User Manual - Turtlenet
Ballmer Peak

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Chapter 1

General

1.1 System Overview

Turtlenet is a purpose-built, privacy oriented social network, which demands zero security or technical knowledge on behalf of its users. It allows communication between users securely, which can either be in the form of instant messaging, or creating posts on users walls.

What makes Turtlenet significant is even the service operators are unaware of who communicates with whom. It is designed from the ground up that they can never know this, even if they wanted to. This resolves a more common security issue that plagues modern social media networks, an issue Turtlenet has been created to not have.

1.2 Contact

Team contact information:

- p.duff@turtlenet.com
- l.thomas@turtlenet.com
- a.senin@turtlenet.com
- l.prince@turtlenet.com
- m.chadwick@turtlenet.com
- l.choi@turtlenet.com

Chapter 2

Getting Started

2.1 Getting started

Welcome to using Turtlenet! Through the use of Turtlenet, you will experience the ease of use and the practicality of communicating and socialising with your friends, family, business associates or anyone else that you know through a medium where your data is ensured to be protected. This user manual has been designed and written specifically to assist the users by providing detailed description of all the various uses of the program. Let's get started!

2.2 System Requirements

These are the minimum system requirements for Turtlenet:

- An internet connection
- Any OS with a JRE (version 1.6.x or higher)
- Any up-to-date browser

2.3 Installing Turtlenet

In order to install Turtlenet, you simply download ONE of the files from our website:

www.turtlenet.co.uk/downloads.html

Most users will want to get the version that is without 'TOR' as unless you know what that acronym stands for, you won't have it installed. It is an external piece of networking software which

adds another layer of security, hiding your IP address so people don't know where you currently are.

As the file is a Java Archive (JAR), you can put it in whatever folder you choose - Turtlenet doesn't mind. It will create the required files and folders when it is running so just pick a pleasant home for the download.

2.4 Running Turtlenet

Now you have the client on your computer, you will need to run it. People who are familiar in using Java may be able to work it out but this section is here for those who want to make sure that they are going to run it first time correctly and without frustration. Here is what you do:

1. Open Command Prompt (Windows) or your Terminal (*nix and OS X)
2. use 'cd' to get to where your Turtlenet client .jar file is. Windows users changing drive letters will need the '/D' parameter. e.g. 'cd /D D:
   TurtlenetFolder
   '
3. You will want to run the java command:
   'java -jar turtlenet.jar'

If you managed to get to the downloaded client JAR file and ran that command, you should have the back end of the Turtlenet client running. All you need to do now is open your preferred browser, or one of the suggested browsers if you have more than one, and type *'localhost:3141'* into your URL bar.

If the browser did not complain about anything and just worked, you should see a Turtlenet banner. If so, you have your client running successfully!

2.5 The Turtlenet Interface

Turtlenet comes with a simple interface that has the main menu, which has the following sections:

- My Wall
- My Details
- Messages
- Friends
- Logout

2.6 Account Creation

The user is expected to create a new account when using Turtlenet for the first time. In order to create an account, enter a user name and a password, as well as repeating your password into the confirmation box. Once the user has created an account they will be logged into Turtlenet. From here onwards, the user can then add further profile details should they wish to. How to do so will be explained under the 'Using the System' section.

