**Suzuki Practice Buddy**

An application that aims to help children learn to play the piano and improve their technical skills by making practising more enjoyable.

**Overview**

**Summary**

**Client: Anna Sibley**

**Organisation: Bristol Music School**

Anna Sibley is the founder and head tutor at the Bristol Music School. She has been teaching the Suzuki Method since 2010 and has been very successful in inspiring many young pianists. However, due to their short attention spans, she has found it hard to get her students to engage with their practise even for 5 minutes. Seeking a solution to this problem, she approached us with an idea for an app that will help her younger students improve their skills while also having fun.

Our app transforms the seemingly dull routine of practising into a fun activity that the students look forward to. It acts as a checklist that will reward the student each day based on how much they complete. The tasks completed each day are recorded and there is an indicator showing which tasks have been completed each day of the week, encouraging the student to practise consistently.

The selection of pieces is in line with the Suzuki method, which is a teaching method where a student progresses linearly through a set of pieces and books, while also working on previous pieces based on the same technical skills as the piece they are currently learning. The app is intended for use by the students working on the first 3 books. These students will be aged between 4-8. The teachers may monitor a student’s progress on the student’s device to see what they have done between lessons, or to move them on to the next piece if they have made enough progress.

**Features**

**Tasks**

On any given day, the student has the following tasks to complete:

* **Learn:** The student needs to practise the piece they are currently learning. They start from the first piece in book 1, and progress linearly across the 8 books. Only the first 3 books are on the app as it is only aimed at younger students.
* **Review:** The student spins a “wheel of fortune” to pick a piece to review. The pieces on the wheel depend on the current piece the student is learning. The student can spin the wheel as many times as they want. Each time they review a piece it is removed from the wheel until the next day. If they review all the pieces on the wheel, the wheel is reset.
* **Listen:** The student has to listen to their recording (separate to the app) and then mark on the app that they have done so.

**Rewards**

Each day, the student earns badges when completing a task. They get a bronze badge if they complete one of the tasks, silver if they complete two and gold if they complete all 3. Students also receive coins after completing a task which they can spend to buy new backgrounds in the store. They can then apply these backgrounds to make their home screen more exciting.

Students can also complete achievements for doing certain things, including earning a certain number of coins or completing a task a certain number of times.

**Requirements**

**Stakeholders**

* **Anna Sibley:** Since the idea for the project was given by Anna Sibley, the founder of Bristol Music School, she has full control over the development of the project and will want her students to use the app in order to make their piano practice more enjoyable.
* **Piano teachers:** This app is intended to encourage students to do their piano practice, so it should allow the teacher to make their students’ practise more fun and engaging, which in turn will make them practise more and improve as pianists.
* **Students:** The students will be using this app to encourage them to do their daily piano practice while also making it fun and rewarding.
* **Parents:** As the app is aimed at children, the parents would likely need to download the app on their phone so their child can use it. They will also want their children to do their practise properly and will be there to supervise them during each practise session.
* **Google Play Store:** This app will be published on the Google Play Store, so it will need to conform to all the required rules and regulations.

**Interactors**

The main interactors with the system will be the **students**, as they will be the ones encouraged to use the app to make their practise more entertaining. **Teachers** will also have a keen interest in their students’ use of the app as they will want them to practise in order to improve their skills, and the app acts as an incentive for the students to practise. The **parents** of the students will also have a slight interest in the app, as they will want their children to get the most out of their lessons and practise. As the children the app is aimed at are quite young, it is also likely that the app will be installed on the parents’ phones as the students may not have their own phone to use the app.­­­

**Students**

* **“***As a* ***student****, I want to* ***have an incentive to practise*** *so that I can* ***maximise the productivity of my practice sessions.***”

At the end of every review, the student is rewarded with coins which they will be able to use in the store to buy new backgrounds. Backgrounds can then be applied to make the home page of the app more exciting.

There are also achievements that the students can earn if they complete a certain number of tasks or buy a certain number of items.

Badges are awarded each day if the student completes their current piece, a review piece and listening task (gold for all three, silver for any two and bronze for only one).

* **“***As a* ***student****, I want to* ***review the same piece multiple times*** *so that I can* ***improve my performance.***”

When the student has reviewed all the pieces on their review wheel, the wheel resets so that they can go through all the pieces again. Each piece due for review is therefore able to be reviewed any number of times before the next lesson.

The wheel also resets every day, so the students can start their practise from a clean slate each day.

* **“***As a* ***student****, I want to* ***record the practice I have done today*** *so that I* ***know what I still need to do.***”

When the student marks their daily practice of their current piece as done, the app tells them it has already been practised. The same happens with the listening.

Review pieces are removed from the wheel when they have been practised. This way, the student cannot spin the wheel and land on the same piece twice, unless they have gone through every piece on the wheel, in which case all the pieces are put back on the wheel.

