CIS 350
Group Project
First Iteration Report
3/24/2019

Cassandra Menshouse and Matthew Goldsmith:

We first set up the initial activity pages for logging in (which was later altered by Jialin) and the menu (which was later also altered by Tea and Jialin), along with all of the various pages for habits (current habits, past habits, add habits). We also created classes for BinaryHabitTrackers and NumericalHabitTrackers, both of which extended the abstract HabitTracker class. These HabitTrackers are the "habit" objects used by the program, and each habit includes information such as the habit's name, if the habit is private or public, and the habit's set of tags. (If a habit is numerical, information is also included as to what type of unit the habit is being measure in, such as miles or hours.) We also implemented activities for adding existing habits, creating a new habit, and seeing current and past habits. We modified the UserEntry and FakeDataBase classes and made a FakeHabitDatabase. These three classes are used by the "current habit" and "past habits" activities to show what habits a given user has been working on.

The next four paragraphs detail what functionalities and features we contributed:

When the "habits" button is clicked on the menu, we go to a new activity page where a user can either add a habit or go to current or past habits.

If the user chooses to view their current habits, they will be sent to a new activity page with a list of buttons that show their current habits. When one of these buttons is clicked, the user is taken to a new HabitForm activity page that shows the name of the habit and the type of habit it is (binary or numerical). There is also an "add data" button on this page; if clicked, the user is taken to an AddData activity page where they can state whether they completed the habit or not (if binary) or how many units of the given habit they completed (if numerical). On this page, the user can also rate their happiness (as a result of the habit) on a scale from 1 to 10. (We were able to implement the differentiation between binary and numerical habits on this activity page, so the AddData page activity would look different depending on the type of habit. We were also able to get the "completed" question and "happiness" rating to appear on the activity, but after numerous hours of trying to figure out how to also have the user's input appear with the predetermined text to no avail, we reached out to Jialin on this aspect of the AddData activity.)

If the user chooses to view their past habits, they are taken to an activity page that shows the same habits as buttons that the current habits activity shows for two reasons: first, we were going to have to change many aspects of our implementation to differentiate between a current habit and a past habit; and second, if a current habit is never completed or given up on, then it technically should be considered a past habit. Thus for simplicity, those two activity pages are very identical. If one of the buttons on the list of past habits is clicked, though, the user is taken to a HabitForm activity page that shows the name of the habit and the type of habit but does not have an "add data" button, since the habit is a past habit and should thus not be able to be modified.

If the user chooses to add a habit, they are taken to an activity page where they can choose to add an existing habit or create a new habit. If the user decides to add an existing habit, they taken to a page where they can choose to search by habit name, habit ID, or a tag.

We were not able to finish implementing the adding of an existing habit or creating a new habit. After the user searches for an existing habit to add, the app returns to its "Add Habits" activity page. This is because we were not able to implement the actual searching of a habit from the FakeHabitDatabase. As mentioned, we were also unable to correctly set up the activity page that appears when "create new" is clicked on the Add Habits activity page. This part, however, would have been a fairly simple fix if we had been able to figure out how to do the AddData activity for current habits, since the two are extremely similar. As mentioned earlier, the finishing of AddData, though, required Jialin's help, and after this point we were simply out of time to try to go back and fix the "Create New Habits" page. Also, private and public habits are currently being added to both the user's and the public's databases; this will be easier to truly implement once we have real databases to work with. Our unimplemented user stories arised from having numerous problems with the emulator crashing, along with a lack of time. We certainly spent more than the expected amount of time on our part of the project, but (like many people in the class) both of us were new to Android, which required us to spend more time on more complicated parts. As we were working on our part, there was also seemingly a recurring theme that for every one activity added, four more activities would arise. As a result, we just had too many activities and functionalities to implement in too little time. We underestimated how many story points the "habit templates" section should have been worth.

The specific user stories that we were able to implement were:

- As a user, I will be able to track their use of certain habits (such as meditating for half an hour, eating three meals a day, etc), and each instance of performing that habit's effect on their mental state/mood by creating a habit entry based on a habit template. I can specify a specific name and frequency of occurrence. This will allow me to create tracking for many different specific habits.
  - As a user, I will be able to enter information into habit entries for each previously specified time span. This information includes whether/to what extent the activity was performed, the time the activity was performed, my general mood before and after the activity, and additional notes. This will allow me to record information about a certain habit so they can better understand its effects/their history of doing that activity.