Chapter 3

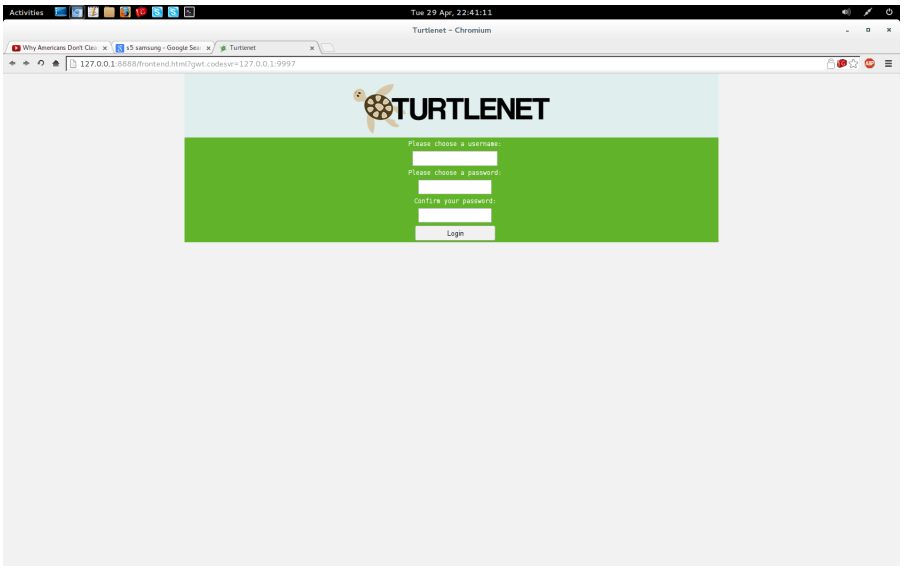
Using the System

This section extends upon the fundamentals mentioned in the Turtlenet (TN) general section.

3.1 Creating an Account

The 'General' chapter only briefly mentions creating an account so to make this section complete as a 'go-to' resource for users it will also be mentioned here too.

This is where your private communications begin.



This image shows the account creation page, which you should see when you run the client for the first time on your computer. From the top there are three text boxes:

- a Username box

- a Password box

- a Confirmation box

You fill in each of the fields with the required information which will be the following:

- The Username box should be filled in with your user name. This is what other users would call you when posting messages. This should be something that represents you, but should not link to you outside of Turtlenet. Simply, your Turtlenet user name should not be the same as any other user name you use on the internet. If the name can be linked to you then people are able to easily determine that you have a turtlenet account.

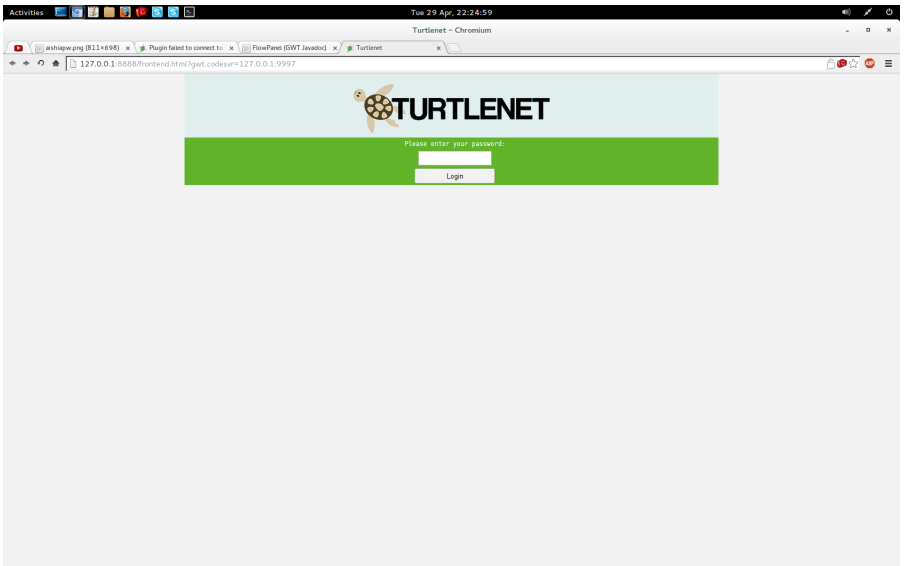
- Your password should be easy to remember but difficult for anyone else to guess. A good method for coming up with new passwords is to use four or five words, in a phrase. An example would be 'ThisIsTurtlenetzPassword'. This is better and easier to remember than what is usually suggested which is a shorter password with numbers in them: 'P@ssw0rd'. Of course, it depends on who is remembering the password so choose your own method if either option mentioned feels uncomfortable for you.

- The Confirmation box is where you type the password you defined in the previous box. Because of this, they should match, and must if the account creation is to be successful. The easiest way of thinking about this box is that it is giving you the practice of inputting your password while it is still fresh in your mind, to help you remember for later on.

By filling in these text boxes with the kind of information mentioned in this section, you can then click the button underneath these boxes to create your account. If successful you will be automatically logged in.

3.2 Logging into Turtlenet

Logging into the Turtlenet client is as simple as using the password that you had used to create your account.



The screen shot shows the initial page you might see once you have created an account. Enter your password into the white text box above the 'Login' button and if the password is correct, you would have logged in.

3.3 Navigating around the Turtlenet client

Getting around the client's various areas is important in order to make the most of the functionality provided by Turtlenet. This is why all of the main segments are provided as buttons at the top of the interface:

The image shows that there are several main sections to the client - The wall, the user's details, messages between the user and other people, friends that the user has linked with and finally the function to logout. Click the corresponding button to get to the area you wish to view. The following sections will go through each section from right to left.

