GSOC Project Idea : Practice Handwriting

Identity

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Project title: Practice Handwriting

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Contact/Working info

Timezone: IST (UTC +5:30)

Typical working hours: Very flexible. I can adjust my work hours to anytime between 15:00–22:30 UTC (20:30–04:00 IST) and can work on the weekends for 5 hours extra.

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I live in Ahmedabad, a metropolitan city with 24/7 power supply and a good enough and uninterrupted Internet Connection. So working online will not be hampered by any means.

Introduction

- As we all know famous quote “Practice makes man perfect”, I would like to say that practice from childhood makes children powerful, progressive and sensitive.
- This mobile application is helpful to children who are learning how to write, by allowing them to practice their handwriting skills.
- The application would present letters & words, and allow the kids to trace them.
- Voice/ Speech warnings with vibration would be given instantaneously when the trace is wrong.
- The kids would be able to restart the trace once they receive the warnings.
- The app not only speak out warnings but also can **pronounce** correctly the letter or the word which will help the kid associating the letter/word with its **correct pronunciation**.
- Once kids trace the letter successfully they get **rewards** in points, as well as they unlock next Character/ Number/ Shapes.
- From this kind they have number of levels.
- Kids also have functionality in the app like choose **different color** for writing, Tutorial **video** for particular character(something like flash video), **score board**, Search functionality, **reload** facility, **get star**(another reward) based on kids **performance** and time taken to execute successfully.
- This kind of functionality will include in our application.

Present Scenario

- Our main focus is Trace engine.
- Currently I have high level prototype ready.
- Now we need to develop actual prototype then application.

Mentors

Aditi Sharma is my primary mentor and **Pankaj Nathani** is my co-mentor. Both of them have helped a lot in making the basic idea clear to me.

Deliverables

Required Deliverables

- Since I plan on building my app with the help of restful web service in JAVA for scalable trace engine I think this will be best way to make trace engine scalable as per I research in this topic.
- Develop database as per requirement.
- Develop Basic Interface with trace engine.
    - In basic interface first develop home interface which link with all other interface.
    - Develop trace concept.
    - Develop video tutorial concept.
    - Develop paint choose color functionality.
    - Develop all other interface which are remaining.
- Develop rest webservice.
    - REST stands for **Re**presentational **S**tate **T**ransfer.
    - This will be helpful to make our trace engine scalable.
    - This will be helpful to make our app fast.
    - Create web service in JAVA.
- Develop parser for parsing the response.
    - Web service make easy to make request and response.
    - We need to parse response using parser.
- Integrate all module and Develop interactive UI.
    - Now integrate all the module.
    - Now develop remaining functionality and develop UI interactive.
- Test the application.
    - Test with different resolution and sizes.
    - Make responsive for all gadgets.

If time permits

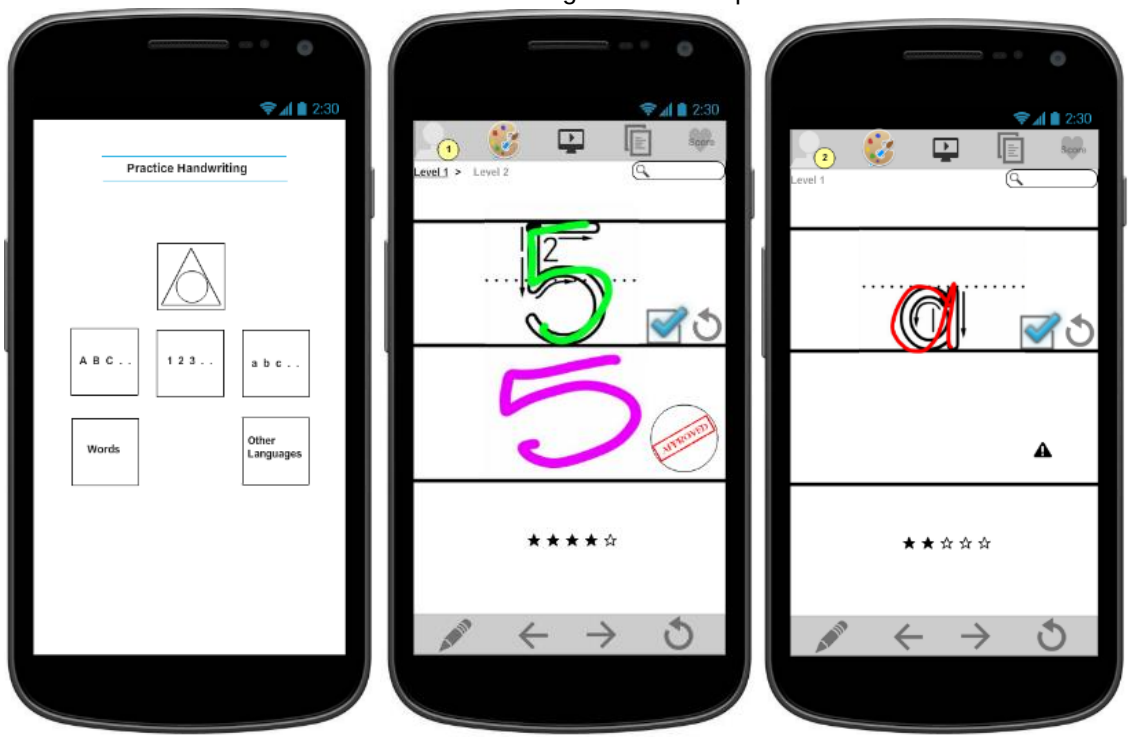
- Expand the idea in another language.
- Expand the idea to pronounce the alphabet, number, word.
- Capture photo is user want to store that screen.

