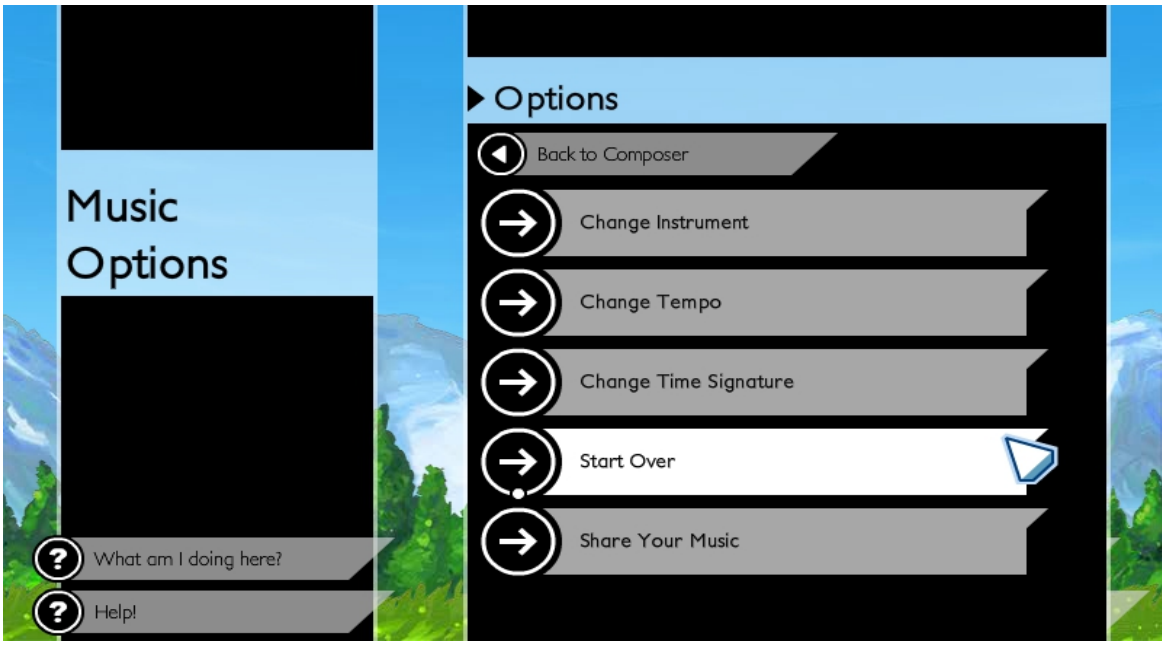

Figure 7.22 Music Options behave in the exact same way they did in the introductory lessons but here users can change their instrument from piano for greater control of their work. If needed, they can get a clean slate by clicking *Start Over* and once they're ready to save their work, *Share Your Music* automatically generates a unique identifier URL for their composition they can send to themselves to save or share with family and friends (if they have permission to do so). They can add content to a pre-existing composition by clicking on, or cutting and pasting that URL in a Web browser, or share it with others and allow them to collaborate on making a group music composition.