3.4 Logging out

For when you decide that you want to leave the safety of Turtlenet and work on other things, or you simply need to be away for a while and want to be sure that no one is using your account, you will want to log off. It is as painless as clicking the 'log off' button found at the top right of every page. Doing so will take you to the login screen (the one with just the password box and login button). Of course, we wish you good fortune until you come and join us again at Turtlenet.

3.5 Friends on Turtlenet

Part of the philosophy of Turtlenet is to encrypt the messages that you send so that only the intended recipients can read them with any understanding. These people are known as your 'friends' on Turtlenet. In order to make any use of Turtlenet you need to add friends. You do this by exchanging 'public keys' with another user. Turtlenet uses Asymmetric relationships - this means that you may have some people as friends but they might not have you as a friend. Therefore you might understand what people have typed but they might not be reciprocated. If this doesn't make sense at the moment, the following sections will help.

3.5.1 The 'Getting'

In order to get public keys from other users, they need to pass the information to you.The keys can be transfered in any manner, they are not remotely private and painting your public key on the side of your house would not diminish security.

Once you have the public key off of your friend, you will want to proceed to the 'friends' section of the Turtlenet client, by clicking the button near the top which has 'Friends' written upon it. You should either see the following or something to it's effect:

As you can see, there is 'My Key' which will be used by you to allow others to send you messages but that will be explained in the next section. For now, you want to click the 'Add new friend' button located to the right of the screen. This will bring you to a screen with a long input box which asks for the key of who will become your friend. You enter the long line of letters and numbers that you were given by your friend into the input box. Once you have the other person added, you should see something similar to this:

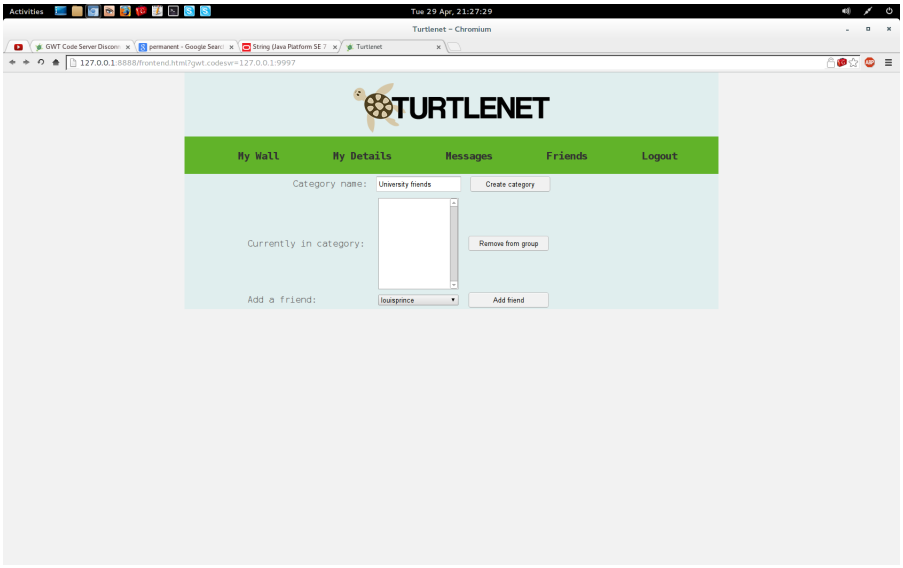
In the image above, the current user has added themselves to their friends list. Simply repeat the process as it takes you back to the main section for the friends tab.

3.5.2 The 'Making'

By getting other people's keys you can send messages to them but for people to send anything back that you can read, they would need to have your key as well. All you do in order to help others add you is to send the letters and numbers in the text box next to 'My key' and get the other user to follow the steps in the above section 'The 'Getting'.'

