Software Engineering Final Presentation
Groupname : Piano Tutor

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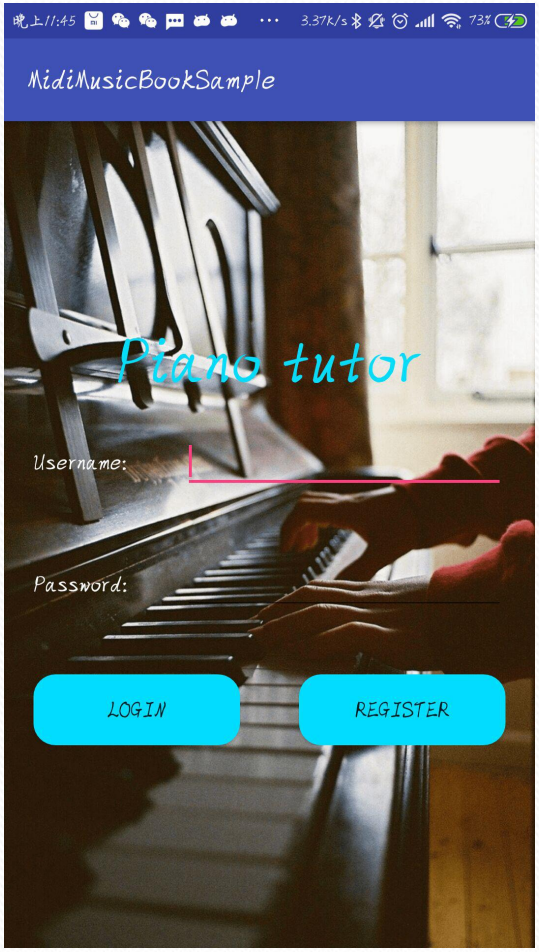
Introduction

- Our app aims at teaching people to play piano. It has records of several piano songs. Users can record his or her playing the piano songs in the songlist by the phone. Then our app will compare both records and give user guides on how to play the song better.

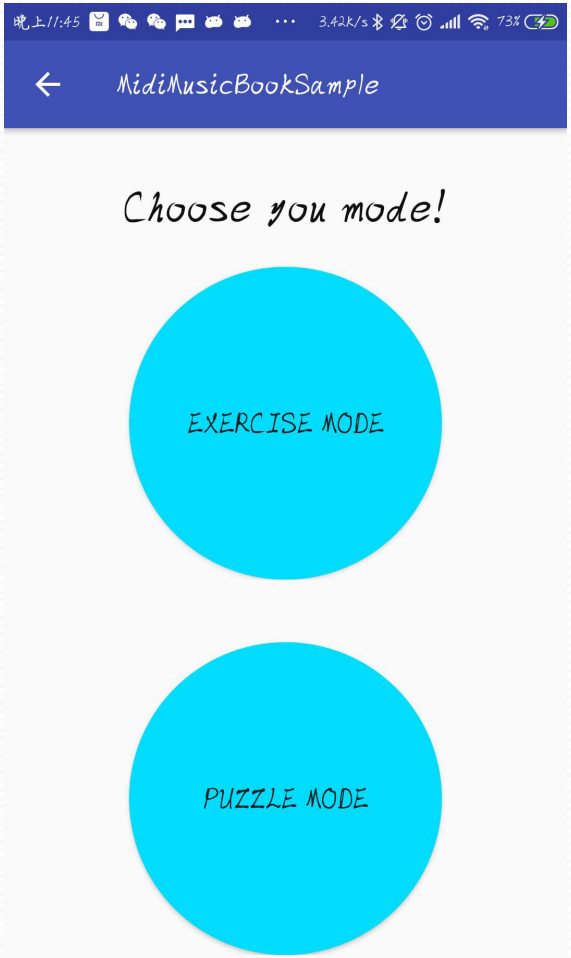
Screenshot of logging

This is the login UI. Registers can choose to register one account or try it for one or two days, using temporary account.



