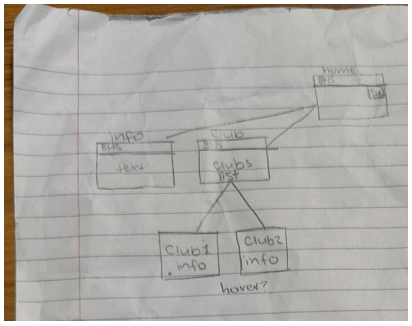
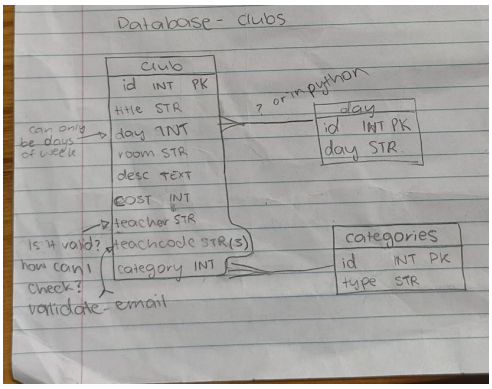
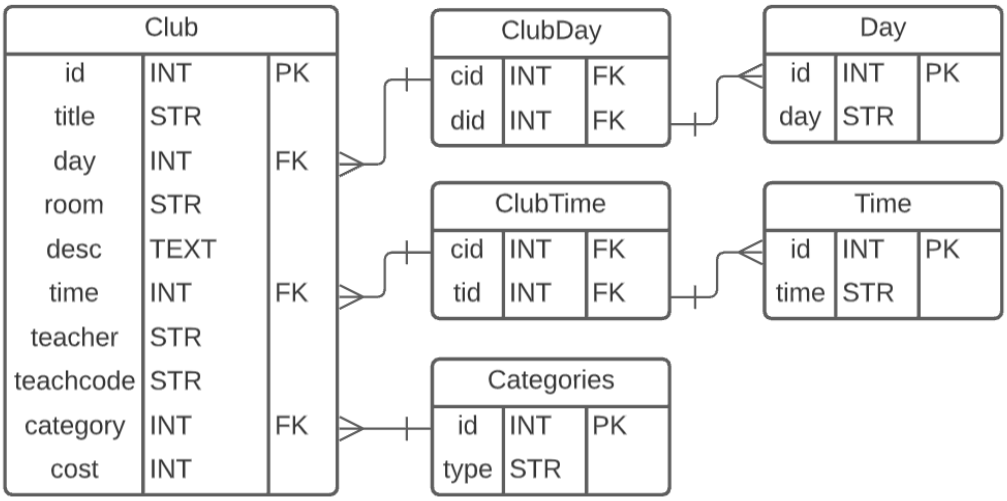
What is your project about, who is it for, what does it do.
My website will be used by students at burnside high school (not the public) and is designed to provide a functional alternative to the current public website. Some functionality which I will build in include a club page where the students can find information about joining different clubs, a photo gallery, a divisional points widget, notices/articles on the home page, links and guides on how to do things like printing, report absences etc. It will fit a gap between the schoology, kamar page and current website.

Database notes and design (tables AND ER diagram)

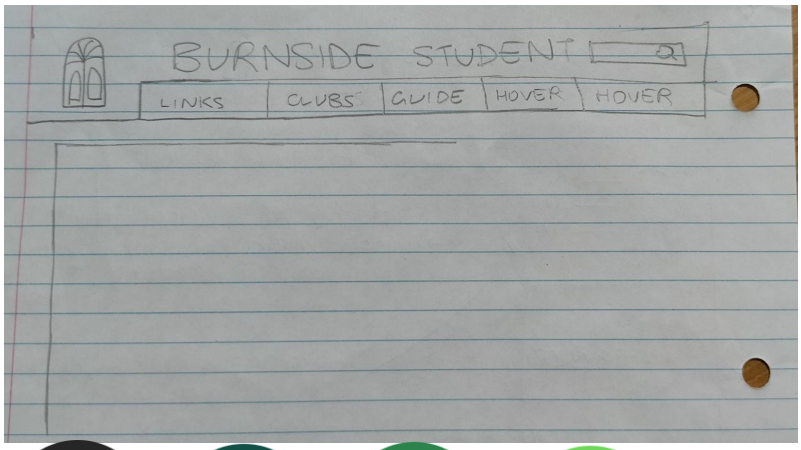


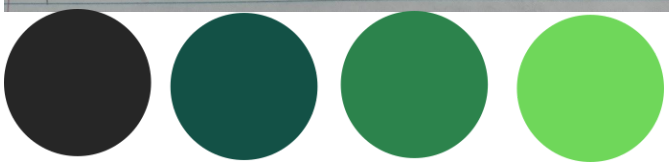




This database isn't too complicated (yet) and the more difficult part of it will be how the user will create and edit their clubs without getting access to the whole database. For each club, they have different things which will be included in the club's description and information section. They can only choose multiple days and times (before school, morning tea..etc) and a category such as sport, music, academic etc. which will be displayed as an icon on the club list.

