

# COM1001 Team Project: Introduction to Software Engineering 2020

## Team 8's Report (Iteration 2)

### Acme Corp

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# Members and Teamwork

Below is the list of the members of our group:

- Halle Gordon-Jeary
- Haydn Diniz
- Ian Kinyanjui
- Igor Kolasa
- Jonathan Fijalkowski
- Nada Abouward

Most of the work was split up amongst group members, however tasks ended up being shared, or done with and by other team members

Below is a brief description of what we worked on;

- Halle Gordon-Jeary: Designed the database and tested SQL queries alongside Jonathan. Implemented search and filter functions, including working on the bookmark model.
- Haydn Diniz: Coded and designed the main app infrastructure and bookmark table for further development. Implemented the method for database data to be parsed from csv files through rake commands. Implemented the css on most pages to ensure uniformity across the site. Created the favourites model and controller. Designed and created the admin section of the app.
- Ian Kinyanjui: Did not contribute.
- Igor Kolasa: Implemented user model, developed 'login' and 'signup' functionalities. Also, responsible for implementing a system to store bookmarks visited by the user in the database and display them on the 'History' page. Worked on adding bookmarks to favourites list.
- Jonathan Fijalkowski: Designed the database and tested SQL with Halle and advised in its use/alterations throughout the project. Implemented the star rating system. Made some design changes and advised team members on others. Large contributions to the report.
- Nada Abouward: Coded the adding bookmarks functionality as well as the editing bookmarks system. Implemented the reporting and feedback systems. Helped with fixing the indentation to ensure code is easily readable.

Despite our best efforts as a team, we were unable to complete all of the user stories that we had originally created in the first semester. Some of these were deemed unnecessary when we finalised the stories with our clients, so they did not take priority over those that were required. The remaining uncompleted stories were not completed due to other factors that greatly affected the functioning, and therefore work output, of the group. The primary factor being the countrywide and worldwide quarantine, which meant we were unable to frequently meet up to work together and discuss issues, work distribution and general issues with the work we were doing. In spite of these limitations, our group managed to produce a nearly complete product, meeting the large majority of the requirements and acceptance criteria agreed upon by our clients.

- Every "Must" priority story has been completed
- Most "Should" priority stories have been completed either partly or fully
- Most "Could" priority stories have been completed either partly or fully

Due to our inability to have face-to-face meetings, we instead relied on Slack and Facebook Messenger to communicate with one another and manage the project and workloads. Though Slack was the recommended method of communication, we more commonly used Facebook Messenger, as it was easier for us to access and was always on standby for us to check, rather than being reliant on being on our computers, although this has led to it being more disorganised than a slack server, due to it not having channels for particular topics. Despite these difficulties in communication, our group managed to distribute work well, and we endeavoured to meet our own internal deadlines to make sure the project made consistent progress.

## System setup before running

System Requirements:

Ruby version 2.6.x (*check your ruby version by typing "ruby -v" in terminal*)

Bundler 2.0.2

*note : System install instructions assume you are using codio*

### 2.1 Clone the project git repository

Open the terminal and in the terminal type:

```
git clone git@git.shefcompsci.org.uk:com1001-2019-20/team08/project.git
```

And then enter your username and password for gitlab.

### 2.2 Installing dependencies

To install dependencies, navigate into the root directory of the app using:

```
cd project
```

If you type "ls" you should see folders and files, particularly a file that says rakefile.

Then type:

```
rake install
```

This command will install all gem dependencies and create the database.

### 2.3 Running the app

To run the app, type the following command:

```
rake run
```

This will start the web server which is accessible at

```
https://your\_codio\_name-4567.codio.io/
```

Where 'your\_codio\_name' is the name of your specific codio domain.

*Note: you must include the "-4567" to access the program otherwise you might access the project directory instead.*

*To login please see section 3.4 of walkthrough of the app*

## Features of the App

### 3.1 Home page

Upon running the server and loading the web app you'll be greeted by our welcome page, which is available to view and use by anyone.

The page displays an initial view of all bookmarks in the system ordered by the corresponding status (active, reported, broken). This list of bookmarks displays all the basic information of each bookmark (the rest is hidden until the "More Info" button is clicked),

This list of bookmarks displays the following information for each bookmark:

- Bookmark name
- Bookmark URL (this has been trimmed so it shows the domain of the URL, making it easier for a user to understand where the link takes you)
- Star rating (which is also used to submit a rating for the bookmark)
- The date the bookmark was last edited (a user may want to only use more recent/up-to-date bookmarks)
- Its report status (Functional, being resolved and non-functional)
- A more info button which contains:
  - Bookmark ID
  - Bookmark description
  - Bookmark creator
  - Tag list

The home page also provides search functionality, so a user can search bookmarks by name and URL, or by selecting the tags they want to filter the bookmark list by.