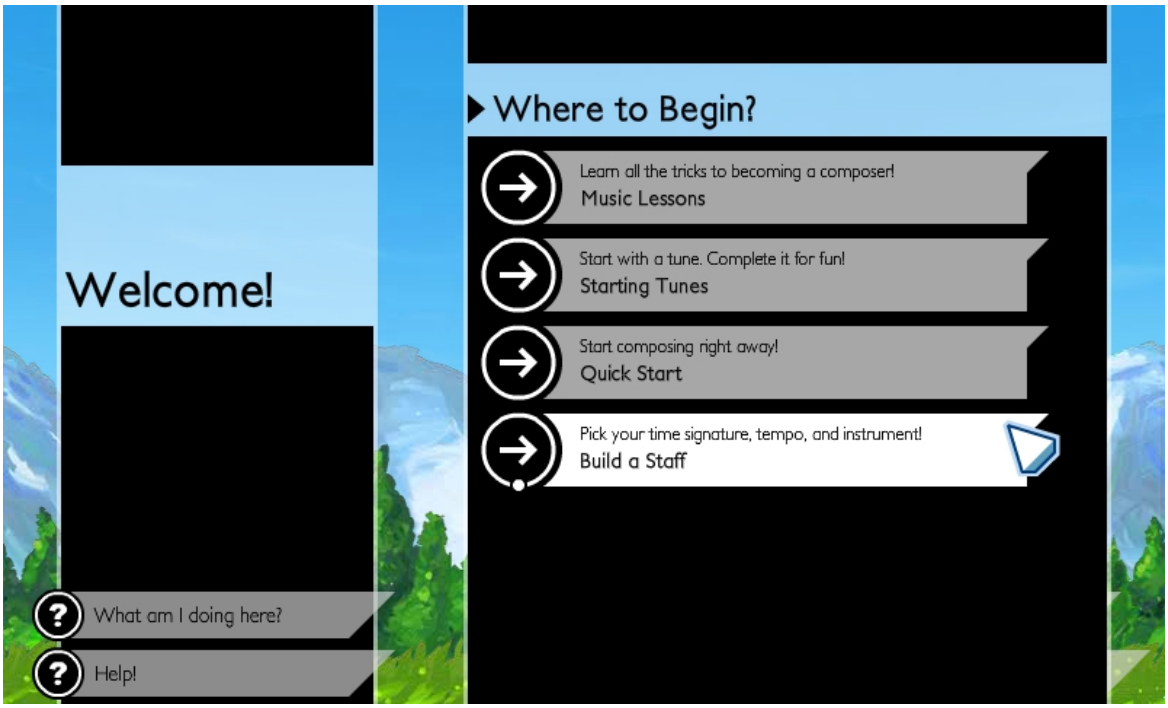

Figure 7.23 For the user who is ready to create an original piece but needs a little guidance in collecting all the elements necessary for composing, *Build a Staff* will guide them step by step and leave the creativity to them.

Figure 7.24 The first step enables them to *Pick a Time Signature*, either *4/4 Time* or *3/4 Time*, which will control how many notes/beats will fit into a measure.

Figure 7.25 Step two lets them *Pick a Tempo,* ranging from the slowest *Adagio* to the quickest *Presto*, with a few intermediate speeds in between.