Simple workflow

- The workflow basically consists of 5 steps:
    1. Develop database.
    2. Develop Basic interface.
        1. Develop home interface which link to all other interface like ‘upper letter’, ‘lower letter’, ‘words’.
        2. Develop trace concept from base.
            i. User can trace the given character, number, words and compare with database.

        ii. If yes then forward to the next, increment score board, get rewards.
        iii. If fail then show error message and vibrate.
    3. Develop video tutorial concept.
        i. If user presses this, one short video plays regarding current alphabet help.
    4. Develop Paint choose color functionality.
        i. User can select different different color as they like.
    5. Develop remaining interface.
        i. Develop Upper letter interface.
        ii. Develop Lower letter interface.
        iii. Develop Words interface.
3. Develop restful web service in JAVA.
    1. Using database create web service as per our requirement.
4. Develop parser for parsing the response.
    1. We need to parse the response before using.
5. Integrate all the module and then testing and finishing will take turn.
    1. We need to check app in all the phone/tablets for resolution perspective.

- The workflow that I described is illustrated through a UI mockup.



Project Schedule Timeline

- **Before April 21st -** Familiarizing myself with the restful web service and trace engine.
- **April 21st to May 19th -** Research thoroughly on my implementation idea, get up close with Web Service and Trace Engine and to gather all possible resources for the coding period and creating a Practice handwriting application.
- **May 19th to May 25th (Week 1) -** Work on Backend and develop home interface.

- **May 26th to June 1st (Week 2) -** Implementing all other interfaces and develop trace functionality.
- **June 2nd to June 15th (Week 3,4) -** Implementing restful web service, this is a bit tricky and will be time consuming.
- **June 16th to June 22nd (Week 5) -** Test web service and include in our app.
  *So Before the **Mid-Term Evaluation** I will have a basic interface application with trace engine.*
- **June 23rd to June 29th (Week 6) -** Implementing video tutorial for kids.
- **June 30th to July 6th (Week 7) –** Implementing paint functionality.
- **July 7th to July 13th (Week 8) –** Work on backend with this both video and paint functionality.
- **July 14th to July 20th (Week 9) -** Customizing the style of the UI implementation, classes for various skins available i.e. all kind of screen etc**.**
- **July 21st to August 3rd (Week 10,11) -** Testing time, fix bugs, improve the documentation and the UI, and scrub the code otherwise.
- **August 4th to August 17th (Week 12,13) -** Pre-Deployment Code Review and Buffer period in case I fail to make it up to the schedule and also improve the documentation.
  I will submit each significant feature to BuildmLearn for code review when it is completed.

Mobile/Tablet Compatibility

- This app will work in all kind Mobile and Tablets.

Benefits

- This mobile application is helpful to children who are learning how to write, by allowing them to practice their handwriting skills.
- As studies indicate, kids are more likely to spend more time practicing this on smartphone / tablets when compared to pen and paper.
- Child become creative.

Participation

- The mantra that I follow is simple "The more you ask, the more you learn".
- I do have frequent conversations with my mentor via email. While I'm using my laptop, I am always logged on to GoogleGroups and can be easily reached at BuildmLearn, or by private message. I am also planning to blog about my experiences with BuildmLearn especially this project, probably weekly.
- Synchronous feedback via Skype and hangout.
- The important thing in an interaction via email that I have realized is to have **patience**. During the times when I am waiting for a reply from my mentor or the community, I generally tend to sit back and analyze the problem or start working on a different task till I get the reply needed.

My Previous Open Source Experiences

- BuildmLearn is the first organization in the world of Open Source Programming wherein I have participated actively.

About You

- I am a 4th year Information Technology student at U.V Patel College Of Engineering. I love kabaddi and like to travel a lot.
- **“Never give up on what you really want to do. The person with big dreams is more powerful than the one with all the facts.”**
- I program in my free time and have a fairly good understanding of C, PHP, HTML, CSS, Android and can paddle around with Java and Python.
- *Like every parents have not time , when looking children I was surprised and left disappointed on children not having first teacher and first teacher have not time* . That is the simple motivation behind my project proposal. Few months ago I never thought I'll be writing this proposal, but now I have the confidence to do it.

Acknowledgments

Firstly I would like to thank **Pankaj Nathani** and **Aditi Sharma** for their constant monitoring. The UI mockup that I have prepared is a result of several suggestions that I received on the **Google Group** and also to the valuable inputs given by my friends and college professors who are regular users. **Bunch of Thanks** to whole **BuildmLearn Team**.