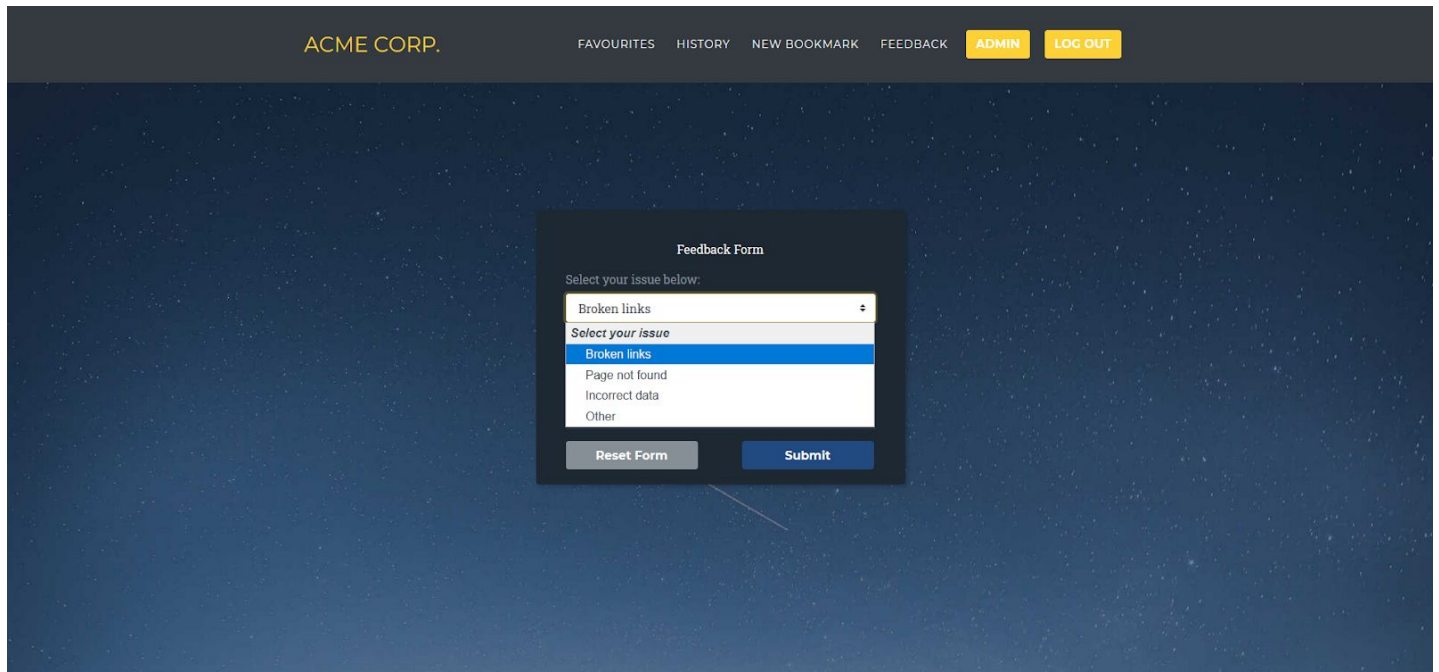
Search: Search for a bookmark...

☐ Tag 1☐ Tag 2☐ Tag 3☐ Tag 4

No.	Bookmark Name	Link	Rating	Last Updated	Favourite	Status	More Info
1	editedBookmark1	<a href="#">editedtest.com</a>	★ ★ ★ ★ ★ (2)	2020/05/13 18:12	♥	✓ Report	<a href="#">More Info</a>
2	Bookmark2	<a href="#">tabs.ultimate-guitar.com</a>	★ ★ ★ ★ ★ (2)	2020/03/1 17:12	♥	✓ Report	<a href="#">More Info</a>
3	Bookmark3	<a href="#">tabs.ultimate-guitar.com</a>	★ ★ ★ ★ ★ (3)	2020/03/1 17:13	♥	✓ Report	<a href="#">More Info</a>
4	Bookmark4	<a href="#">tabs.ultimate-guitar.com</a>	★ ★ ★ ★ ★ (4)	2020/03/1 17:14	♥	✓ Report	<a href="#">More Info</a>
5	Bookmark5	<a href="#">tabs.ultimate-guitar.com</a>	★ ★ ★ ★ ★ (5)	2020/03/1 17:15	♥	✓ Report	<a href="#">More Info</a>
6	Bookmark6	<a href="#">tabs.ultimate-guitar.com</a>	★ ★ ★ ★ ★ (1)	2020/03/1 17:16	♥	✓ Report	<a href="#">More Info</a>
7	Bookmark7	<a href="#">tabs.ultimate-guitar.com</a>	★ ★ ★ ★ ★ (15)	2020/03/1 17:17	♥	🔧	<a href="#">More Info</a>
8	Bookmark8	<a href="#">tabs.ultimate-guitar.com</a>	★ ★ ★ ★ ★ (7)	2020/03/1 17:18	♥	🔧	<a href="#">More Info</a>