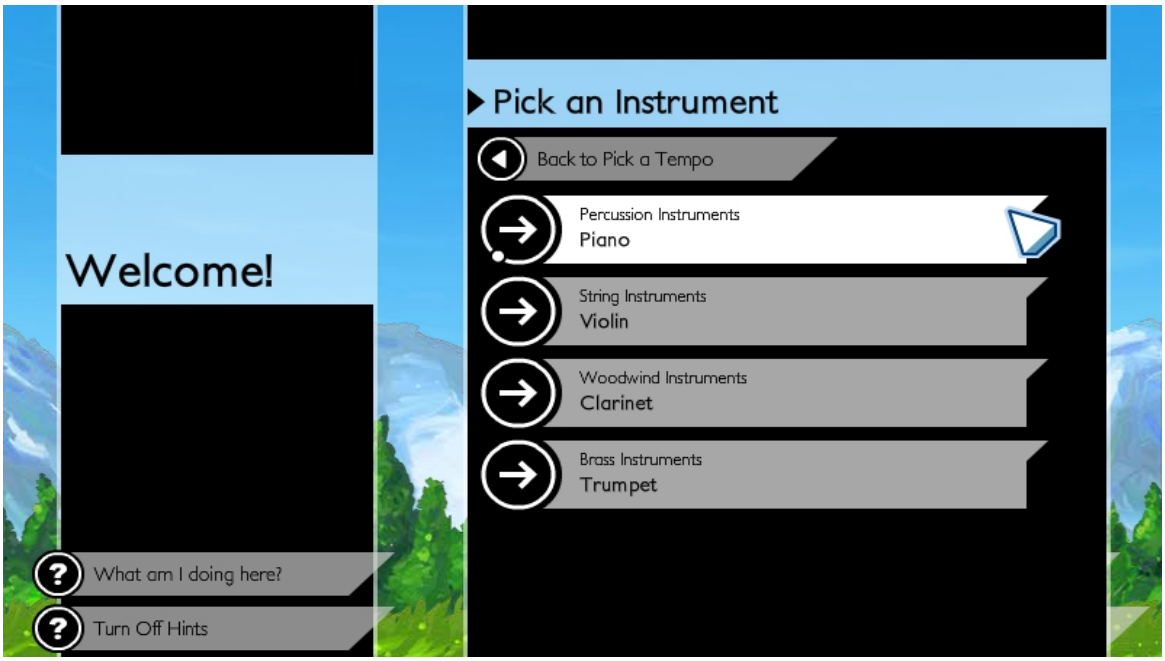

Figure 7.26 With Time Signature and Tempo set, step three is to *Pick an Instrument* that gives them an option from each instrument family, a *Piano* from Percussion, a *Violin* from Strings, a *Clarinet* from the Woodwinds, and a Brass *Trumpet*.

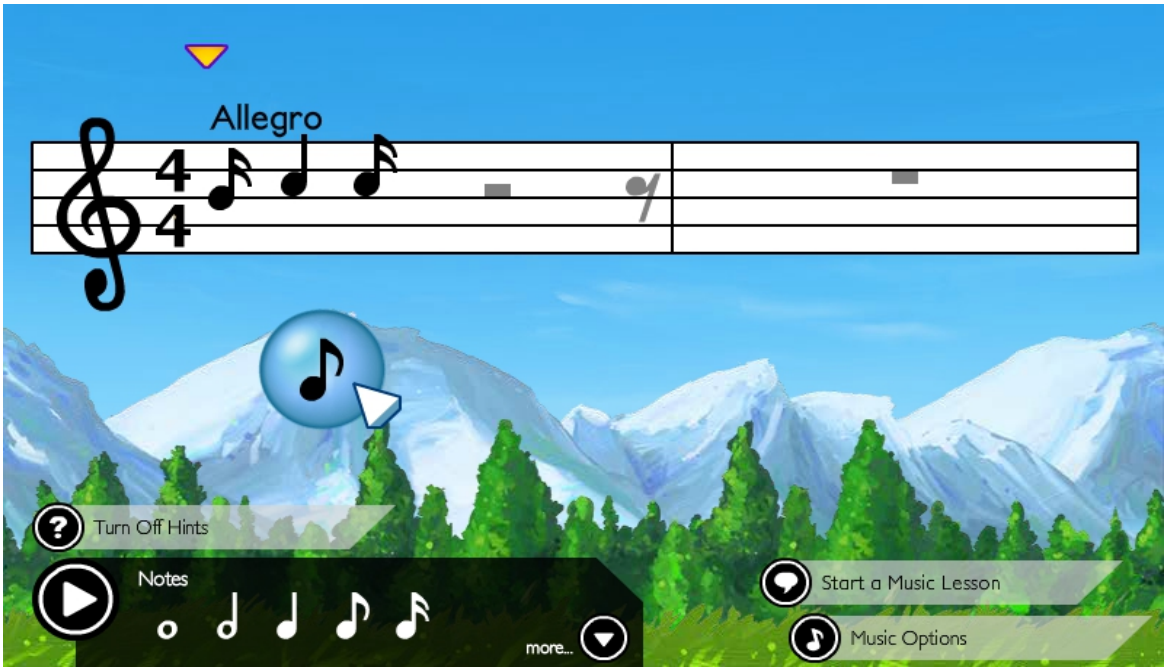

Figure 7.27 From there, with the staff built to their precise specifications, users can immediately begin grabbing the notes and symbols from their tool bar and begin filling the staff with their new creation. If, while composing their new masterpieces they decide they would like to adjust one of their piece's elements they can always access *Music Options* and experiment with other choices.