Website layout and design including fonts & colours:

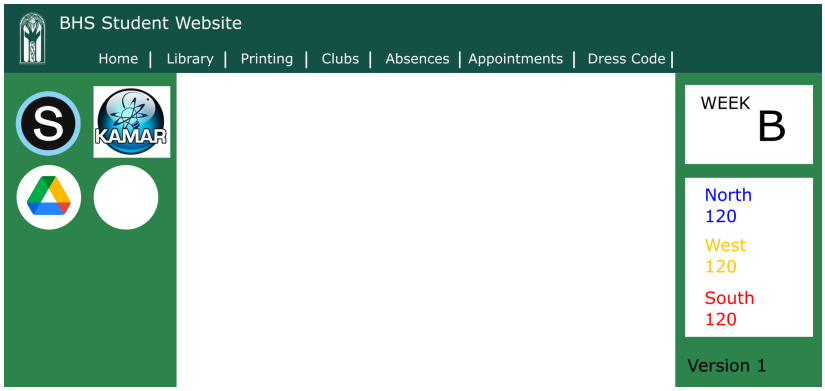




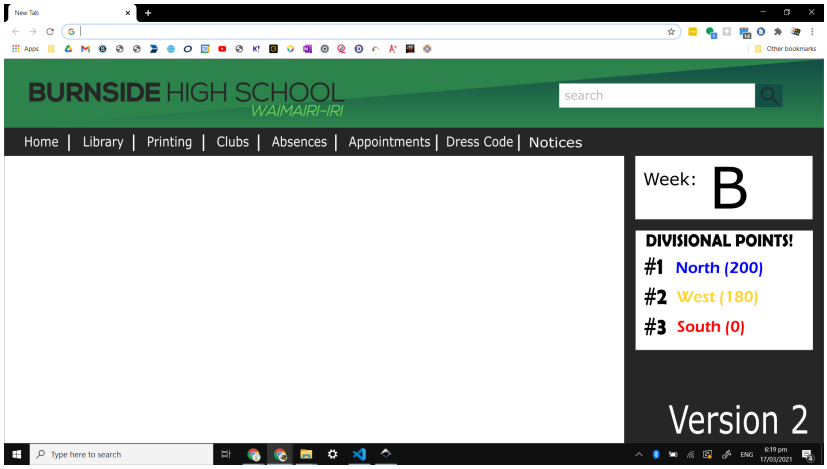
This is a rough sketch of what I want the web page to appear. The main features include:

- links to main pages
- logo to identify the school as bhs
- search bar
- title making it clear it is for students' use exclusively.

FONT: Raleway (this one)
I am using these shades of green, dark grey and white taken from the existing school logo to match my website's colour palette to our school's branding. I will be consulting with any of the authority figures in charge of the school's branding such as our principal for several issues before development such as if they approve of it's appearance. I also got a bit carried away with designing different mockups for the home page on inkscape, the 4th version is currently what I will propose it will look like although I expect it to change dramatically by then.



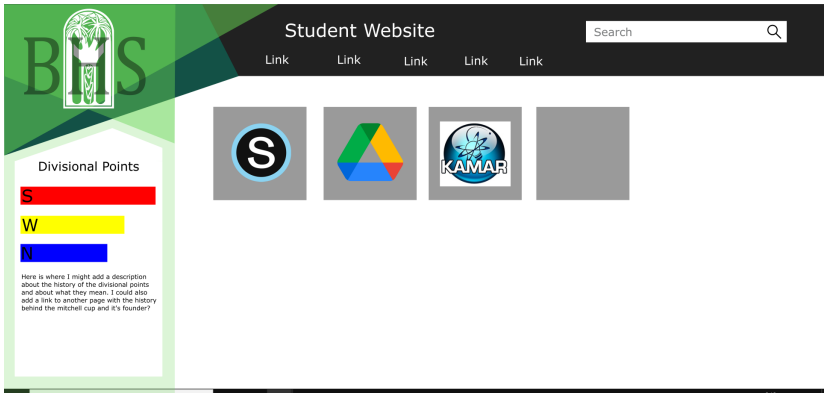
Version 1:
This version looked too basic, it just included all of the main parts but didn't appear professional enough to represent our school.