### 3.2 Feedback page

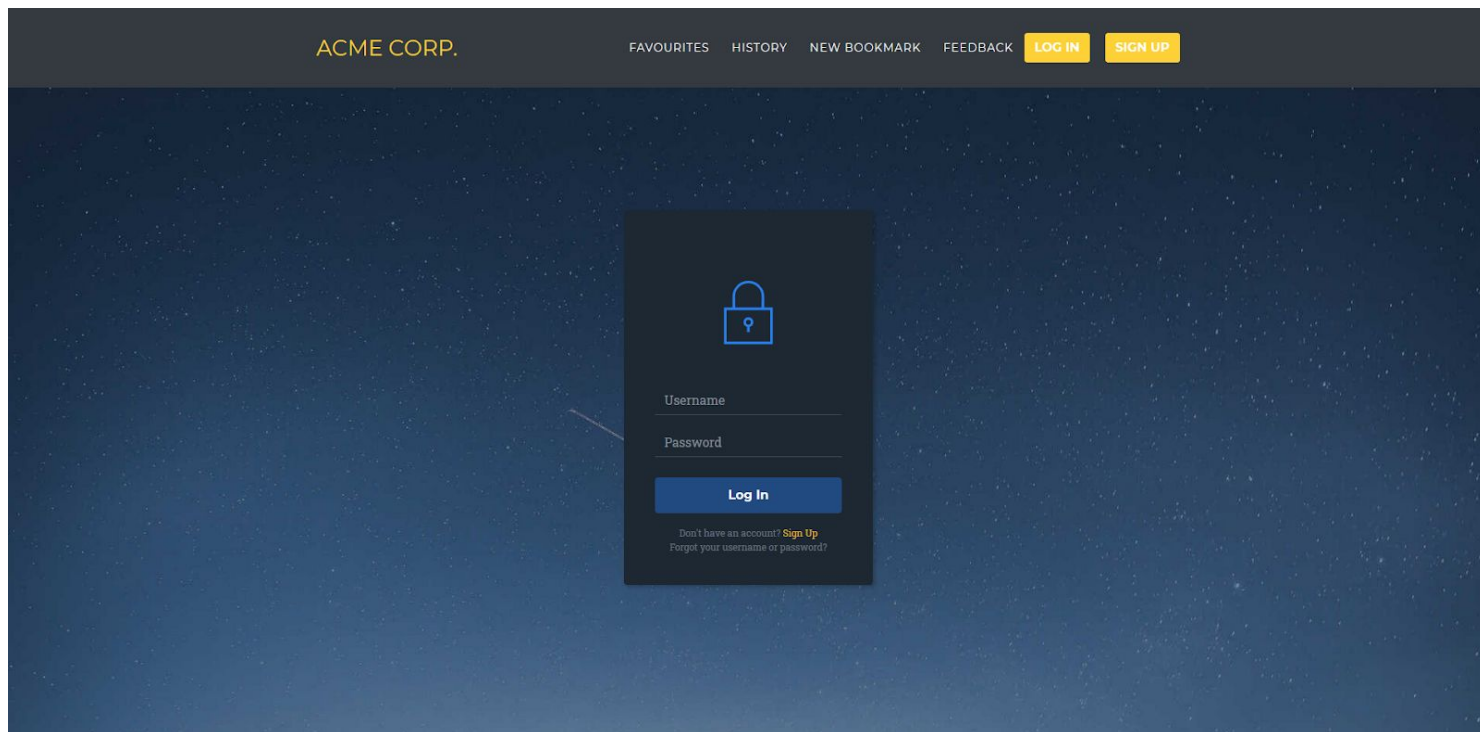
On this page a user can give feedback on the system. They can reach this page by clicking the link in the nav bar to general feedback or they can click the report link in the table to pass the relevant bookmark in question. A user does not need to be signed in to report a bookmark or give feedback. The feedback form has a text area where a user can supply information about a given report, such as how a bug with the system can be recreated to help the admins find the cause of the issue, or supplying a suggested replacement link when reporting a link that does not work.



### 3.3 Login page

To login, first click the 'login' link on the right of the navigation bar. This will redirect you to a login page, you can login using the credentials below. If you are a normal user, you will be redirected to the home page, if you are an admin you will be redirected to the admin page.

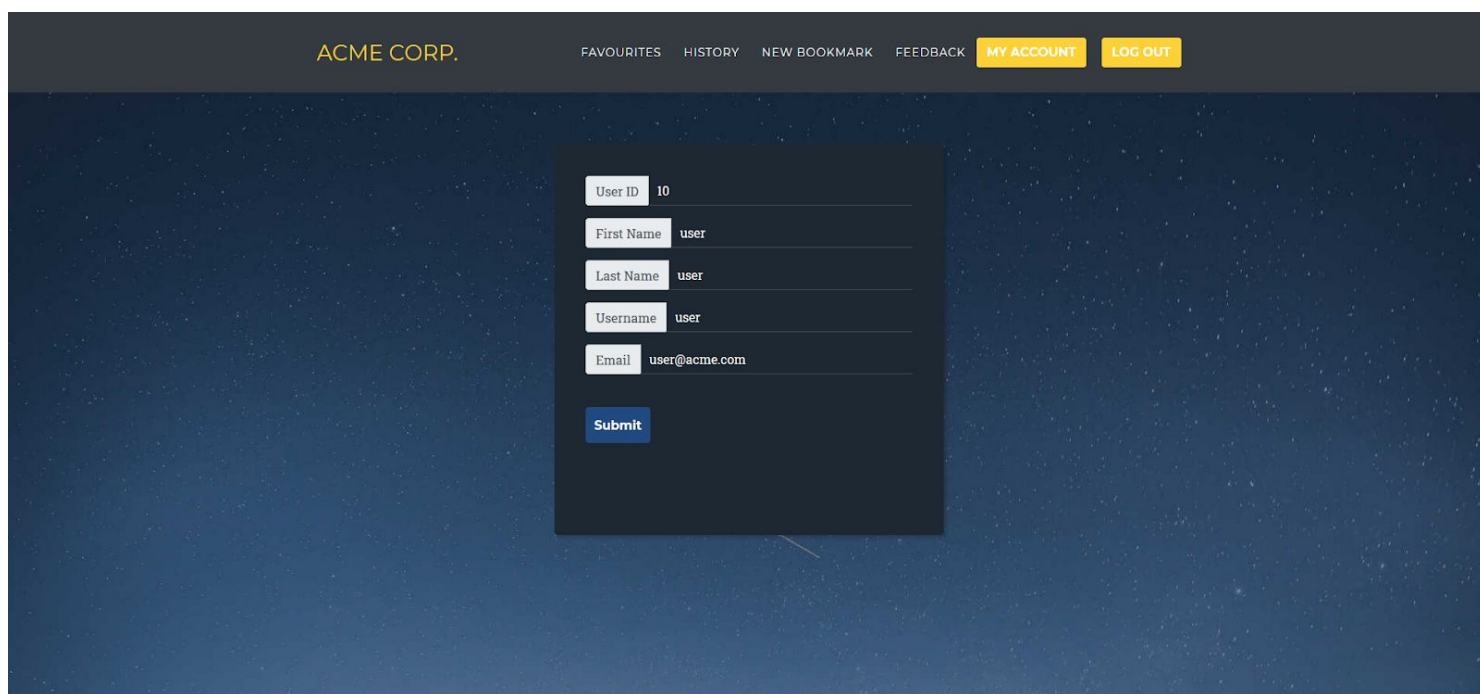
Username	Password	Description
admin	admin	Admin user has extended rights
user	user	A average user with normal permissions
role1	role1	A average user with normal permissions
role2	role2	An account that has been suspended
role3	role3	A user account with favourites and bookmark history
role4	role4	A user awaiting account approval from admin



