Talkatiel Second Implentation System

Brendan Byers, Ryan Sisco, Iliana J, Aidan Grimshaw, Yufei Zeng
byersbr, siscor, javieri, grimshaa, zengyu

Contents

1 Product Release

1.1 Server Side Implementation

Currently the server code can be downloaded and run locally. By cloning the repository located at

```
https://github.com/B13rg/Talkatiel_API.git
```

one can run the server. There is also extensive documentation detailing all the steps that need to be taken to run the server. There is also a SQL script that will create a database when run. This can be used to create a database for use on a different engine. Currently it is configured to run on the localhost on port 5002. This can be tested to navigating to

`127.0.0.1:5002/Posts/New`

where you can see the raw Json output of a post. In the repository there is also an sqlite database that is run alongside the python code. This will connect with the python to respond to different sql queries. It is fully functioning, and the only thing left to do is test it, and find a permanent URL. Additionally, you can test GET and POST reqeusts at our API server URL, aidangrimshaw.pythonanywhere.com, using the documentation located on our API github repo.

1.2 Client-Side Implementation

By midweek, we plan to start permanent hosting with google app engine. Product URL:

`https://github.com/thegrims/talkatiel-ui`

The product is current working on a basic level. We are able to consistently pull data and connect to the server. We have added several test posts and are able to bring them into cards on our mobile client. We are currently working on developing our fingerprinting and identifying users individually and tying them to their posts server side only. This will take some time and testing, and will only be implemented after a series of testing and penetration testing. When we implement this, we need to be absolutely sure that the data is secure, because we will be dealing with sensitive data.

Our CSS is looking as intended. We have built it to be easy to change later on. We are not completely decided on a color, however it works with most. We have yet to implement animations. We do have screen rotation completed for mobile devices, and the app grows in size accordingly. We have tested the app on IOS and Android, with a consistent look between the two.

