

Piano Storybook

Game Concept Document

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Game Title

PIANO STORYBOOK

Overview of Concept

PIANO STORYBOOK is a game-based piano curriculum for young children, ages 4-6 years old, and is designed to give the student a basic understanding of music theory, aural skills, and composition from a young age. The curriculum will consist of daily gaming sessions to supplement regular practice, between once-a-week private lessons with a teacher who is trained in the curriculum. The gaming sessions will encourage the student to spend at least 30 minutes per day playing the game each week for 3 weeks. Before the game starts, the student will choose an avatar (a small, cute animal) from several options, and will progress through the game from the perspective of this avatar. Each of the three weeks of the game start with a story that will be narrated with simple mostly still illustrations, minimal animations, and will focus on the three main pillars of the game/curriculum: music theory, aural skills, and composition. The student must satisfy a minimum number of points in each area, each week in order to progress to the next week of a new piano piece and a new story.

Outcome of the Game

Students who progress through the entire game from start to finish have learned three assigned piano pieces for their private lessons over the course of the three weeks of the game in addition to having written 3 new pieces of piano music. These accomplishments play out in the game as a part of a story wherein the protagonist (avatar chosen by the student) must work in three different locations on a treasure hunt in a vast forest. Each location corresponds to a three main pillars of the game: music theory, aural skills, and composition. Once 450 total points are earned, three piano pieces learned, and the three original compositions written, the avatar will find their way out of the forest and will be reunited with their best friend, Jonathan (a little boy who has promised to meet the avatar on the other side of the forest to play after doing his chores).

Instructional Objectives

AFTER PLAYING *PIANO STORYBOOK* FOR 3 WEEKS, STUDENTS WILL BE ABLE TO:

- Identify treble, bass, and c-clefs
- Identify unisons, seconds, thirds, fourths, and fifths on a five-line staff
- Identify left and right hands
- Identify fast and slow tempos
- Identify loud and soft sounds
- Identify high and low sounds
- Create new compositions by re-arranging given notes between right and left hands
- Accurately play weekly assigned pieces in:
 - fast and slow tempos
 - loud and soft dynamics
 - high and low on the piano keyboard

Characters

- **JONATHAN:** Best friend of the avatar main character. A human boy of about 6 years of age, brown short hair, an orange shirt, blue jeans, and white sneakers.
- **MAIN CHARACTER AVATAR CHOSEN BY THE GAMER:** Chosen by the gamer from a list:
 - **CORA:** A calico kitten (a small brown, orange, and white kitten)
 - **SAM:** A baby goat (a black and white baby goat)
 - **JAMIE:** A baby giraffe
 - **BYRON:** A baby rhinoceros
- **MUSIC THEORY GUIDE:** Theo - wizard with a tall pointy hat and grey cloak with a white beard.
- **AURAL SKILLS GUIDE:** Aurora – curly, red-haired woman with a long purple dress and rosy cheeks.
- **COMPOSITION GUIDE:** Wright – a caricature of the composer, Beethoven

Game Environment

SET THE STAGE: ONE NEW PIANO PIECE PER WEEK; 3 PILLARS

Each week will begin with a story, along with the student's assigned piano piece that they must learn to play for their teacher the next week. Each of the three weeks of the game start with a story that will be narrated with simple mostly still illustrations, minimal animations, and will focus on the three main pillars of the game/curriculum: music theory, aural skills, and composition. The student must satisfy a minimum of 150 points each week (50 in each of the three main pillar areas) to progress to the next week of a new piano piece and a new story. The pillar areas shown below will be displayed on a parchment-like map (similar to a treasure map) and the points possible to be earned each week (or number of points remaining if points have already been earned) will be displayed next to each area.

PILLAR 1: MUSIC THEORY

The Music Theory area of the map can be clicked by the student and immediately the Music Theory Guide, Theo, will appear to tell the student exactly what they must do in order to earn their 50 points for music theory that week. This area will look like a small clearing in the woods on the map that will display various music theory elements when the student is playing (e.g. a 5-line music staff, notation, clefs, etc.).

PILLAR 2: AURAL SKILLS

The Aural Skills area of the map can be clicked by the student and immediately the Aural Skills Guide, Aurora, will appear to tell the student exactly what they must do in order to earn their 50 points for aural skills that week. This particular part of the map, when clicked, will zoom in to the entrance of a small cave in which the student must work on their aural skills exercises for the week. The student will be exposed to certain sounds and will be asked to identify what kinds of sounds they are hearing (high, low, soft, loud, slow, fast, etc.). The student will also be shown a piano keyboard and will be asked to play (on screen) the various kinds of sounds requested (high, low, soft, loud, slow, fast, etc.).