### 3.4 My account

In the Nav bar once signed in, a user can view and modify their account details. These include;

- First name
- Last name
- Email
- Username



### 3.5 My history

On this page a logged in user can view their history. Any bookmark link that the user has clicked will be stored and displayed on this page with a date and time of when they last visited the bookmark.

ACME CORP.						
FAVOURITES HISTORY NEW BOOKMARK FEEDBACK ADMIN LOG OUT						
Bookmark Name	Link	Rating	Last Updated	Status	More Info	Last_visited
Bookmark4	<a href="#">tabs.ultimate-guitar.com</a>	★ ★ ★ ★ (4)	2020/03/1 17:14	✓ Report	<a href="#">More Info</a>	["2020/05/22 14:12:55"]
Bookmark3	<a href="#">tabs.ultimate-guitar.com</a>	★ ★ ★ ★ (3)	2020/03/1 17:13	✓ Report	<a href="#">More Info</a>	["2020/05/22 14:12:54"]
Bookmark2	<a href="#">tabs.ultimate-guitar.com</a>	★ ★ ★ ★ (2)	2020/03/1 17:12	✓ Report	<a href="#">More Info</a>	["2020/05/22 14:12:50"]

### 3.6 My favourites

On this page a logged in user can view their favourite bookmarks. It displays all the bookmarks in their favourites as a list in a similar format to the main page and history page.

ACME CORP.							
FAVOURITES HISTORY NEW BOOKMARK FEEDBACK ADMIN LOG OUT							
No.	Bookmark Name	Link	Rating	Last Updated	Favourite	Status	More Info
2	Bookmark2	<a href="#">tabs.ultimate-guitar.com</a>	★ ★ ★ ★ (2)	2020/03/1 17:12	♥	✓ Report	<a href="#">More Info</a>
1	editedBookmark1	<a href="#">editedtest.com</a>	★ ★ ★ ★ (2)	2020/05/13 18:12	♥	✓ Report	<a href="#">More info</a>

### 3.7 Create bookmark

A signed in user can create a bookmark. They must enter a bookmark name, submit a valid link and add a brief description. The user is then redirected to the homepage where the new bookmark will be displayed.

ACME CORP.

FAVOURITES HISTORY NEW BOOKMARK FEEDBACK MY ACCOUNT LOG OUT

Enter the name of the bookmark

Enter the bookmark URL

Enter a bookmark description...

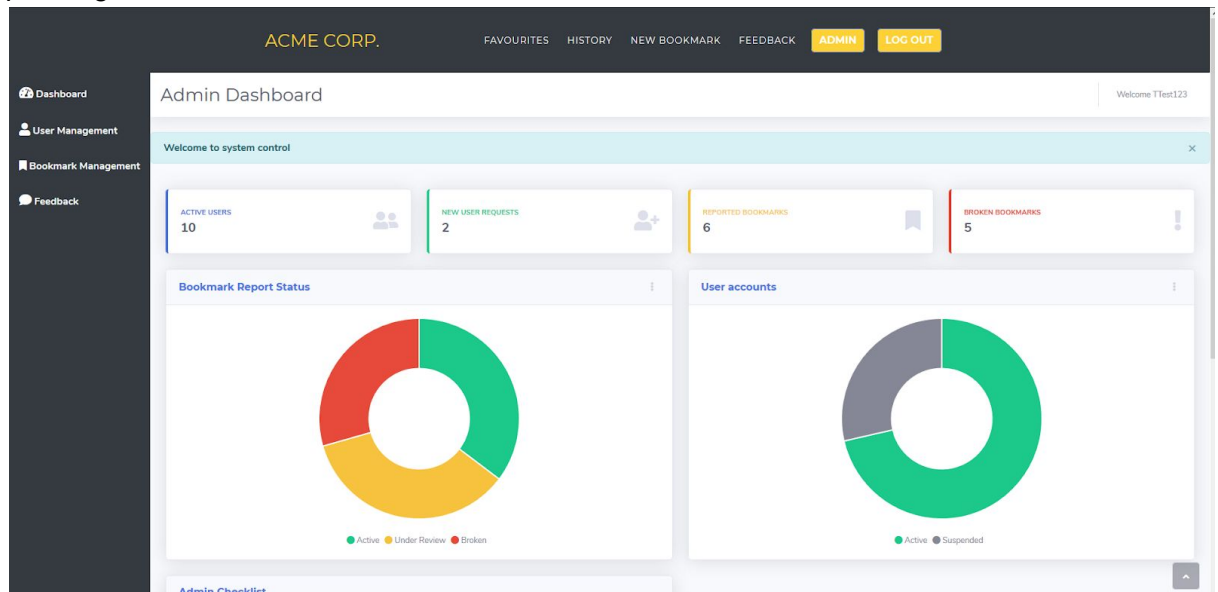
Reset Form Submit



### 3.8 Admin section

The admin section consists of four parts;

The Dashboard: where an admin can view a summary of all users, broken links and pending feedback.