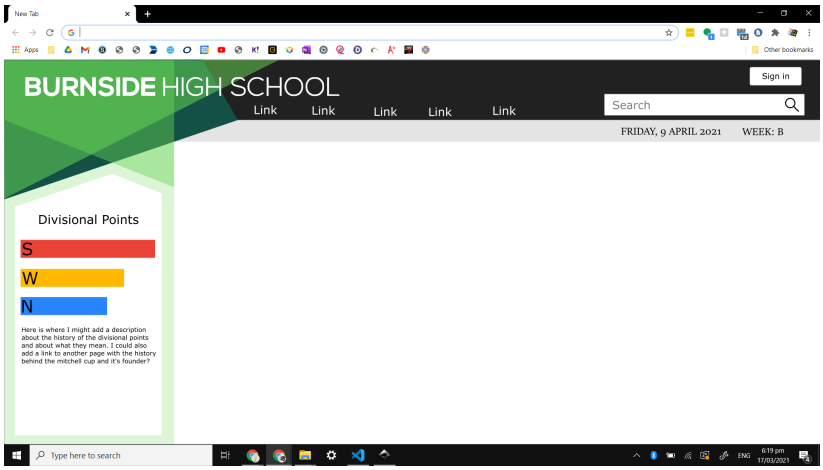


Version 2:
In this version I played around with gradients on the header and found a burnside logo to use. My feedback from my stakeholders (classmates) for this version was that it looked too much like the old moodle page with the panel to the side and the excessive tabs at the top.

Version 3:

I took inspiration from the current logo found on all of our school's current branding:
And used it to make a more dynamic page. The divisional points are now a bar graph in addition to being ordered from most to least points.





Version 4:

I didn't like the look of the BHS over the logo in the corner as it looked too cluttered. This version also had a sign in button in case I wanted to add that functionality in the future. I took the logo from version 2 and made it white and removed the 'waimairi-iri' to make it more sleek.
Week A/B is written on a grey piece and will be updated every week.
This is not the final version but is what I will be hoping to base the actual website off after getting more feedback from stakeholders to edit it.

Home Page:

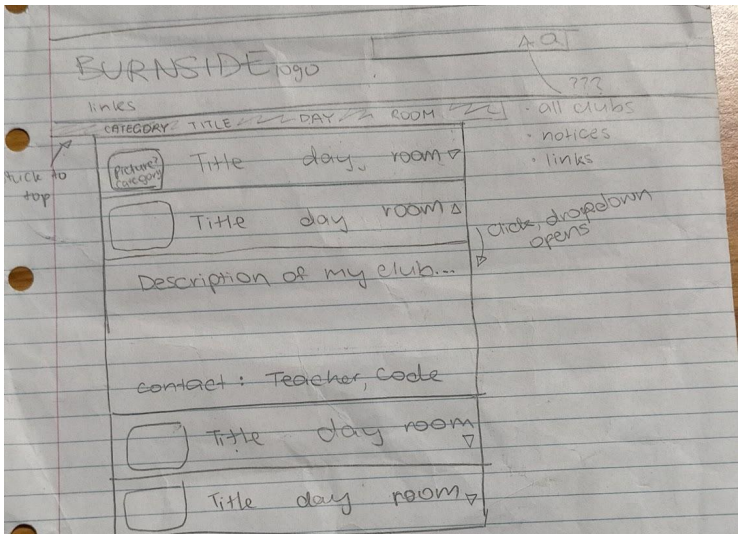
Articles may include:

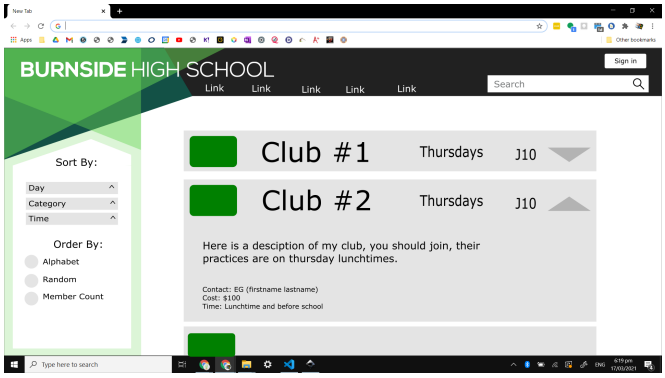
- term dates
- notices- important ones to go to families
- Any pta messages
- covid-19 info
- week- A/B (holidays?)