The specific user stories that we were unable to implement were:

- *As a user, I will be able to create custom habit templates by specifying a name for the template, the type of habit, and the method of tracking (for example, amount of activity done vs whether the activity was done). This will allow me to track habits that are unique to them and/or don't fit within one of the standard templates.*

- *As a user, I will be able to make each habit template separately private or public (added to the database or only available to the user). This will allow me to decide whether they wish to keep sensitive information to themselves or allow others to benefit from their data.*
  - *As a user, I will also be able to make their custom templates visible to the public or keep them private. This will allow me to share useful templates with others or keep them to myself.*
- *As a user, I will be able to add tags to habit templates to make them more searchable. This will allow me to more easily find the habit template that best fits the habit they want to track.*
- As a user, I will be able to add tags to their own habit entries. This will allow me to more easily find the habit they want to view or edit, and can be a good way to review general information/personal notes about the habit at a glance.
- As a user, I will be able to search for existing basic and and later potentially public user-created templates (by tag, purpose, type, popularity, etc). This will allow me to find templates to use to create their habit entries.
- As a user, I can opt into notifications connected to a habit that remind them to perform a certain activity at a certain time. This will allow me to more consistently remember to do the activity they want to do.

Tea Tran:

I implemented two parts - data management and a visualization, including a graph and a recycler view. My data management employs factory method pattern so that the user can track both binary and numerical habits. However, my main focus is the visualization.

The graph is a combination between bar graph and line graph for numerical habit tracker, and bar graph with two colors for binary tracker. To make both graphs somewhat cohesive, I made the y axis on the left to be the happiness scale and bar graphs corresponding to happiness, while the y axis on the right corresponds to the numerical input of the user. The y axis has the day in the week (Mon to Sun). The title shows both the chosen habit name as well as the date range that the current graph displays. Because android graph view does not support showing unit name for the right y axis, the explanation of what the units on the axis is implemented at the bottom of the graph. If the user swipe left, they can see the graph of the data of the week before of the currently chosen activity. If they swipe right, they also see empty graphs of the upcoming weeks.

The implemented recycler view allows the user to choose habits from which would be display on the graph.

What I have not implemented is the correct default display of day (Mon - Sun) if the user has no habits to display. Currently, the x-axis for the default shows only Wed, and I have not

found a solution to this problem. I also have not implemented the top activities for the users to see.

Jialin Wang:

I implemented register and log in to the app with username and password. If the user has not registered, the app does not allow user to proceed. The user is notified that they have either entered a wrong password or username or have not registered yet with a message.

I also implemented a menu/dashboard so that the users can choose to enter a new habit, see visualization of habits, see resources or take surveys. I implemented the suggested resources, as well as a search tool in resources so that the user can find relevant information by entering some key words.

I also implemented the feature that allowed users to respond to survey questions.

Finally, I implemented the UI and android logic to create new habits, create new entries for existing habits, and view basic information about previous entries for a habit.

I did not implement the verification feature because without the ability for the user to create resources, there is no need to see which resources are credible.

I did not add the user story to add tags to habits because I also did not implement searching by tags for habits, as this was not my assigned section, so I was not familiar enough with this part of the code to do more than create a functioning program. (Same with the notifications and goals)

User stories not implemented: We ended up not implementing any of the italicized user stories (that would have allowed a social aspect with users being able to freely add and see each others' templates, habits, and resources). There are some irregular text sizes; this is because the later parts of implementation were more focused on getting everything to work than the UI elements, but that does mean accessibility suffers.

Known bugs: It is possible to create a habit with the same name as an existing habit, even though this should not be possible. Also, although this is not technically a bug as it is caused by the limitations of our methods, having the fake backend results in data not being stored between app restarts, so a user who registers will not be registered when the app closes and reopens. When we work with the real database that is persistently stored online, this problem will naturally disappear. Thus, we chose not to work with local memory to resolve this issue.

Commit Log:

Commits on Mar 24, 2019

Working build for demo ...

jlwang committed 3 minutes ago

158e6b1

Merge pull request #13 from cis-upenn/HabitTracker ...

jlwang committed 33 minutes ago

Verified

856b7ca

Merge branch 'master' into HabitTracker

jlwang committed 33 minutes ago

Verified

14ba78a

implemented adding new habits ...

jlwang committed 38 minutes ago

3a45d43

Implemented adding entries to existing habits

jlwang committed 3 hours ago

c45fe76

Merge pull request #12 from cis-upenn/Tea-DataVisualization ...

tatran5 committed 4 hours ago

Verified

066c321

Allow user to see past data on the graph

tatran5 committed 4 hours ago

eb713e2

Merge pull request #11 from cis-upenn/Tea-DataVisualization ...

tatran5 committed 4 hours ago

Verified

77ea460

Fixed bug in DateInfo and added fake data in fakeHabit and fakeUser t… ...

tatran5 committed 4 hours ago

aa8f48e

Merge branch 'Tea-DataVisualization' of https://github.com/cis-upenn/… ...

tatran5 committed 5 hours ago

ab4d4c0

Merge pull request #10 from cis-upenn/Tea-DataVisualization ...

tatran5 committed 5 hours ago

Verified

7042707

added garbage data

tatran5 committed 5 hours ago

800dc27

added garbage data

tatran5 committed 5 hours ago

859223f

Fixed recycler view in data vis

tatran5 committed 5 hours ago

3baa145

Merge pull request #9 from cis-upenn/master ...