**Piano teachers**

* **“***As a* ***piano teacher****, I want to be able to view* ***my students' progress*** *so that I can* ***understand where they are at*** *and* ***set them new goals accordingly.***”

The student records the tasks they complete on the app on their parents’ phone. In the lesson, the teacher is able to look at what the student has done since their last lesson by viewing their badges.

The teacher, if they feel the student is ready, can move the student up to the next piece in the book.

* **“***As a* ***piano teacher****, I want**my students' to be able to* ***pick random pieces to review*** *from the list of review pieces so that they* ***do not pick the same pieces each time.***”

Students are able to spin a “Wheel of Fortune” populated with the names of pieces on the review list of their current piece. They will then practise the piece this wheel lands on and be able to mark this on the app, then spin the wheel again to pick another piece to review.

Each time a piece is reviewed, it is removed from the wheel until it resets either the next day, or if the student has reviewed all the pieces.

* **“***As a* ***piano teacher****, I want to be able to* ***make my students’ daily practise as fun as possible*** *so that they are encouraged to* ***improve and keep learning.***”

The app will provide different ways for the student to engage with their practise and have more fun than if they were just doing it out of a book, including:

* + A review piece “Wheel of Fortune”,
  + Gold, silver, or bronze badges each day depending on how much practise the student has done,
  + Coin rewards for doing tasks that they can use to customise their app to make it more interesting,
  + Achievements that the students can earn if they complete certain elements of their practice consistently.

**Parents**

* **“***As a* ***parent****, I want my child to* ***engage in their piano practice*** *so that they* ***make the most of their lessons.***”

The app intends to make practising more entertaining for students so that they want to practise more. These features will make practise feel more like a game so the children will want to do it more often and will therefore develop their skills quicker.

**System Flows**

The main function of the app is for the student to track their daily practice while having a bit of fun at the same time. The way a student might navigate through the app could be as follows:

**Normal Flow**

1. Student opens home page.
   1. Student marks piece as done and receives reward.
2. Student opens listening page.
   1. Student marks listening as done and receives reward.
3. Student opens review page.
   1. Student spins wheel.
   2. Student reviews piece on wheel and receives reward.
   3. Student can optionally repeat step 3.
4. Student opens shop.
   1. Student purchases an item.
   2. Student applies new item.

**Alternative Flow**

1. Student opens shop.
   1. Student tries to purchase an item.
   2. Student is told that they do not have enough coins.
2. Student follows steps in the **normal flow.**

**Exceptional Flow**

As there is no data to be input, just buttons to press, there is no exceptional flow on the app. Users are only able to open the 3 main pages and the shop and then carry out the desired action without inputting any data.

**Atomic Implementation Features**

**Home Page**

* The home page shows the user’s current piece.
* The user can mark their current piece as done no more than once every day.
* The home page has links to:
  + The review page, where the user can spin the wheel to select the review piece.
  + The listening page, where user can mark their listening as done no more than once every day.
  + The shop, where the user can buy items.
  + The inventory, where the user can access their purchased items.
  + Settings, where the user can access their achievements, the tutorial, and reset their progress.
* The user can tap on the corresponding navigation button and be navigated to the corresponding page.
* The user can change their current piece by clicking on it.

**Review Page**

* The user can spin the wheel if they have learned more than one piece.
* The wheel is populated with the pieces in the review list of the current piece. This list has been decided in advance for every piece, as part of the Suzuki Method.
* The wheel is colourful, with each segment (each piece) coloured differently to the ones around it.
* When the wheel is spun, the piece it lands on is shown to the user.
* The user can mark the selected piece as reviewed.
* This piece is removed from the wheel when reviewed.
* When there is only one piece, the piece is shown instead of the wheel.
* If all pieces have been reviewed, the wheel resets.
* At the start of every day, the wheel resets.

**Shop**

* The shop displays backgrounds that the user can purchases.
* If the user clicks on a background, they are given the option to purchase it.
  + If they have enough coins, they can then purchase the background.

**Inventory**

* The user can access their purchased items.
* The user can apply one of their backgrounds by clicking on it in their items list.

**Personal Data, Privacy, Security and Ethics Management**

The app does not collect any personal data about the users and there are no accounts. There are also no cookies being stored. The app does not require a connection to the internet for it to work and all data is stored locally in a database on the users’ device. The data that is stored is related to the pieces in the books, whether the user has done each element of their practise each day, coins, and the backgrounds for the shop. As such, we do not have any security strategy as the data is unlikely to be of any interest to potential hackers. There are also no ethical concerns that we need to consider safeguarding the users. That said, the users themselves are responsible for their data and can lock their phone if they feel the need to do so.

Ethics approval was applied for on 24/11/20 at 21:41.