PILLAR 3: COMPOSITION

The Composition area of the map can be clicked by the student and immediately the Composition Guide, Wright, will appear to tell the student exactly what they must do in order to earn their 50 points for composition that week. The actual composition area on the map, when clicked, will zoom in to display the backdrop of a sheer cliff with trees and vines growing on it; on this backdrop, different exercises will be displayed. Specifically, students will be given musical elements that they must arrange in such a way that a new piece of music is composed by moving musical blocks that represent high and low notes; the notes on the upper line will be played by the student's right hand and the lower notes will be played by their left hand.

Game Play

PIANO STORYBOOK will be built to work alongside in-person piano lessons with a teacher who is trained in the curriculum. To a certain extent, how the game is played will depend on the student's progress through the material and the individual decisions of the student's teacher based on student progress. To describe how the game is played, a possible scenario will be provided below.

- **WEEK 1:** The teacher will meet with the student in their first lesson, assess their musical abilities and then will decide which piece of music to assign first for that week's lesson. The instructor will then 'deploy' the assigned piece within the *Piano Storybook* app for the student to work on that week. The software will adjust itself to create exercises for the game that will enhance the student's practice of that particular piece by generating music theory, aural skills, and composition exercises that relate to the assigned piece of music. When the student arrives home for the week of practice ahead, they will start their first practice session with an engaging story that has their avatar as the protagonist. In order to earn points and get to the next part of the story in Week 2, they must sit to practice music for a minimum of 30 minutes a day, but the practice sessions will actually be primarily game play in the *Piano Storybook* app. During Week 1, students must earn a minimum of 50 points in each of the main areas: music theory, aural skills, and composition. The clickable areas will contain exercises in each respective musical area, and most days the exercises will contain repeated material, but the idea is to build musical instincts as second nature (i.e. students must be able to instantly recognize certain sounds, musical intervals, and symbols without thinking). The student will also receive

practice points for running through their assigned piano piece for the week; this will be accomplished by placing their iPad on the piano music stand and letting the software 'listen' to their practice to assess accuracy. Little balloons will light up above each correctly played note, and points will be displayed above in the top-right corner of the screen.

- **WEEK 2:** Before the outset of Week 2, the instructor will have another in-person lesson with the student, praising them the number of points earned, asking how they liked the game that week, etc. The teacher will then assign a second piece, but only if the student earned at least 150 points and is able to play their Week 1 assigned piece with less than 5 mistakes. If either the points are not earned or the student makes 5 or more mistakes, they must repeat that piece in the next week, but the app's points for music theory, aural skills, and composition will reset and new exercises will be generated to keep the student engaged with new material. If the student earns a new piece this week, a new part of the story will be unlocked.
- **WEEK 3:** Building on the previous two weeks, the student will have another in-person lesson with their piano teacher; the instructor will again praise the student for the number of points earned, asking how they liked the game that week, etc. The teacher will then assign a third piece, but only if the student earned at least 150 points and is able to play their Week 2 assigned piece with less than 5 mistakes. If either the points are not earned or the student makes 5 or more mistakes, they must repeat that piece in the next week, but the app's points for music theory, aural skills, and composition will reset and new exercises will be generated to keep the student engaged with new material. If the student earns a new piece this week, the final part of the story will be unlocked and they will progress to a short film where the protagonist is reunited with Jonathan, their best friend who is waiting for them on the other side of the forest.
- **WRAP UP:** After the third week, the piano teacher will check in with the student for another in-person lesson to review the student's stats. The instructor will focus on the incredible accomplishments of the student, noting the pieces they have learned and written and will informally ask the student questions about the content in *Piano Storybook* to see how much material was retained by the student. The lesson should conclude with a duet, where the teacher plays a more advanced accompaniment with the student's new pieces to hopefully garner further interest in new pieces for upcoming lessons.

Consequences and Feedback

POSITIVE REWARDS

Points will be awarded to the student each day that they spend at least 30 minutes practicing, and they will need to earn at least 50 points for music theory, aural skills, and composition, respectively each week to unlock the next week's story. The student can choose where they would like to spend the most time on each day, but by the end of the week, if they do not have their 50 points for each area, they will not unlock the next week's story, nor will they earn a second piece of music.

While practicing their assigned piece for the week, the student will be monitored by the iPad's internal microphone to assess accuracy of playing. Little balloons will light up above each correctly played note, and points earned will be displayed in the top right corner.

NEGATIVE REWARDS

If the student does not have their 50 points for each area in music theory, aural skills, and composition, they will not unlock the next week's story, nor will they earn a second piece of music. Also, each time incorrect notes are played while practicing their assigned piece that week, the little balloons displayed above the notes will pop (if played correctly, the balloon will light up but not pop).