@app.route('/') def home():

The main part of the page will have a list of articles, which I will have to find a way of allowing the teachers to add and have a place to store the articles and search for further use. Mr Creighton suggested that I spend some time working out how to store the articles which won't appear on the main page which I didn't think of initially.

Clubs:





@app.route('/clubs') def clubs():
This club page will be a list of different clubs which the student can click on to dropdown a menu with further information about the club, This will function as advertisement for different clubs as students only are told about clubs at the beginning of the year and have no information about them for the rest of the year. I will include the title of the club, day and room on the bar for each club. The picture to the left will either be an uploaded picture by the club or a picture of the category, eg. a ball for sport or a music note for music. I intend on making it so the user can click on the header to sort by that category (day will have a dropdown to select their desired day). I may also add a second search bar to allow the student to find the specific club they are looking for.
The database layout for the clubs system is above.

Variables for each club:

- title
- day
- room
- teacher name
- teacher code
- description

- category
- cost
- can start at the start of the year?

Sort by:

- member count
- day
- category
- similar?
- alphabetical
- random

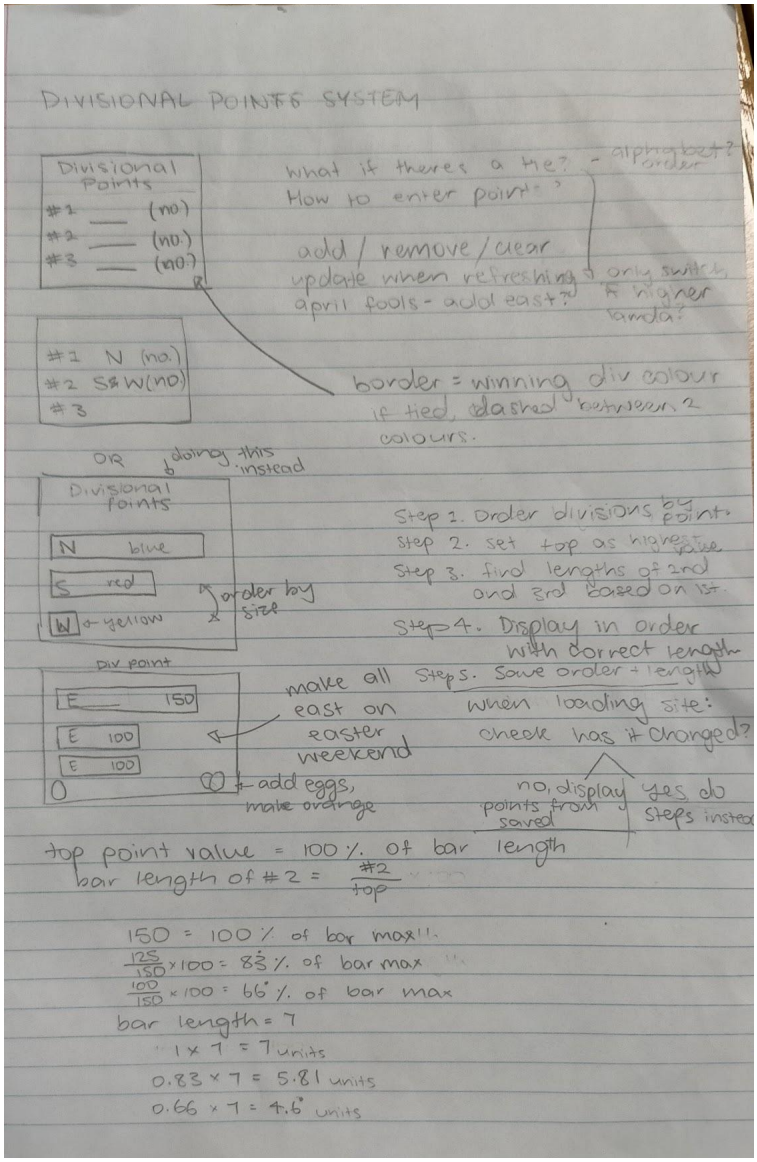
Other:

- add/remove/update- can only be accessed by teachers

routes* / function signatures for each page**

Database queries for each route (SQL query/queries) and expected sample results
Any justifications for your design (stakeholder feedback, scientific research, accepted best practice etc) throughout the doc (could do more)

Divisional Points System:



The divisional point system will be an up to date bar graph at the side of the website showing the amount of points which each division has and will be ordered by amount of points. The points

What if there's a tie?