User management: the admin can approve new users, view all users and their active status and edit user details. (Excluding passwords)

The User Management page for ACME CORP. features a dark sidebar with navigation links: Dashboard, User Management, Bookmark Management, and Feedback. The main content area is titled 'User Management' and includes a 'Welcome to system control' message. It displays four summary cards: 'TOTAL USERS' (14), 'ACTIVE USERS' (10), 'SUSPENDED USERS' (4), and 'NEW USER REQUESTS' (2). Below these are two tables. The 'New User Requests' table shows two pending requests for users 'BBob00' and 'role4'. The 'All User Accounts' table shows four active users: 'JSmith112', 'AMynn3', 'BBob00', and 'WMcGee05'. Each user entry includes their ID, name, email, and status, along with an 'Edit user' button.

User ID	User Name	First Name	Last Name	Email	Status	Edit user
3	BBob00	Bob	Bob	bob.bob@intranet.com	❌	Approve
14	role4	role4	role4	role4@intranet.com	❌	Approve

User ID	User Name	First Name	Last Name	Email	Status	Edit user
1	JSmith112	John	Smith	john.smith12@intranet.com	❌	Edit User
2	AMynn3	Adh	Mynn	adh.mynn@intranet.com	✅	Edit User
3	BBob00	Bob	Bob	bob.bob@intranet.com	❌	Edit User
4	WMcGee05	Worker	McGee	contractor.worker.mcgee@intranet.com	✅	Edit User

Bookmark management: the admin can go into each bookmark and change details of each bookmark individually

ACME CORP.

FAVOURITESHISTORYNEW BOOKMARKFEEDBACKADMINLOG OUT

Dashboard

User Management

Bookmark Management

Feedback

Bookmark Management

TOTAL BOOKMARKS17

ACTIVE BOOKMARKS6

REPORTED BOOKMARKS6

BROKEN BOOKMARKS5

Bookmarks

ID No.	Bookmark Name	Bookmark link	Last updated	Status	More Info	Edit bookmark
1	editedBookmark1	editedtest.com	2020/05/13 18:12	✓	More Info	Edit Bookmark
2	Bookmark2	tabsultimate-guitar.com	2020/03/1 17:12	✓	More Info	Edit Bookmark
3	Bookmark3	tabsultimate-guitar.com	2020/03/1 17:13	✓	More Info	Edit Bookmark
4	Bookmark4	tabsultimate-guitar.com	2020/03/1 17:14	✓	More Info	Edit Bookmark
5	Bookmark5	tabsultimate-guitar.com	2020/03/1 17:15	✓	More Info	Edit Bookmark
6	Bookmark6	tabsultimate-guitar.com	2020/03/1 17:16	✓	More Info	Edit Bookmark
7	Bookmark7	tabsultimate-guitar.com	2020/03/1 17:17	⚠	More Info	Edit Bookmark
8	Bookmark8	tabsultimate-guitar.com	2020/03/1 17:18	⚠	More Info	Edit Bookmark
9	Bookmark9	tabsultimate-guitar.com	2020/03/1 17:19	⚠	More Info	Edit Bookmark

Feedback: this section show the admin all reported links, and other types of feedback passed through the feedback form they can also mark the feedback as resolved

ACME CORP.