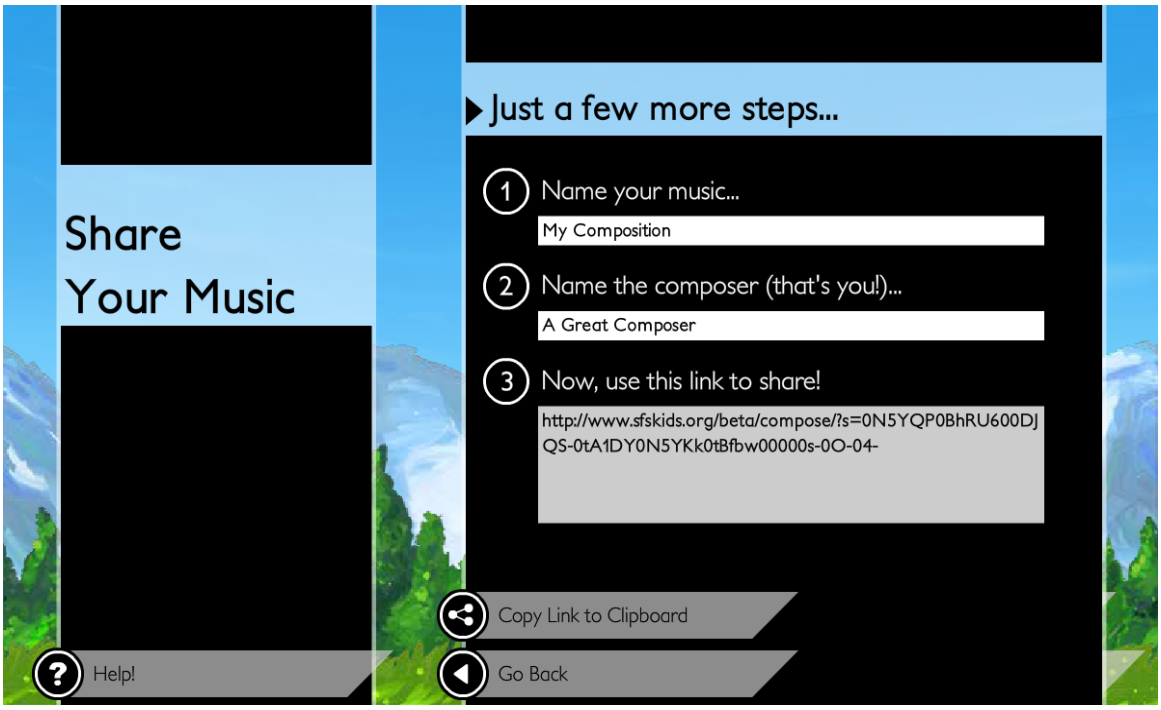

Figure 7.28 Once they've finished their masterpiece, or work in progress, they can name the piece, scribe their creative ownership, and copy/paste its unique URL into an email to send to themselves or friends and family. Viola!

7. Other Informal Music Learning Resources:

SFSKids Classic and beyond

Overview

There are a variety of informal music learning and music education resources that can be accessed over the Web. Music learning resources focus on empowering the student learner, while music education resources are intended to help teachers and others who want to provide music enrichment experiences to students. We will not be reviewing the resources that follow, nor do we claim that this list is comprehensive. Similarly, we do not claim these are the best online resource for informal music exploration experiences for young people. Instead, in line with the mission of the San Francisco Symphony and its music outreach efforts, the resources and websites are simply identified for your review. However, we cannot guarantee their availability, their proper operation, timeliness, or educational coverage. Nonetheless, you may find some of them of value.

We organize these resources based on the following criteria: (a) their affiliation with a major symphonic orchestra that also engages in music outreach activities; (b) music education and music learning resources; and (c) other music-related computer games. As most of these resources have no affiliation with the SFS, their mention in this guidebook is for information sharing purposes, and not intended as an endorsement of their content, educational value, or commercial purpose.