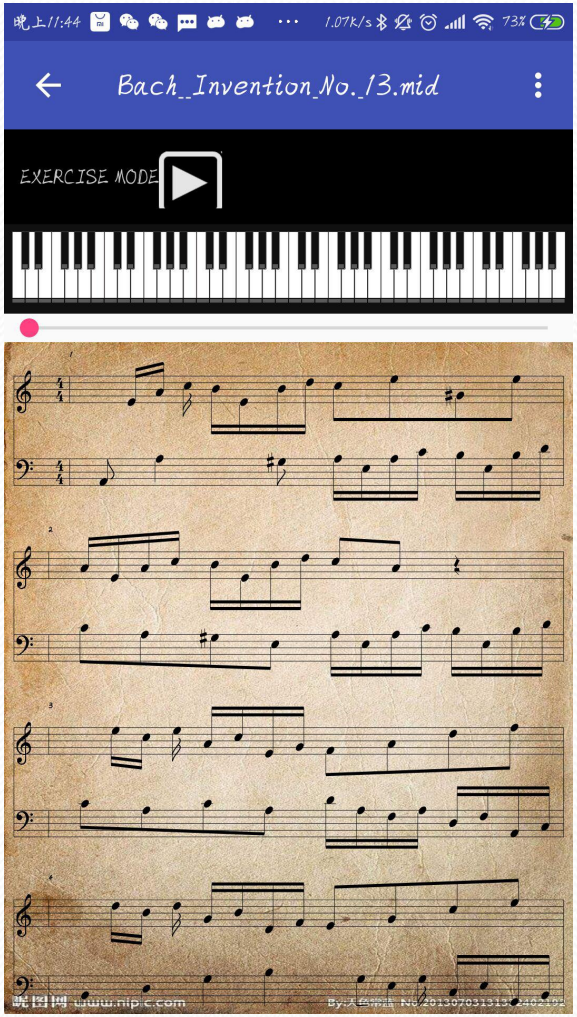
Screenshot of mode selecting

The green-hand mode is a songlist of easy songs and the old-hand mode keeps hard ones.



Screenshot of piano playing

Enjoy your time with your piano~



Timeline

Week	Features
Week 9	Tensorflow basic simulation
Week 10	Login
Week 11	Database connection, Inner UI
Week 12	Machine learning
Week 13	debugging
Week 14	Final implement
Week 15	Final Presentation

How well followed timeline

- The implement of the inner UI is very hard. We tried almost 4 weeks to make the dynamic tabs effect. So we delayed a lot.
- The php database connection is filled with bugs, so it costs almost 2 weeks to complete the database connection part.
- We delayed a lot on our timeline for we chose some fields of development that we are not familiar with. Oops!

Important features:

- Login
- Mode selecting
- Piano playing UI

Testing

- Technique: JUnit testing, espresso testing

Usage of the app

- This app is designed for piano players and music lovers. One can use the app to help him or her to practice piano playing skills.

Conclusion

- When we decided to work on this project, we thought it was easy to implement because it do not have complex UI systems. But then we found bugs in the dynamic UI design and php database drivers. So our project went not easy at last.
- We have to try for many times to fix the bugs as well as to find the optimal database platform. So we worked hard. But finally, it worked. We hope to optimize it in the future.

Future Work & Answering Questions

- What lessons did you learn from your project? And What was difficult?

- **Be careful about versions of plugins**
- **Debugging in Mutithreading programming**
- **Phone's computing ability is limited**

Future Work & Answering Questions

- What do you wish you could have done (or done differently)?

- Optimizing algorithm, it can not work well if the environment is chaotic.

Future Work & Answering Questions

- How could your project be extended…what's next? Are there any interesting problems or questions that resulted from your work?

- We may extend it to several different musical instruments, such as violin tutor or flute tutor. We may want to make more tests to see if tensorflow can be a good music teacher on advising.

Thank You!