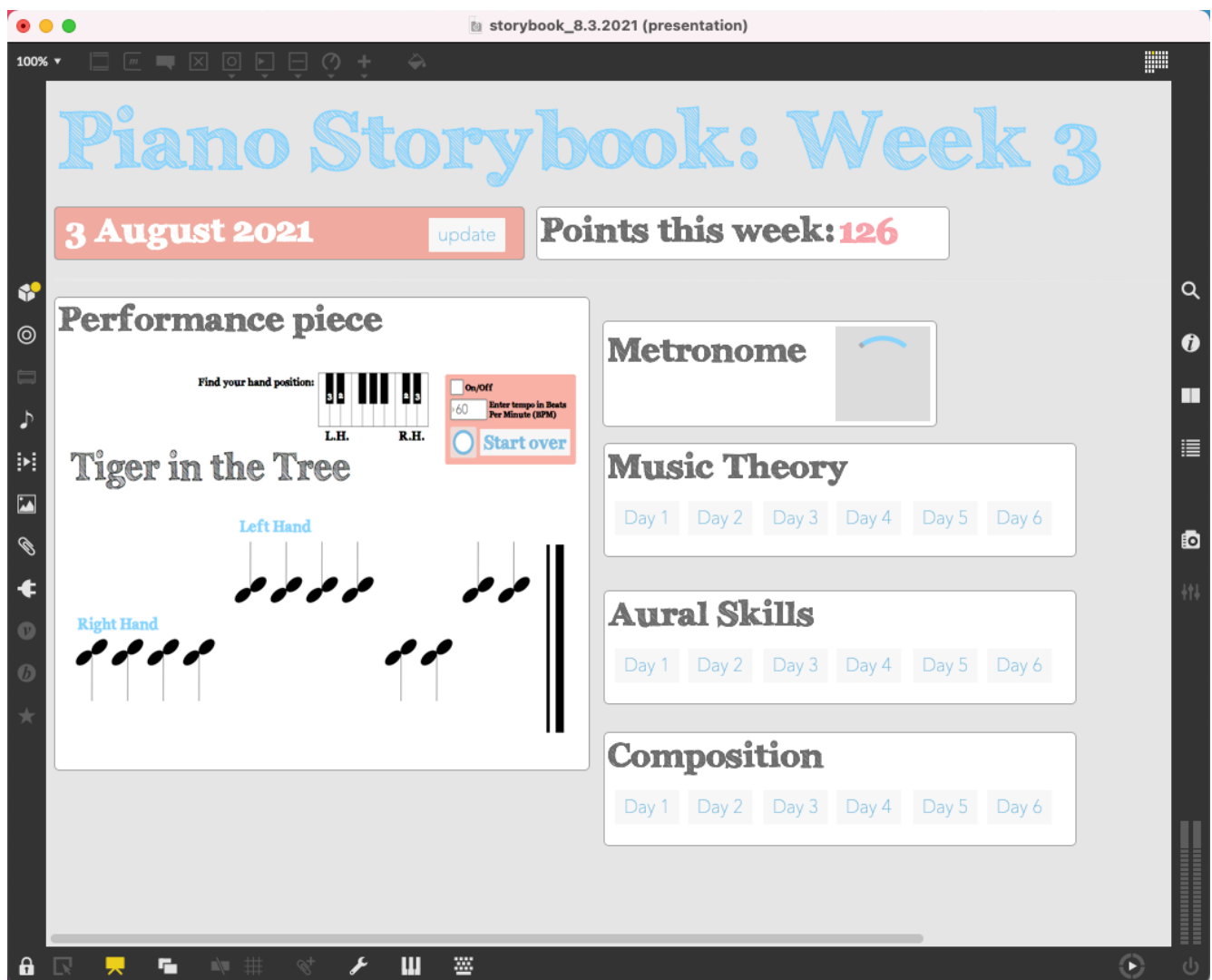
Look and Feel of the Game

Other than the various locations listed previously, **PIANO STORYBOOK** will have a very minimal look in terms of graphics. Essentially, the only graphics will consist of textured or image-based backgrounds (e.g. the Cave for the Aural Skills section). Also, while the various guides for each section will not be animated, they will be carefully illustrated to look like characters from an old storybook with faded pages and colorful hand-drawn pictures. The actual dashboard itself will look fairly minimal with a plain white background where students can view their points for the week and all