A. Symphony orchestras and concert halls offering playful music exploration experiences

We start with U.S. based orchestral websites that provide informal music education or music learning experiences that may be appropriate for K-12 grade students. The first site is the *SFSKids Classic* website (http://www.sfskids.org/classic/) which is also hosted by the SFS. This Classic website was the predecessor to the current SFSKids.org site featured in this guidebook. SFSKids Classic offers an earlier vision that represents a different but complementary approach to informal music learning experiences that may be appropriate for early learners. SFSKids Classic was designed for learners as young as 5 years old who can start their music exploration experience with an adult, older siblings, friends, or school class group where a reader can help describe written guidance and descriptions to the young learners. Example screenshots from SFSKids Classic can be seen in Figures 7.1 and 7.2. Classic's *Composerizer* seen in Figure 7.2 supports the creation of compositions in ways reminiscent of Mozart's *Musikalisches Würfelspiel* ("Musical Dice Game"), originally developed in the 18th Century.

Next, the New York Philharmonic Orchestra hosts its *Kidzone* (http://www.nyphilkids.org/), which features a variety of puzzle and memory games focusing on classical music, composers, and musical instruments, including musical artists participating within the NY Philharmonic orchestra, and even a backstage exploration experience.

Carnegie Hall, also in New York City, hosts a small set of interactive music listening experiences on its website, http://www.carnegiehall.org/DigitalLibrary/Games-and-Listening-Guides/. Also look for the interactive listening experiences, *Young Person's Guide to the Orchestra,* by Benjamin Britten, and *Dvořák's Symphony No. 9* elsewhere on their site.

The Dallas Symphony Orchestra hosts a small set of puzzle games and interactive activities for kids at its DSOKids website, http://www.dsokids.com/games

The Kennedy Center in Washington, DC hosts ArtsEdge which includes interactive music learning experiences for young people of different ages, including *Whack a Note!* and *Quackin' Rhythms* for young children, and also *Perfect Pitch* for pre-teens, and *Soundscapes: The Arab World* for teens, all starting from http://artsedge.kennedy-center.org/students/just-for-you

As before, these sites are a sample of orchestras and concert halls that seek to outreach and engage young people, parents, and teachers through classical music.