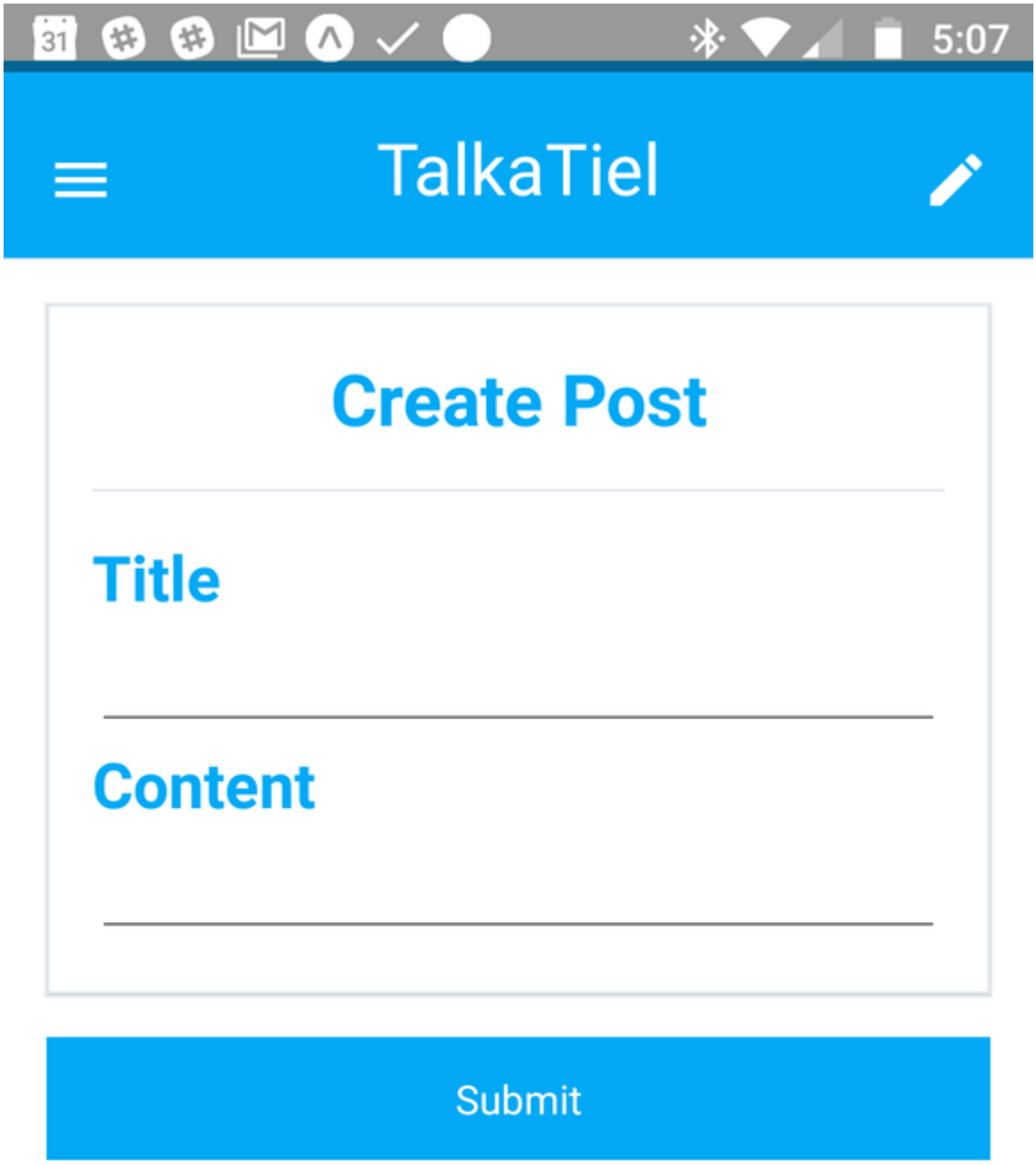
2 User Story

2.1 Add a post

The server side group worked with the expo app. Aidan got posts mapped that all of the posts pulled from the database show up in the page. Axios parses the json info into string. For each post that post object is constructed and pushed on to a list of post. Post list is mapped on to card objects to fill them up with info. Implementation of this took 2 hours. All posts are showing the correct context as expected. Currently we still need to test the implementation with more extensive unit tests. UML is useless in this part due to all abstract and not concrete.

A user can now add a post using the client side program. They are able to set a title and text, and post it for everyone to see. When it is sent to the server the server will add it to the database, so then it may be retrieved by other users.

As part of adding a post we wanted to filter out bad words. This will help cut down on bullying in the online community of our project. To do this we created a special function that takes a post's text and checks it against a wordlist. The wordlist is a seperate file so we are able to update as need be. If we find new words we can just add them to the end of the list. This means the client won't have to recompile the app every time we make a change to the wordlist.


5:07
TalkaTiel
Create Post
Title
Content
Submit

Class Diagram

2.2 Add a Comment

The server side group worked with the expo app. After 1 hour implementation, user is able to sent the json string to the server, and server sends back the post from database. All comments are showing the correct context as expected. Currently we still need to test the implementation with more extensive unit tests. UML is useless in this part due to all abstract and not concrete.

Adding a comment works the same way as adding a post. A user will choose content for the comment and then it will be checked and sent to the server. When comments are retrieved from the server, the server will return all child comments for a post. Before it would only return top level comments, but now they will be correctly tiered. The comments will be displayed on the screen when people refresh the comments of a specific post. In order to test this there are unit tests to test the server side of things.

2.3 Like/Dislike

The server side group worked with this part: when a user votes, their +1 or -1 is sent to the server, as long as they have not voted on that post already, then the server is updated. It has been done last week. All like/dislikes numbers are showing the correct context as expected.UML is useless in this part due to all abstract and not concrete.

2.4 Report

The server side group worked with this part: Brendan uses a post method to send the report data. The userID will be the ID of the reporting user. The reason will be the text of the reason for the report, limit 1000 characters. We still need time to fix how admins access the reports from database. It might need 2 hours more. UML is useless in this part due to all abstract and not concrete.