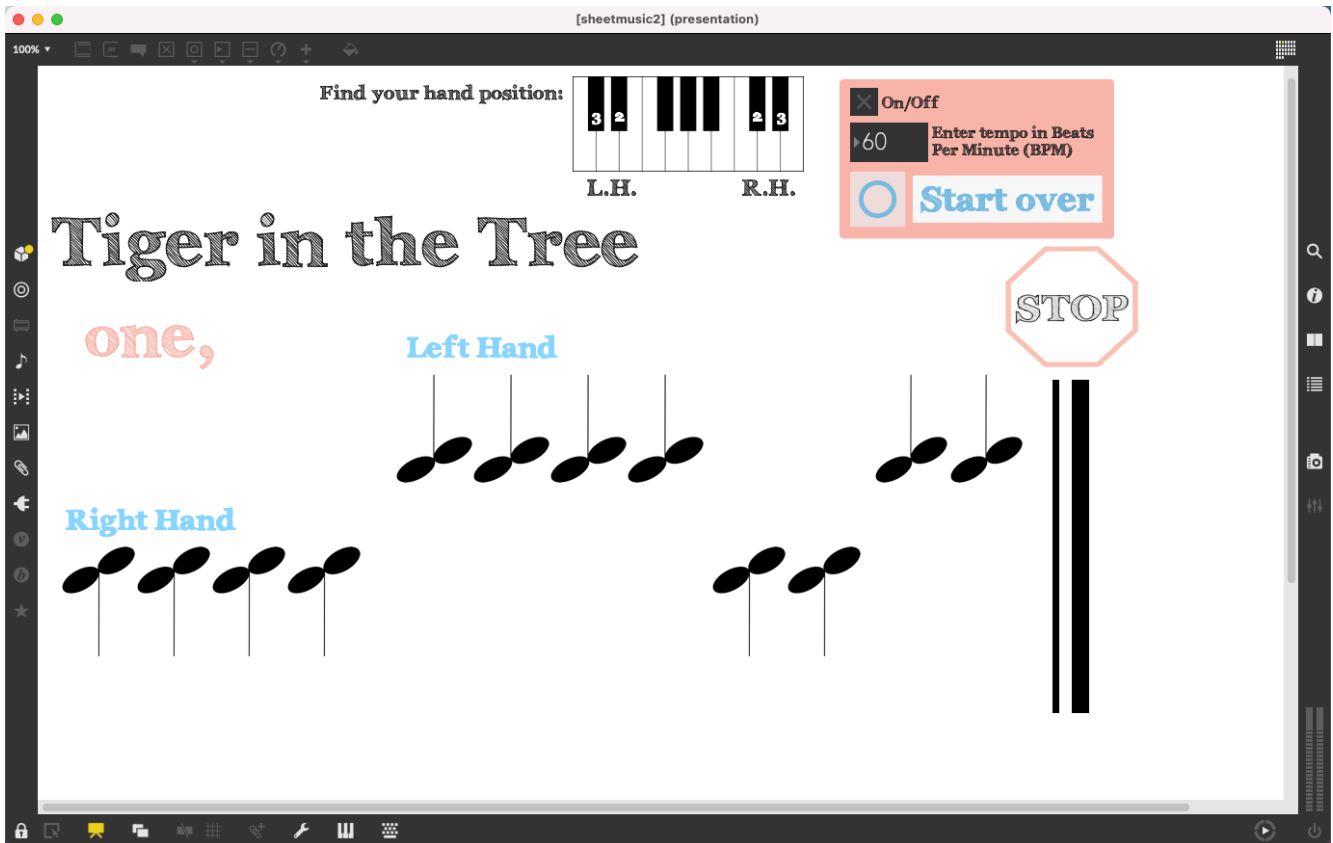
exercises that they will need to complete to unlock new stories and pieces of music in the next week.

SIMPLE MOCKUP OF DASHBOARD AND PRACTICE PIECE:

These mockups were created in Max/MSP, an object-oriented programming language, and though they do not contain all elements described in the above sections of this document, they give some indication as to the look and feel of the game and they have some minimal functionality. For example, when the user clicks on the piano piece image below, another window appears with the piece ready to be practiced.



This image of the practice piece in Max/MSP has a functional counting engine that displays the number “1” under each set of notes to a steady beat, the tempo for which is set in the top right pink box.



Technical Description

IOS APP FOR IPAD

PIANO STORYBOOK will be designed for iOS on iPad and will be set up such that the trained piano teacher who works with each student for weekly in-person lessons can periodically check in on their students' progress in that week's assignments (i.e. the weekly assigned pieces and the game itself, including scores in various parts of the game). The benefit of the teacher having access to the student gaming progress is that they can more effectively plan each week's lessons, knowing more so what to focus on when the student comes for their weekly lesson.

DISTRIBUTION TO STUDENTS

PIANO STORYBOOK will be purchased by teachers for an annual subscription fee of \$99, which will allow them to add an unlimited number of students to their 'virtual studio,' a back-end dashboard where student stats can be viewed. Teachers will also be able to give their students a discount code that they can use to purchase the student version of the game on the iOS app store (regular price to play the game independently: \$29; discounted teacher/student version: \$19).