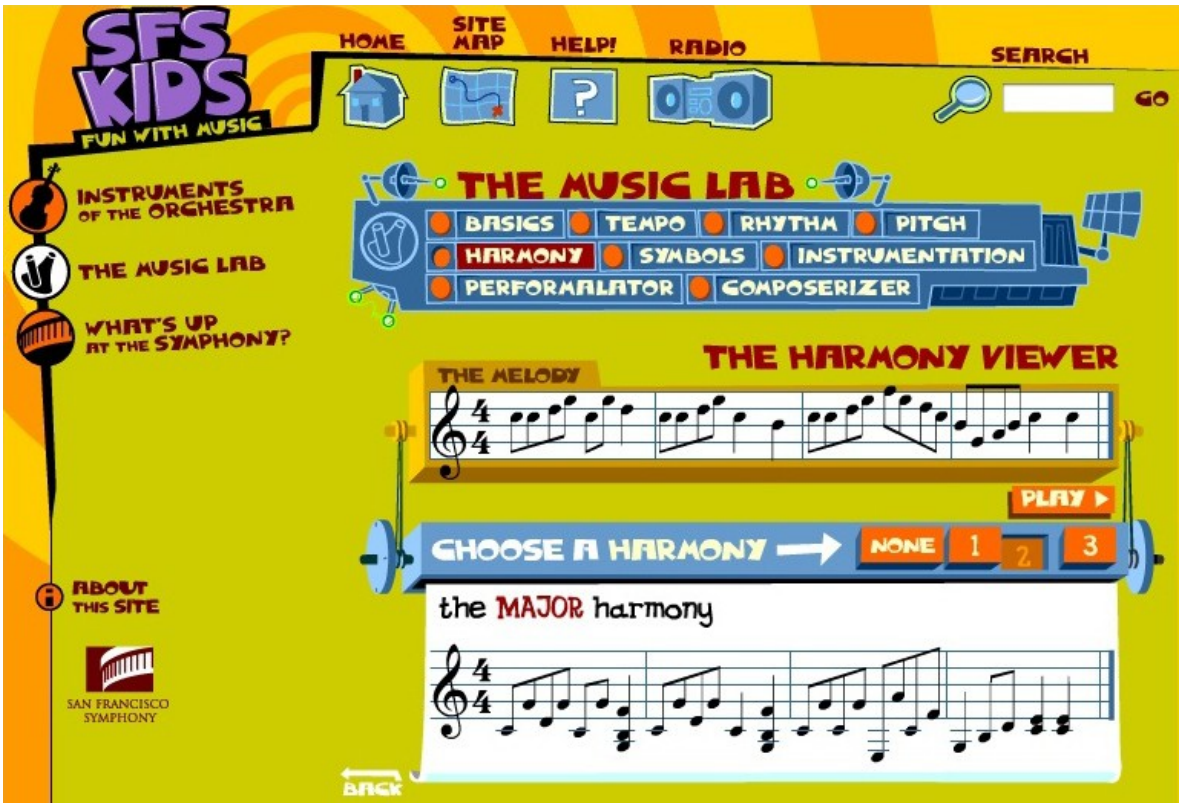

Figure 7.1 The SFSKids Classic website provides a *Harmony* section of *The Music Lab* link shown on the left side, where we have then chosen a Harmony 2 (the Major Harmony) after some other clicks to get to this point.