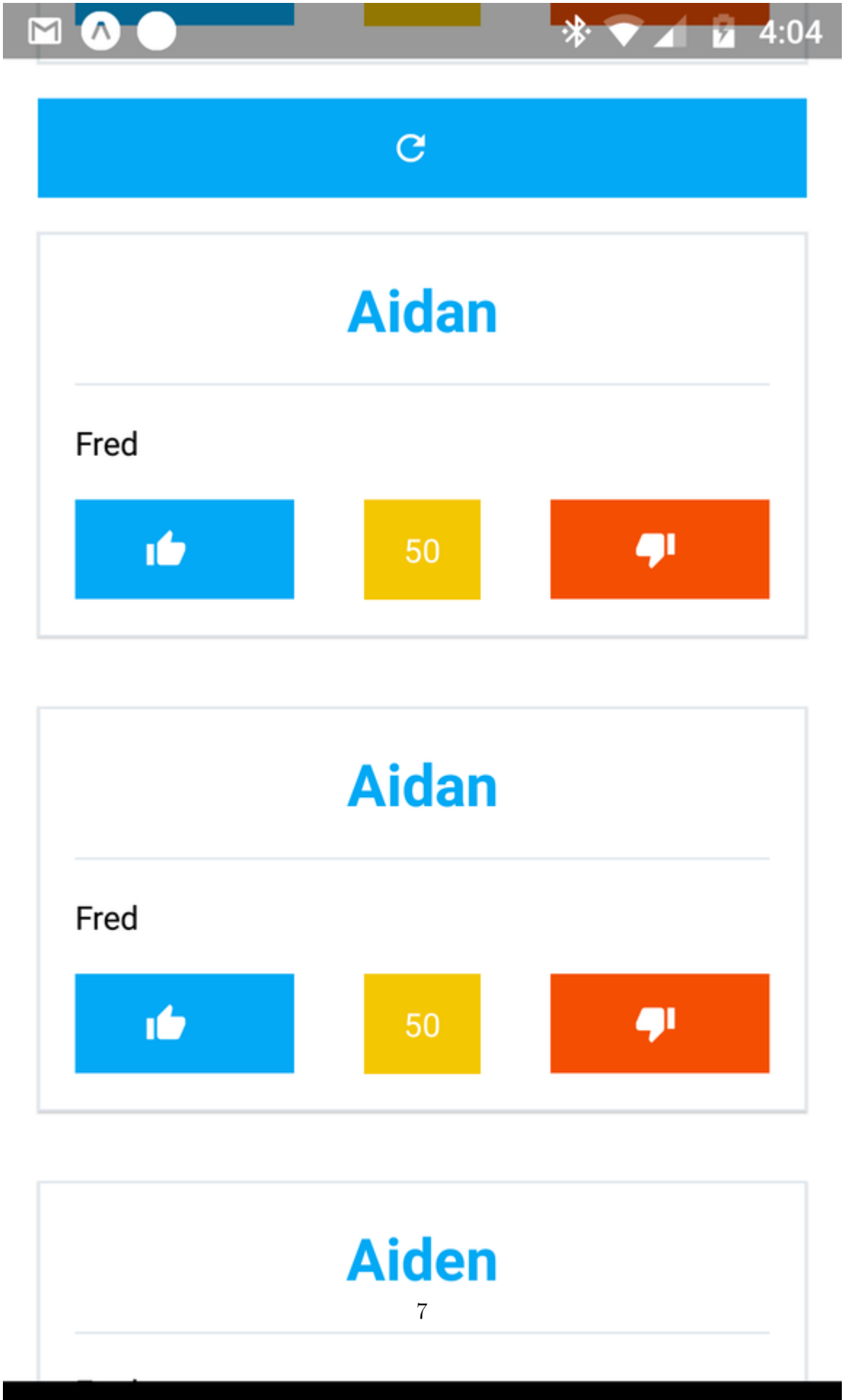
2.5 Delete

The server side group worked with this part: deleting a post by sending a GET request to the URL to remove the post with that postID. We still need time to fix that only user who has correct key can delete the post. It might need 2 hours more. UML is useless in this part due to all abstract and not concrete.

2.6 Refresh

Both the feed and refresh user stories are complete. A user is now able to refresh the feed and view new posts. In the image below, all the posts are test posts, but they are distinct. The fact that this works means that both the client and server implimentations of creating a post and fetching posts are working. Depending on the sort choice, posts will be sorted by Hot, New, and Top. New simply returns the newest posts from the database but hot and

top are calculated every 2 minutes. This lowers the amount of queries the database needs to handle and instead allows the server to rely on the cache instead, which speeds up requests. In order to test this there are unit tests to test the server side of things.


4:04
Aidan
Fred
50
Aidan
Fred
50
Aiden

2.7 Sort

The server side worked with this part: when clicked, the page alerts the user of the sorting type and then changes the sorting on the next click. They will be able to cycle through all of the different types. Currently we still need to test the implementation with more extensive unit tests.It might take 2 hours more.UML is useless in this part due to all abstract and not concrete.

2.8 View Newly Created Post

Because of how sorting by new is implemented, a user is able to see their posts immediately. This is because there is no caching done on that sorting method. This makes it so the database is queried every time. If the server load was a lot, it would still be acceptable to cache things for even 5 minutes to lighten the load on the server. The client is now able to request posts, so the client is able to see their newly submitted post when requested.

2.9 Secure HTTPS Connection

The server side group worked with this part. We are still need time to change the requests to the API to HTTPS instead of HTTP. It might take 2 hours more. UML is useless in this part due to all abstract and not concrete.

Luckily, this user story wasn't too difficult in the end. The url where the server is hosted allows for https connections without any setup from us. Therefore, we are able to blacklist all requests that are not through SSL. This means that in order to make a request to the server, it needs to be made using https. This will make sure that all content to and from the server is delivered over a secure connection. It is nice that the Python Anywhere service has this ability, else we would need to genereate and sign the certificates ourselves which can be time consuming if done incorrectly.

2.10 Save Website as App on Phone

We are still looking for a more convenient way to run our Talkatiel on the phone without installing a bunch of dependencies. Currently, our project behaves like an app and its just a view thing for the time being. However it needs to be compiled to android and put on the play store to be used easily by a consumer. We might need a lot of time to fix this issue. UML is useless in this part due to all abstract and not concrete.