FAVOURITESHISTORYNEW BOOKMARKFEEDBACKADMINLOG OUT

Dashboard

User Management

Bookmark Management

Feedback

Feedback Review

NEW FEEDBACK7

BROKEN LINK FEEDBACK3

PAGE NOT FOUND FEEDBACK2

OTHER FEEDBACK1

Feedback Status

Broken LinksIncorrect DataPage not FoundOther

Resolved Feedback

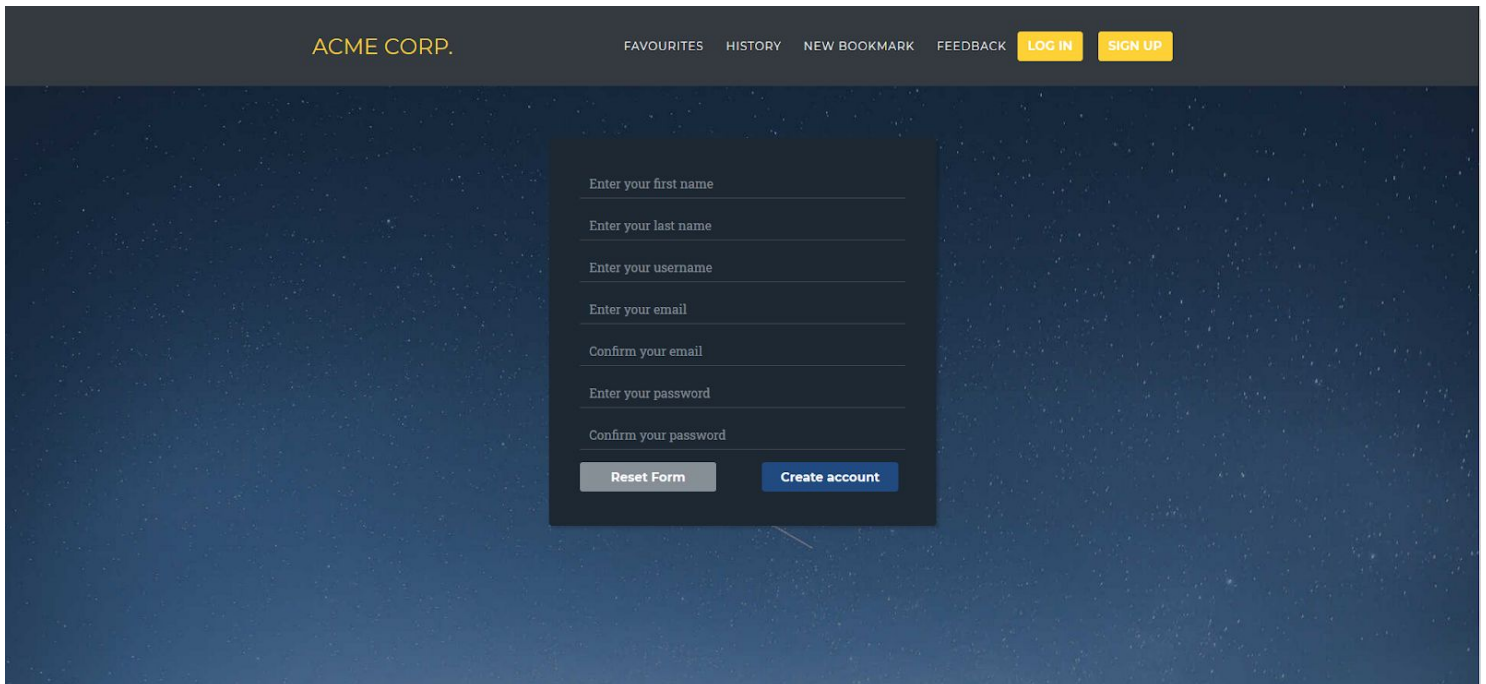
ResolvedUnresolved

Bookmarks

ID No.	Feedback Topic	Feedback	Date Submitted	Submitted by	Resolved Status	Resolve
--------	----------------	----------	----------------	--------------	-----------------	---------

### 3.9 Signup

A new user can enter their details on this page. After submitting the form, their account is created but it is inactive. It awaits approval from the admin. The user then gets redirected to the home page.

A screenshot of a web application's signup page. The page has a dark blue background with a subtle starry pattern. At the top, there is a dark grey navigation bar containing the text 'ACME CORP.' in yellow, followed by links for 'FAVOURITES', 'HISTORY', 'NEW BOOKMARK', and 'FEEDBACK'. To the right of these links are two yellow buttons labeled 'LOG IN' and 'SIGN UP'. In the center of the page is a dark grey rectangular form. The form contains seven input fields with placeholder text: 'Enter your first name', 'Enter your last name', 'Enter your username', 'Enter your email', 'Confirm your email', 'Enter your password', and 'Confirm your password'. At the bottom of the form are two buttons: a grey 'Reset Form' button and a blue 'Create account' button.

### 3.10 Rake Commands

Rake was used to install the app and run it, but they are a few commands that should be known.

```
rake backupdb    # Creates a backup of the current sqlite database into csv files
rake clean       # Deletes temporary test files
rake createdb    # Creates the sql db from csv data
rake createtestdb # Creates a test database
rake deletedb    # Delete the sqlite database
rake install     # Install the app (calls rake install gems and rake createdb)
rake installgems # Install gems
rake run         # Run the Sinatra app
rake shutdown    # Shutdown the app (calls rake backupdb, then rake deletedb)
rake wipedb      # Restore the empty state of the db
```

# Story Cards

Below is a list of stories which we addressed during the course of the project. Some have been omitted due to them being deemed unnecessary by our clients when we finalised the stories in the first semester, so no work was assigned to them if work could be done elsewhere. The others were due to lack of time or unexpected complexity of implementation, meaning the overall system we will deliver to the clients is not fully up to standard with their requirements. However, considering the circumstances that arose during the development process, our team has still managed to satisfy most of the requirements initially set by the clients.