3.5.3 Banding Together

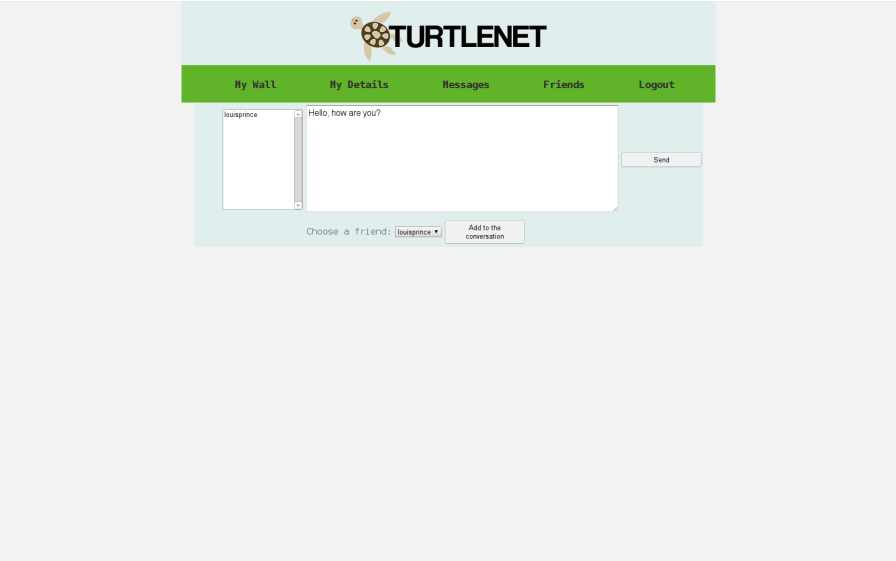
In Turtlenet you can associate other users with categories, custom made by you. This is useful if you want to send the same message to a number of people. To do this, whilst you are in the friends section of the client, click the 'Create category' button on the right. It should take you to this screen:



You will give your category a name so it hints to the kind of users you have in them together by typing the group name in the top text box. Click 'Create category' once you have finished the naming procedure. You are then able to add any members you wish whose keys you have attached to your account. This is done in the drop-down menu at the bottom of the interface and then clicking the 'Add friend' button next to said menu. If you no longer want a particular user in the group any more, select their user name in the large box in the middle and click the button to the side which says 'Remove from group'.

3.6 Messages in Turtlenet

Messages can be sent to singular users or they can be sent to categories of users created by the current user of the client. Below is an example of what you may find in the messages section:



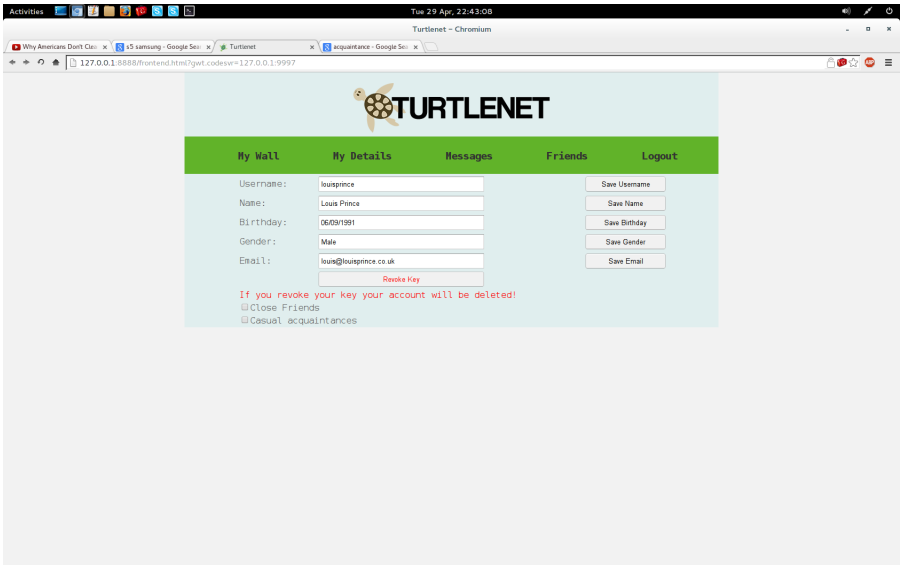
- the box at the left hand side is for your available recipients - our example user only has himself at the moment. This will fill up over time when you add public keys from other users.

- The larger of the two boxes is where you type the content of your message. There is no size limit.

- The Send button on the right finalises the message and sends it to the recipient to read. You cannot edit your message once you have sent it so be sure to re-read what has been typed to avoid any unfortunate errors!

3.7 What's mine is mine - Personal Data

When using Turtlenet, personal data is just that - personal. Similar to all of the messages and posts you make, your personal data is also encrypted and made secure so that the server moderators have no access to them. Here is a view at what you could see when entering the 'My Details' section of the client:



The image shows the only personal information that you may store using the Turtlenet client. Note that the only piece of information here that is important is the user name - all other fields are optional and at the user's discretion to fill in or not. Each button to the right saves what is currently in the associated field at the time of clicking, so you will need to save again if you edit after a save.