2.11 Responsive Web Page

The front end team worked whith this part, and it has been done in last assignment. All context are showing as expected.The UML diagram was very useful in this case. It helped guide the project and understand what needed to be added for the base.

3 Tests

The server side of this project calculates and delivers it to the client. Therefore, it is important to properly test the API service so that it either returns the complete set of data or returns an error. It is relativly easy to test this. A script was created that goes through and tests each part of the API. First it checks to see if the API is online. It does this by using the Ping tool to test the url of the API, in this case

`http://aidangrimshaw.pythonanywhere.com`

. This determines if the aPI is even able to recieve anything. Next it goes through each part of the API and checks to make sure it works. This portion is done using the CURL tool. The command used looks something like:

```
 curl -H \"Content-Type: application/json\" -X POST -d \'{
\"content\": \"Fred\",\"userID\": 343434,\"title\":\"Aiden\"}'
http://aidangrimshaw.pythonanywhere.com/Posts
```

This will make a POST request with data to the server. This data will be added to the database. The ¨H Ćontent-Type: application/jsonder̈eclares that the header for the request markes the content type as json. This will signal to the server to look for a data section and parse it as Json. The ¨X POSTm̈arks what type this request is. Because there is a data section curl assumes it is a POST request, but it is good to mark this just in case. The ¨dm̈arks the beginning of the data section, and you can see the raw json data that is passed to the server. Finally, there is the URL address to send this request to. For each POST and GET outlet in the API there is a specific curl test for it. The script runs each of the tests and records the response. The server responds with how the request went, and will signal to the client if it was successful. If is not successful, the server will alert the client that the request failed. We are able to parse whatever response the server makes and record it with the test. After all the tests are run, the script looks at which tests failed, lists them, and prints any extra data it recieved. This could be response data or error codes. This allows us to quickly test the server when we make changes to confirm that nothing was broken.

4 Design Changes and Rationale

4.1 Server Side Implementation

For the most part the server group stayed very close to original design. To design the database, we worked off the UML design diagrams we designed earlier. This allowed us to see what fields we needed to include for each table. We added an extra table not originally in the design doc to handle reports. We found there was no way to keep track of reports server side, so we added a table to handle it. It keeps track of the user who reported it, the post in question, and the text of the users report. By having its own table, it can also be queried separately instead of having to sort through who knows what. Additionally, we modified our api server implementation so that it was served remotely from a different service than the client side server, and so that the API would be better equiped to handle POST requests.

4.2 Frontend Implementation

We have stayed very close to our original design. We currently are finishing up our implementation of the main posts page, and will switch our focus to the implemetation of the posts page and further code cleanup / refactoring of the posts page. Visual elements are styled slightly differently for ease of use, and commenting functionality is removed in this version to ease the implementation of our minimum viable product (MVP).

5 Refactoring

Our project is still being developed in parts. For the most part, we have been working towards building a working application and database, and slowly cleaning up as we go. This has lead to some sloppy, duplicate code. However, we have been making progress building. Once one of our members has completed his/her section, while waiting for others to complete, they have cleaned up their code and make it easier to follow. While this isnt a top priority right now, we believe that refactoring our code as we complete files will help us in the future. It will also allow us to switch duties and work on each other's code without too much confusion.

We ended up doing minor refactoring. While working on the client side development, we ended up making templates for common, reoccurring elements. This has been useful while developing other parts of the application, when attempting to make the styling similar. We have been able to remain somewhat consistent.

In addition to these changes, we have also changed variable names before committing to the shared repository. This helps those who are viewing changes follow along. Many of us have been saving files offline before pushing, forcing us to correct changes before pushing. By doing this, we are not stressed to push our work as a simple backup of our work. Saving and updating locally/remotely before pushing to a shared repo has helped us stay consistent and organized.

Making these changes has helped us stay organized and also limit the turnover time between switching parts and tasks. For instance, when two people switched files to review code, we were able to follow along much easier when the code was simplified.

6 Meeting Report

6.1 Progress Made this Week

This week we continued to work on implementing our project as well as beginning to test the software. We have completed most user stories created for this project. The front end team created the basic UI and implemented scrolling and button pressing interactions. More features such as screen rotation and making sure the UI works on both IOS and Android were also implemented. Back end team set up a temporary server running on two laptops and ported the application to mobile.

Project release and Refactoring statements were also written.

6.2 Plans for Next Week

Next week we will wrap up the implementation of our app. We will work on making sure all the aspects of the project work well together. This means more integration tests and making sure there are as few bugs as possible.

6.3 Team Member Contributions

Server - Brendan Byers, Aiden Grimshaw, Ryan Sisco
- UI - Aiden Grimshaw
- Testing - Brendan Byers
- Product Release - Ryan Sisco
- Meeting Report - Iliana Javier
- User Stories - Yufei Zeng