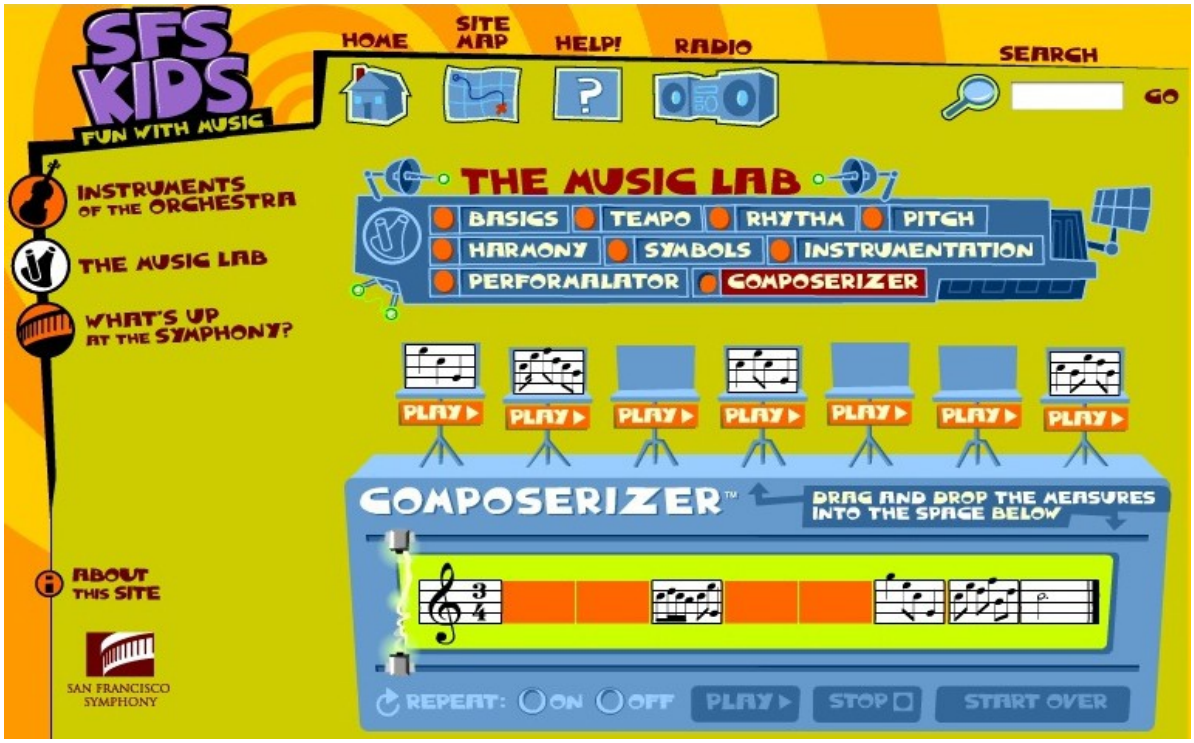

Figure 7.2 SFSKids Classic website also provides a fun, playful experience for composing music from pre-existing musical measures in any order the user chooses, which can then be re-arranged to make different compositions.

Last, the SFS has also produced other online resources that provide interesting or unique musical experiences. For example, Michael Tilson Thomas, Conductor of the SFS, has a series of online videos that provide guidance for conducting, http://www.keepingscore.org/category/keeping-score-tags/conducting and these videos served as inspiration for the capabilities provided in the *Conduct* module, described in Chapter 5. Similarly, the SFS through its American Mavericks series, produced by public radio's American Public Media, also offers an interactive music experience to perform music (much like in *Perform* module described in Chapter4) on wildly inventive musical instruments created by American composer, Harry Partch. Try out unique instruments with names like *Quadrangularus Reversum*, *Cloud Chamber Bowls*, *Zymo-Xyl* and others found at http://musicmavericks.publicradio.org/features/feature_partch.html

B. Music education and learning resources

The resources that follow may already be known by music teachers, so the items that follow may be of interest to parents or others engaged in informal music education. As before, there is no specific recommendation or endorsement by the SFS for these sample items, nor is any implied by their listing below.

The *Music Teachers National Association* (MTNA - http://www.mtna.org/) provide access to online materials that can help teachers or parents who want to enrich the music education experiences of children or students in their presence. Though the MTNA does not host any music learning games, they do maintain a list of external websites that offer interactive music learning experiences, some of which include games, as found at http://www.mtna.org/parent-and-student-resources/websites-for-kids/

Piano Education is a non-profit, non-commercial website, operated as a public service since 1995. As its name suggests, it is focused on the piano, and piano music. Other musical instruments are not addressed. There are many pages of online information about pianos and piano music, that are intended to support formal music education curricula focused on piano music. The site requires external “plug-in” software components (Quicktime, Java run-time) to be installed on your computer's web browser for proper operation and playback and listening to piano music. For example, in order to access the “Play a Piano/Synthesizer/Oscilloscope” (http://dreamscape.myartsonline.com/source/portal/Java/Piano.html) requires a Java player, and so you may be asked to allow this Java player to run in order to proceed. If you are not familiar or comfortable with these software components, then consider other music education resources.

PBSKids is an online service that is operated by the Public Broadcasting Service. The content they offer is often aimed at pre-school learners or early school age children, who may benefit from music enrichment experiences in the learning environment at home, or with family and friends. PBSKids hosts many playful learning games or interactive activities, including those that employ music and singing as core elements in the play/learning experience. These informal learning games can be found at http://pbskids.org/games/music/

The *Music Learning Community* (http://www.musiclearningcommunity.com/freegames.html) hosts a small number of free online games that explore basic elements of music (keys, pitches, intervals, scales, etc.) and musical instruments. They also provide online quizzes for assessing student knowledge. This is a commercial site that offers the vast majority of its games through monthly/annual subscription, so only a few samples are available to try for free. Another website offering free music rhythm study games is http://www.classicsforkids.com/games/

C. Other music-related computer game resources

This last category is open-ended, so the listing of resources here is only intended as a modest sample. You can likely find many more options through online Web searches, as well as through consultation with your favorite social media sites or services. Feel free to share your findings with friends and colleagues, and elicit their feedback and

commentary before deciding what is appropriate for your children or students. Here we offer a few additional starting points.

