System overview

The website note bridge is designed to connect aspiring music teachers with students looking for affordable lessons. With the simple creation of an account, students can look for musicians in their vicinity and an instrument of their liking.

The website allows teachers to write a description about themselves and set their own rates, and students can browse through these profiles to find a teacher to their liking. Since teachers can also let their availability be known in the schedule, scheduling lessons becomes convenient for both parties. To make finding teachers even easier, there is also a search functionality where you can look up any specific teacher.

To find out whether a teacher really does have the experience and skills they say they have, there is also a review system. Students can leave ratings and messages underneath the profile of a teacher. This way we ensure that the teachers on our platform are of high quality and the lessons are more productive to users.

The website also allows direct payments from students to teachers, either for each lesson, or one bigger payment for multiple. The payments can be made with an implementation of ideal.

If any problems do arise on the website there is a support systems through which users can message admins directly to find solutions to any problems they might have.

Minimum requirements

Will

- A user sign-in and sign-up for users to create an account or log into their existing one.
- Teacher profiles for them to show their skills, qualifications, and teaching experience.
- A search functionality for users to search for teachers by location, skill, experience level, and availability.
- A booking system that allows users to schedule lessons with their chosen teachers.
- A secure payment gateway that processes payments from users and disburses funds to teachers.
- A customer support system that allows users to contact the platform admin for assistance with any issues or queries they may have.

- A drop-down menu where users would be able to switch from for example: the map, their profile, contact and other functions.
- A system that enables users to provide feedback and ratings on their experiences with the teachers.

Should

- A scheduling system for the teacher to mark their available times.
- A map with the rough locations of all different musicians in the area.

Could

- A method for teachers to add a video to their profile demonstrating their skill.

optional requirements

- Automated notifications sent to users and teachers regarding lesson bookings, cancellations, and other important information.
- A dashboard for the platform admin to manage user accounts, teacher profiles, and other platform settings.
- Metrics and data analysis features that enable the platform admin to track user engagement, revenue, and other performance indicators.

Non-functional requirements

Performance efficiency

Time behaviour
- When loading the website it will return its page within 2 seconds.
- When planning a lesson the reservation for a timeslot is placed within 1 second.

Resource utilization
- The system does not occupy more than 100 mb memory.

Capacity
- The system can handle at least 1000 users at the same time.

Compatibility

Co-existence
- The website should work just as well on a mobile phone as on a laptop.

- If more users than normally use the website at the same time it should not have big impacts on speed.

Interoperability
- A user on a mobile device can interact with a user on other devices.

Usability

Appropriateness recognisability
- At least 95% of users understand that this system helps people get better at music in a cheaper way.

Learnability
- 95% of users will be able to create an account without needing assistance.
- 95% of teachers will find this system easier to use than their previous methods.

Operability
- The lessons should not be able to be changed by anyone other than the student and the teacher, the student and teacher can only change it when sending a message with a reason why.
- A warning is shown before planning a lesson so users won't accidentally enter the wrong date or time.
- Lessons can be canceled up to 24 hours before the lesson.

User error protection
- The system ensures that students can not double book a lesson slot.
- The system has a confirmation message to confirm your lesson order so students don't choose the wrong teacher.
- When making an account the system checks for the right format when people enter their email.

User interface aesthetic
- The system will implement the 60-30-10 rule for its color scheme (60% purple (#8A3EB7) , 30% beige (#F2B84A), 10% lavender(#F5F5F5)).
- 85% of users report that the layout is clear and accessible.

Accessibility
- The system should allow you to sign in and out easily so people who use public devices can still easily plan lessons.
- The system is usable if you only have a mobile phone.

Reliability

Maturity
- The system should be beta tested for 3 days by at least 10 people before release.
- The system should have guaranteed maintenance for the next 3 years.

availability
- The system has to be available to teachers and students 90% of the time.
- maintenance for the system should be done at 02:00, when the least people are using the service.

Fault tolerance
- All software will be duplicated so if big errors occur we can go back to previous updates.

Recoverability
- The database must run a full backup at least once a week.
- A disaster recovery test should be executed once a year to test if the recovery process still functions.

Security

Confidentiality
- Data handling should be GDPR-compliant.
- Students and Teachers can't see previous lessons of others, only their own.

Integrity
- Modifying the website can only be done through an admin account.
- Admin accounts are protected by biometrics and a password.

Non-repudiation
- Payment history will be kept with who paid whom so there won't be problems with double payments or disputes. (we will make this secure and with some privacy restrictions).

Accountability
- Each admin has a personal account of individual staff members so changes can be checked back to them.

Authenticity
- During the sign in, a correct combination of username and password needs to be entered.

Maintainability

Modularity
- The addition of a new function to the system in an update after launch should not have any effects on pre-existing functions.
- Each function is designed so they are not dependent on each other.

Reusability
- The schedule and lesson planning system can be added to any other system by a developer in 2 days.

Analysability
- The modular design will have each function tested separately.

Modifiability
- Due to the modular design, if an admin were to change the lesson scheduling function, it would not affect other functions.

Testability
- All systems should be easily testable separate from each other.

Portability

Adaptability
- The system should work well on all computers and mobile phones with a supported internet browser.

Installability
- The system should not need to install anything on your computer and should be exclusively on the web.

Replaceability
- All systems are made independent of each other to more easily replace them.

Functional suitability

Completeness requirements
- The finished product has an implementation of all other requirements.
- The system contains a user registration component.

Appropriateness requirements
- The system will increase the number of teachers and lessons in areas where it is used.

Correctness requirements
- The information each teacher has about themselves is correct and not mixed up with other teachers.

- The locations of nearby teachers are correct and up to date.

User stories

necessary

- As a user, I want to be able to sign up and register easily, even if I never used the application before.
- As a user, I want to be able to choose between being a teacher and a student when signing up.
- As a user, I want to be able to schedule lessons according to my and my teacher's schedule.
- As a user, I want to be able to search for teachers based on location, skill, experience level and availability.
- As a user, I want to be able to see a map of my area with the rough locations of all different musicians in the area.
- As a teacher, I want to be able to create my own profile where I can showcase my skills, qualifications, and experiences.
- As a user, I want to be able to contact the platform admin for assistance with any issues or queries I might have.
- As a user, I want to be able to look at a list of frequently asked questions when I run into an issue.
- As a user, I want to review teachers in order to leave feedback.
- As a user, I want to be able to use this web application on my computer, as well as my mobile phone.
- As a user, I want to have a drop-down menu for quick navigation between pages
- As a teacher, I want to be able to mark when I am available to do lessons.
- As a user, I want to have access to a customer support chat for help with my possible issues.
- As a user, I want to make payments to the teacher in a secure and safe manner.

optional

- As a user, I want to be notified of changes in my lesson bookings and other important information.

- As a teacher, I want to be able to put a video on my profile to demonstrate my skills.
- As a user, I want to be able to access my account on multiple different devices
- As a user, I want this web application to run smoothly at least 95% of the time.
- As a platform admin, I want to be able to see analytics such as user engagement, revenue and other performance indicators.
- As a platform admin, I want to have access to an admin panel to manage user accounts, teacher profiles and other platform settings.