## 4.1 Stories Tackled by Iteration 2

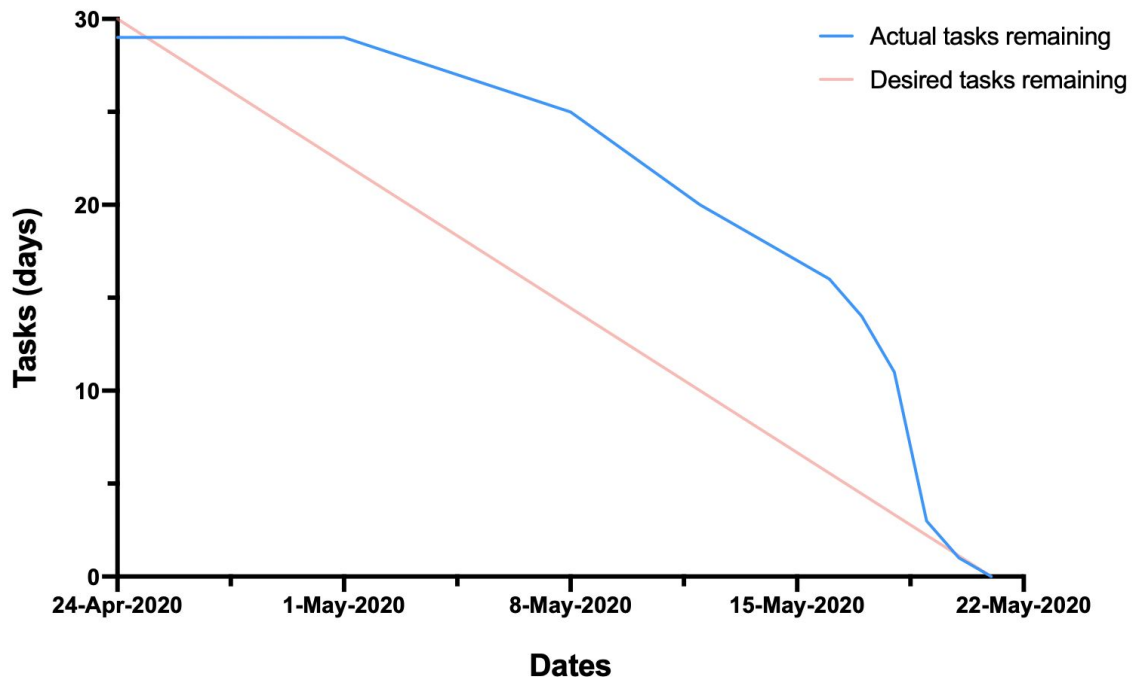
Story number	Description	Priority	Status	Comments
1	An employee can create a bookmark that must include the Name and Link and may include keyword tags, description and comments.	Must	Complete	Any logged in user can create a new bookmark with a Name, link and description, but no tags can be added in the initial creation.
2	A user can view additional information of a bookmark by clicking a button on the bookmark.	Must	Complete	A small popout window appears when a user clicks on a bookmark's extra info button, as opposed to displaying it in a sidebar as originally planned.
3	A user can filter bookmarks by tags and star rating.	Should	Partly complete	Can filter bookmarks by tags but not star rating.
4	A user can sort bookmarks by alphabetical order, rating, last updated.	Should	Partly complete	Bookmarks are by default sorted by alphabetical order, but there is no option to change the sorting method
5	A user will, by default, not see reported links.	Could	complete	Changed so that a user can still see reported links, but they are displayed at the bottom of the generated table
6	A user can choose to see broken/reported bookmarks in the list.	Should	Incomplete	There is no functionality to toggle visibility of reported bookmarks
7	A user can search the website for bookmarks by name & URL.	Must	Complete	Search query automatically searches by name and URL
8	When a user opens a bookmark link, the page opens in a new tab.	Could	Complete	Links clicked will automatically open in a new tab, with no right-clicking required

	(you can right click to do all those features already)			
10	When adding a tag to a bookmark, a single tag may have multiple aliases.	Could	Incomplete	Existing bookmarks cannot have their tags changed (so no new ones can be added)
11	An employee can edit any bookmark.	Must	Complete	Changed so only admins can edit bookmarks, whereas normal users/employees can only report bookmarks
12	An employee can make a list of favourite bookmarks.	Should	Complete	Page and db table required for this have been created, SQL query has been attached to the add/remove favourite button.
13	A user can see their previously visited bookmarks.	Could	Complete	History page has been implemented, and will only display the most recent visit for each bookmark so there are no duplicates
14	A user can report a bookmark if it is broken, out of date or goes to the wrong site. Don't need to be logged in.	Should	Complete	Reporting system has been implemented. Individual bookmarks can be reported, but a user can also make other categories of report (such as a bug in the system), which an admin will receive and resolve.
15	A user, when reporting a bookmark, can suggest a replacement link and could provide a reason why the bookmark is reported.	Should	Complete	Changed so report submission form has a description area where a suggested replacement link can be added, but there is no dedicated input area for the suggested link
17	A user can make a request to create an account. Must be verified by an admin who will receive an email of the request.	Must	Complete	Changed so that an email is not sent, but the admin can see new account requests in the user management page, from which the admin can approve them.
18	A user, when making a new account, must enter additional information for their account (name, date of birth).	Could	Complete	Changed so date of birth is no longer input, but both first name and surname can be input
20	An admin user can see a list of all user accounts and their details (name, email, employee number).	Must	Complete	All user information is visible in the user management section, and user details can be edited if desired. This page also displays a summary of the users in the system (number of active/inactive accounts, new requests etc)
21	An admin user can see a user's bookmark and login history.	Could	Incomplete	This function was not implemented in the admin page.

22	An admin user can suspend the account of a contractor whose contract is completed, and reactivate them when needed. When a user attempts to login to a deactivated account, they are refused access and notified the account has been deactivated.	Should	Complete	Accounts can be deactivated and reactivated by an admin user in the user management section. However, no errors appear when a user tries to log into a deactivated account, though is still refused access. A user would have to contact an administrator to reactivate their account if it is incorrectly deactivated.
23	A user can request an account reactivation by filling in a form which is sent to an admin.	Should	Incomplete	This has not been implemented, as a user will not be notified if their account is inactive.
25	An admin user can change the details of a user's account.	Should	Complete	All user fields can be edited except for password.
26	An admin receives a notification when a user creates an account	Could	Complete	The user management admin page displays all pending account requests, and can approve them from there.