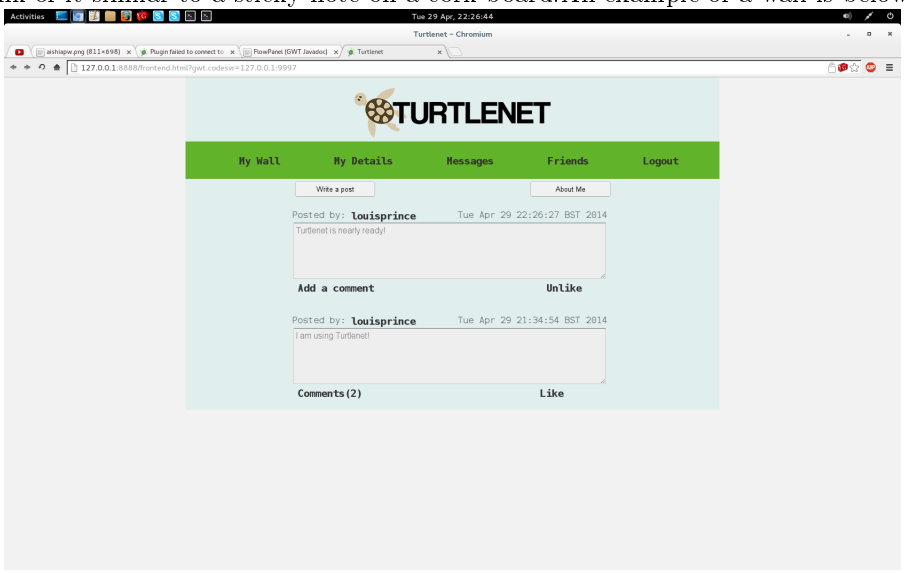
Below these fields is a list of categories you have created, check the box next to a category and members of it will be able to see your personal data. Unchecking the box hides any futures changes in it from them.

A note about revoking your key: This means that you mark your key as never again to be trusted, and so messages from it are ignored. **Do not click unless you wish to erase your Turtlenet presence.** After a revocation, another key is made for you to use, which means that any other users that had your key will need to be informed that you have changed and you will need to give them your new key if you wish to continue getting messages and posts from them.

3.8 Personal Graffiti - your Turtlenet wall

Your wall is a central social hub for many users of Turtlenet. It is a collection of messages aimed at the user, who may be off-line at the time. This section is for the functionality of the wall.

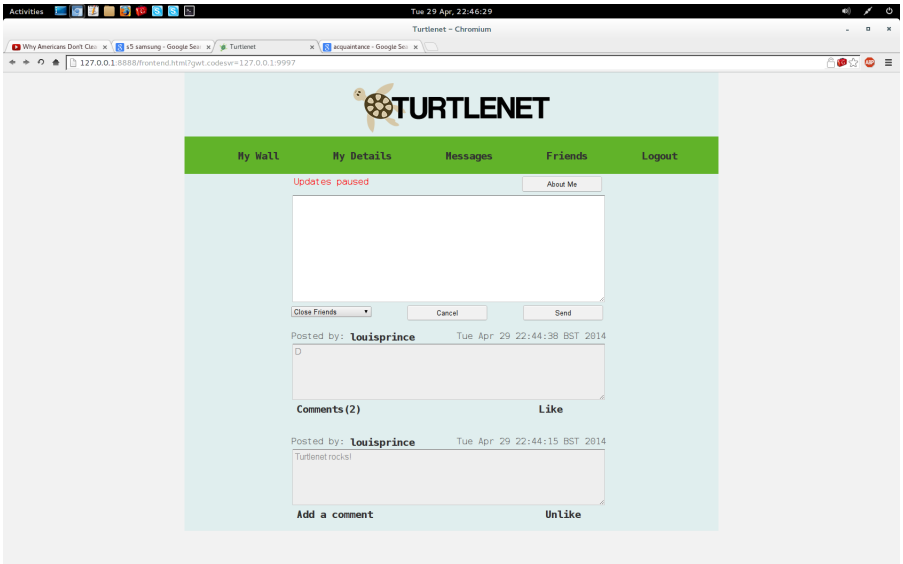
In Turtlenet a post is the generic way of talking about a message being left for another user - think of it similar to a sticky note on a cork board.An example of a wall is below:



The image outlines a couple of posts being made by the example user. Before posting is explained, this manual will explain the other elements in view:

- The 'About me' button allows a user to see an overview of their personal data. This allows a user quick access to their key, which could be sent to another user.
- You can 'like' posts to show enjoyment, appreciation or agreement with what another user has posted. This is done by simply clicked the 'like' that is found underneath the target post. Should your political views change for example, you can unlike any currently liked post in the same manner - clicking the 'unlike' that will be found in the same place under the target post.
- Commenting on a post is also possible with the Turtlenet client. Simply click the 'Add a comment' phrase underneath the target post and a large input box will appear beneath. Simply type your 'two cents' then click the 'Post comment' button under the input box. If you decide not to insert an interjection then you may click the Cancel button to remove the box and not attach your comment to the post.

Posting is as simple as clicking the 'Write a post' button near the top, which will bring a couple of new elements into the client:



As the above image shows, there are a couple of new buttons and a large text box that appears onto the Turtlenet client. First it is easiest to define a target for the post, which is done by clicking the drop down menu below the input box on the left side. The user is able to choose from categories that have been created, sending the post to multiple users. Once decided, type the content of the post into the large input box. Once finished, click the 'Send' button below the input box on the right side. If you wish to stop making a post, click the Cancel button in the middle, underneath the input box.

Chapter 4

Troubleshooting

4.1 Frequently Asked Questions

This is the section which should hopefully answer most of the questions that most users might have about the system. Sending emails to one of the addresses in the contact section in the beginning of the user manual may help you get your answer but it is best if you continue looking for an answer whilst you wait for an official reply.

4.1.1 What does Turtlenet do?

Think of Turtlenet in a similar manner to any other social network commonly in use. It allows users to communicate with each other and allowing other people to voice their opinions on what others have written. At the moment it is text based, meaning you can't attach images and video to it when you post or comment. You can however send links to such content to each other. That is a convenient enough work around for the time being as it means that no one is having to download an encrypted video but are never able to view it as they do not have the key to unlock the data. I think everyone will appreciate not having to download hundreds of copies of current top 40 each week.

4.1.2 How many accounts can I have on Turtlenet?

You should only need one, but we don't preclude you from having more. If you merely wish to seperate the content people can see then categories are a better solution, and future versions of Turtlenet will allowing the sharing of different personal information with different groups. If you simply must have multiple accounts though, there's nothing stopping you. Just launch the client in a different directory.

4.1.3 I forgot my password. Can someone reset it for me?

The short answer is no. Turtlenet was designed so that no one but the user had any access to their account. As a result, if you lose your password we are unable to recover anything in the account. The only thing you can do is simply to create another. Feel safe in the knowledge that everything is encrypted on your old account so at least no one can access what was lost except those people you already shared it with.

4.1.4 Where is everything stored?

Information is stored on your computer, laptop or whatever else it is that uses the Turtlenet client. Each client downloads all of the data and reads what it can, using keys you have collected over time off of other users. Keeping it local means that no readable is stored on the server, so evil moderators cannot have their way with your data. Encrypted data is stored on the server, but nobody can read it who you didn't send it to.

4.1.5 How big does this database get?

As the only things being stored are text, not images or video, this means that each message is only small and will likely be less than a few megabytes over one year's very active use.

4.1.6 Why would someone want to build from source?

Given that compatability of jars isn't an issue the only reason to do so is to ensure that your binaries derive from the public source code and not an evil secret version.

4.1.7 The Client does stuff I don't think it should do...

You may have found a bug for us accidentally. email to one of the addresses at the beginning of the user manual and the developers will have a look at it. As the source is being released, maybe the community will have a look and suggest a fix themselves.

4.1.8 What do Server Moderators of Turtlenet do?

We don't have any, we can't moderate content we can't see.

4.1.9 I want to mod Turtlenet. Can I have the source?

It's nice to know that others wish to take up the helm, pioneering a secure method of communication. You can have the source, it is available to the public to browse and modify.

4.1.10 Why choose 'X' over the clearly superior 'Y'?

As developers ourselves, we understand that other people have differing opinions. That's the joy of releasing code. Other people can pick up what we have done, or use our ideals as a starting point for their own thing. What this project stood for is ease of use for the end user and security from any unwanted external influences and this, we believe, is achieved.