tatran5 committed 6 hours ago

Verified

6bf7cef

FIxed adddata

jlwang committed 6 hours ago

719de65

addData

cassandra-m committed 7 hours ago

03586e1

Merge pull request #8 from cis-upenn/Jialin ...

jlwang committed 8 hours ago

Verified

2b412dc

Merge branch 'master' into Jialin

jlwang committed 8 hours ago

Verified

a365502

Merge branch 'HabitTracker' of https://github.com/cis-upenn/350S19-22 ... ...

cassandra-m committed 8 hours ago

9fe3725

CurrentHabits AddData

cassandra-m committed 8 hours ago

b2a3a06

Merge branch 'master' into Tea-DataVisualization

tatran5 committed 8 hours ago

Verified

bd1a3ee

Deleted habitVisualization

tatran5 committed 9 hours ago

1c26e64

done?

tatran5 committed 9 hours ago

a548973

done?

tatran5 committed 9 hours ago

f468848

Commits on Mar 23, 2019

Updated TrendViewerActivity - about to test

tatran5 committed 10 hours ago

17b87b6

Added files from master, updated layout, values package (xml)

tatran5 committed 10 hours ago

99cbd76

deleted data vis and will try adding again

tatran5 committed 10 hours ago

abc814c

Implemented search in resources

jlwang committed 12 hours ago

8910853

add existing

matthewwg4 committed 12 hours ago

410c6a3

habit form

matthewwg4 committed 13 hours ago

f26abbc

fixing special error

matthewwg4 committed 15 hours ago

10588ed

Merge branch 'HabitTracker' of https://github.com/cis-upenn/350S19-22 … ...

cassandra-m committed 16 hours ago

8625d57

user databases

cassandra-m committed 16 hours ago

be4e948

merging with mamster

tatran5 committed 16 hours ago

73ab559

Commits on Mar 23, 2019

fixed login

jlwang committed 16 hours ago

e2715c4

Merge pull request #3 from cis-upenn/HabitTracker ...

matthewwg4 committed 16 hours ago

Verified

1d837b8

remove habit visualization

matthewwg4 committed 16 hours ago

25439c9

Merge pull request #2 from cis-upenn/HabitTracker ...

matthewwg4 committed 16 hours ago

Verified

a4fe217

organized into packages

tatran5 committed 16 hours ago

e810c55

Merge pull request #1 from cis-upenn/Jialin ...

jlwang committed 16 hours ago

Verified

8b96ce7

finished except allowing user to see data in the past

tatran5 committed 17 hours ago

5e57b1d

menu base and features from Jialin branch ...

jlwang committed 17 hours ago

d6b5b83

updates

cassandra-m committed 17 hours ago

18acf50

fixed activities + addExisiting

matthewwg4 committed 21 hours ago

fe266c8

Commits on Mar 22, 2019

Habits Pages ...

cassandra-m committed a day ago

b0fca02

Commits on Mar 21, 2019

tree of activities

matthewwg4 committed 3 days ago

9e29dbf

Finished binary graph

tatran5 committed 3 days ago

3c51226

Commits on Mar 20, 2019

Bar graph and line graph works properly for numerical

tatran5 committed 4 days ago

aea0fdf

Fixed unaligned bar graph

tatran5 committed 4 days ago

d397833

Changing bar graph to happiness

tatran5 committed 4 days ago

e5ef2d6

Line graph for happiness works

tatran5 committed 4 days ago

d9b8da0

Doing things inefficiently

tatran5 committed 4 days ago

81f598b

Commits on Mar 19, 2019

Updated getDataPoints for line graph for happiness

tatran5 committed 4 days ago

4d4d1e7

set vertical axis title

tatran5 committed 5 days ago

0900ae5

Updated bar graph implementation and changed y axis

tatran5 committed 5 days ago

ff517f2

Finished implementing line graph. Implementing bar graph

tatran5 committed 5 days ago

829cbf4

added the x title

tatran5 committed 5 days ago

0b2e039

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Commits on Mar 18, 2019

Graph x axis not working

tatran5 committed 5 days ago

342e8ac

Merge branch 'Jialin' into HabitTracker

matthewwg4 committed 6 days ago

0fee446

Finished implementing surveys

jlwang committed 6 days ago

fdd26ac

Fixed bugs

jlwang committed 6 days ago

Verified

b0b24eb

Completed login, resources ...

jlwang committed 6 days ago

Verified

3f0bd69

Commits on Mar 16, 2019

No graph. RecyclerView working

tatran5 committed 8 days ago

28f66b1

habits

cassandra-m committed 8 days ago

b952005

habitTracker modification

matthewwg4 committed 8 days ago

a79a926

Commits on Mar 12, 2019

Updated uml image on readme

tatran5 committed 12 days ago

02d5ba9

Implemented fake data storage

tatran5 committed 12 days ago

da0f07f

Commits on Jan 29, 2019

Initial commit

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stellage committed on Jan 29

Verified

1c47d02