Burndown chart

### Burndown chart for Iteration 2



The curve for the desired tasks remaining begins with the assumption that all tasks have been planned and distributed prior to starting the iteration. However this is not true and this discrepancy can be seen during the first 10 days as if there is little to almost no progress because the tasks are not being completed. However during this period we were working on sorting out the story cards we will tackle in iteration 2 and distributing the tasks which was made slower due to the lockdown, especially because it was difficult to arrange meetings as a few of us had to travel. Moreover, we were waiting for news on how iteration 2 might change and getting used to the move to online teaching. Hencewhy, the tasks were not being completed.

However, once we were done with our discussions and assigning the tasks, we picked up the pace and began finishing one task after the other.

The curve got much steeper in the last week of the iteration because we had to make up for our late start in order to finish on time.

We realize that we could have managed our time much more efficiently and that our burndown chart is far from ideal, we plan to take this as a learning experience and start on our projects as soon as possible in the future.

# Testing and Test Coverage

## 6.1 Manual test

Test	Tested Functionality	Expected outcome	Actual outcome	Pass/Fail	Modifications
1	Login form	Can log-in to the user's account when valid username and passwords are provided. Access denied for invalid inputs	Successfully logged-in with valid user details	Pass	N/A
2	Login form	Tested for invalid username or invalid password	Access to user's account denied	Pass	N/A
3	Signup page → create new account	New user is added to database and a request to activate his account is sent to the admin dashboard for valid inputs	New inactive account added to database, request sent to admin	Pass	N/A
4	Signup page → create new account	Invalid inputs (data not provided, wrong data provided, email or password not confirmed)	Can't create new account with invalid inputs	Pass	N/A
5	New bookmark page → add new bookmark	New bookmarks are added to the database and displayed on the main page for valid inputs. URL name is parsed and "https//:" is added automatically if omitted	New bookmark added to main dashboard	Pass	N/A
6	New bookmark page → add new bookmark	Providing invalid URL	New bookmark not added to main dashboard	pass	N/A
7	Storing visited bookmarks in the history	When bookmark link is opened, its ID is stored in history table in database and the	Bookmark added to 'History' page and date of the last visit displayed	Pass	N/A



		bookmark is added to 'History' page with a date of the last visit			
8	Storing visited bookmarks in the history	When multiple bookmarks visited, they are ordered by the date of the last visit (latest bookmark on the top)	Bookmarks properly ordered by the date of the last visit	Pass	N/A
9	Main page → searching bookmarks by name	Display bookmark which name matches name provided in the search bar	Bookmark with the name which was inputted in the search bar is displayed	Pass	N/A
10	Main page → searching bookmarks by name	Display bookmarks which names contain character sequence provided in the search bar (even if not full name provided)	All bookmarks which names contain inputted sequence of characters are displayed	Pass	N/A
11	Main page → filter bookmarks by tag	Display bookmark if one of its tags match the tag checked (test for only one tag checked)	Only bookmarks with matching tags are displayed	Pass	N/A
12	Main page → filter bookmarks by tag	If multiple tags checked, display bookmarks that contain all the checked tags	Bookmarks with matching tags are not displayed	Fail	Tags filtering must be fixed to work with multiple tags checked
13	Main page → stars rating	Submit a 1-Star rating that will reduce the average rating, then refresh the page to view the new average rating of the bookmark	Displayed rating will decrease (Eg: A 5-Star average with 2 ratings will decrease to a 4-Star rating if a rating of 2 is given)	Pass	N/A
14	Main page → report bookmark	Redirect to feedback page, when feedback submitted the status of the reported bookmark is changed to 'reported' (yellow icon) and feedback is passed to the 'Feedback Review' section in Admin Dashboard	Redirected to feedback page, after submission of feedback form the bookmark's status changed to 'reported' and feedback can be seen by admin in the 'Feedback	Pass	N/A

			Review' section		
15	Main page → more info button	When clicked it displays additional information about bookmark in a pop-up window	Additional information displayed in the pop-up	Pass	N/A
16	Adding bookmarks to favourites	When clicked the bookmark is added to the users favourite list	Bookmark that is added to favourite list is present in the user's favourites tab	Pass	N/A
17	Removing bookmark from favourites	When clicked the bookmark is removed from the users favourite list	Bookmark no longer appears in the favourites tab	Pass	N/A
18	My Account → change user details form	If all inputs valid, update user details with new details provided	First name, last name, username and email updated accordingly to submitted data	Pass	N/A
19	My Account → change user details form	Test for empty inputs	Form can't be submitted with empty inputs	Pass	N/A
20	Admin Dashboard → User Management → Approve New Account Request	When clicked a user account is approved and set to active	User is approved, set to active and database is updated	Pass	N/A
21	Admin Dashboard → User Management → Edit User	If all inputs valid, update user details with new details provided	First name, last name, username, email and active status updated accordingly to submitted data	pass	N/A
22	Admin Dashboard → Bookmark Management → Edit Bookmark	If all inputs valid, update bookmark details with new details provided	Bookmark name, link, description, report status	pass	Does not have an option to edit tags
23	Admin Dashboard → Feedback → Resolve	When clicked feedback is marked as resolved and it no longer pops up as a active issue	When clicked feedback is marked as resolved and it no longer pops up as a active issue	pass	N/A

## 6.2 Automated tests

Due to time constraints and prioritising other parts of the project, we were unable to implement automated tests before the submission deadline, though intend to have them finished for the client meeting. Thus, we resorted to using manual tests to confirm which acceptance criteria we met with our final system.