The legendary American electronic music composer Morton Subotnick has collaborated with a team of website and application ("app") developers over the past two decades to create new ways for young students to learn music through making music. This is a bold departure from traditional approaches to music education that generally focus on developing skill and mastery of performing on a music instrument, rather than starting with fun ways for making music with little prior mastery—to make music fun to play and enjoy. His efforts started back in the days of "interactive CD-ROMs" which in many ways both pre-date and anticipate playful interactive music learning experiences on the Web, and now on mobile devices (e.g., iPads, iPhones). Interested parents and teachers can start by looking at his website for *Creating Music* (http://www.creatingmusic.com/), which include links to acquire these CD-ROMs. This site also includes links to apps like *Pitch Painter* which is designed to allow children as young as three years old to learn how to make musical compositions through musical "finger painting" activities that create immediately playable digital music scores, all using a mobile device. Other contemporary music composers are embracing the development and/or use of music composition and music/audio processing software, so consider looking into these, especially for student learners who show sophisticated interest in music making, sound processing, or "remixing." These new skills may well become part of the future of multi-media literacy. Music can be a gateway to skill development and new career opportunities in science, technology, engineering, art, and mathematics (STEAM) fields.

For older students who may already be accomplished computer game players, but who may be unfamiliar with classical music or symphonic compositions, they may enjoy discovering *Video Games Live!*™. VGL is a concert series held in symphony halls or other venues (like a large sports stadium) that feature live orchestral music derived from music scores developed for popular video games. Some performances have hosted over 100,000 spectators, though selling out a regional concert hall, like the SFS Davies Symphony Hall, is more common. But for most attendees, this may be their first experience in seeing a live symphonic orchestra performing music from popular video games, a juxtaposition that is often surprising and inspiring to concert attendees. Music and DVD recordings of Video Games Live!™ performances are also available from common sources. Other orchestras featuring performances of symphonic arrangements of computer game music, as of late 2013, include the Video Game Orchestra (http://www.vgo-online.com/), the Gamer Symphony Orchestra at the University of Maryland, (http://umd.gamersymphony.org/new/) and the London Philharmonic Orchestra's recordings of *The Greatest Video Game Music* (Volumes I and II). University of California, Los Angeles is rumored to also have just formed (in early 2014) its own Gamer Symphony Orchestra, modeled after the one at University of Maryland. So computer games and game music may represent a new medium for engaging a new generation of symphonic music enthusiasts.

Recent computer games like *Guitar Hero* and *Rock Band* offer fun interactive experiences that arise through playful social interactions with family and friends using rhythm-based activities derived from popular music recordings. Activity-focused games like *Dance, Dance Revolution* rely on synchronization of body movements with popular music rhythms, which get people moving in ways that can improve physical health. Thanks to Wikipedia, other popular Music Video Games (or more simply, Music Games) have been identified, classified, and reviewed, so it may also be a source of information to consider. Finally, also consider looking into a new generation of social media apps for mobile devices that focus on interactive "social music" experiences. Smule is a leading developers of music apps that support experiences like playing a guitar, piano, or the flute-like Ocarina, as well as sing-alongs for Karaoke and "auto-tune" (as inspired by the Rap music singer-songwriter, T-Pain), and more, starting at http://www.smule.com/apps

Finally, the Walt Disney company and popular music game company, Harmonix, have joined together to develop a new interactive game play experience called (as of early 2014), *Disney Fantasia: Music Evolved* (http://games.disney.com/fantasia-video-game) which is scheduled for commercial release in 2014. This effort represents the "high end" of music play experience, as it requires a Microsoft Xbox One game console (including a

Kinect interface device), a purchased copy of the game, and a large-screen television, which collectively represent an investment of many hundreds of dollars. This may be the high point of game play with music. However, to be fair, it is not envisioned nor designed as a music learning or music education experience, but it does show innovative thinking about how music in the future may be experienced, and thus how it is discovered, listened to, played with, performed, conducted, and composed in the future.