Functions: add, remove, clear

Divisional Points		
id	INT	PK
division	STR	
value	INT	

Programming Standard: Testing table

What you are testing	How you are testing it	Expected results	Actual results	Notes
Club pages javascript- expanding and collapsing boxes	Adding and modifying javascript then clicking on the club entry and checking if it can expand and collapse on click	The boxes appear in order and when clicked, they expand to show more information.	The boxes appear in order and when clicked, they expand to show more information .	Pass
Sorting system for clubs	Adding a category drop down menu and selecting a category then checking if the corresponding clubs appear	When a category is selected, the clubs with the corresponding categories would show	No clubs were displayed	Fail- need to reconfigure code
Divisional points link	Creating a button and linking it to a page then clicking the link	Clicking the link will take the user to the divisional points page	The link worked	Pass
Divisional points entry- form functioning?	Creating 5 text boxes as a form and a submit button and testing entering values	The information will be sent as a form to the divisional points database	There was an error message	Fail- the form wasn't properly set up in python
Divisional points form entries- inavlid entries	Entering strings into int inputs and random values into the inputs	The html should prevent the information from being sent into the database	The website crashed	Fail- I need to catch invalid inputs in python and show an error message instead of stopping the program
Divisional points form entries- security	Allowing other people to try and enter invalid information to the division points entry	They could only enter information that fit the parameters in the html	The html could be changed in inspect elements- invalid data	Fail- The parameters for the entries needs to be kept and checked in python not

				html
Password security	Entering invalid passwords and editing in inspect elements	The user would be denied entry	The user was denied entry	Pass
Divisional points history table	Adding code to fetch information from database and display it in the website	The data would be displayed on the page in a table	The data was displayed but the formatting was off and it wasn't in date order	Pass- When fetching data, order it by date
Divisional points bar graph visual- version one	Fetched total point counts from the database, formatted it so that within the html the style (width) of the box would change as calculated using the calc function. Tested by checking the website.	The bottom bar lengths would change in proportion to the first bars length	No bars were displayed	Fail- the calc function wasn't working with the results (they were str not int)
Main content boxes sizes	Creating box elements and checking if they were correct sizes	The boxes should displayed be in a 5 wide grid shape	The boxes were to wide	Fail- didn't account for the width of the box padding
Divisional points- security				
Remove requirement in inspect elements and submit an empty box		The invalid input page should be displayed	The invalid input page was displayed	Success
Change min value in inspect elements and input a negative value		The invalid input page should be displayed	The input page was displayed	Success

Github: proof of iterative changes through the year [Github repository]

Database Standard:

Iterative improvements:

Label:	How did it change?
Club	
ClubTime	The time and club time pages were removed as the sorting system I settled on involves only two dropdowns- category and day and I didn't think that time would be used often by the users.
Day	The day column was removed as the club day table could be connected to the id column so the day column wasn't needed.
Cost vs Restrictions	I replaced/ renamed the cost column, restrictions, as any cost could be included in the description and some clubs require members to have some experience or have limited numbers.
Teacher	The teacher column was replaced with a contact as the clubs which were entered were often student run or needed an additional email/phone number to contact rather than the teacher.
Divisional Points	
Total vs Event	Instead of storing each division as a row in the database, to keep a history of all past events and point values, each event was a new database entry and the point values allocated to each division were stored in columns.
Date	When each event is submitted, the current date is added so that the entries can be ordered by date in the history page.
Divisions table	If the school were to be rebranded or if this website was to be used by another school, the name of divisions and bar colour can be changed in a 3 column divisions table within the same database.
Totals	All of the totals are calculated in the python code by adding up all of the values so that it will always be up to date and accurate.

Relevant Implications:

Privacy is the safety of personal information and it is important for the security of the users. To ensure that the divisional points database cannot be edited by any students, they are required to input a password which is checked in the python and cannot be bypassed before they are allowed to input any events. To prevent any of the users inputting a command into my database eg. DELETE * which can compromise my data, the values are

executed using a tuple as shown:

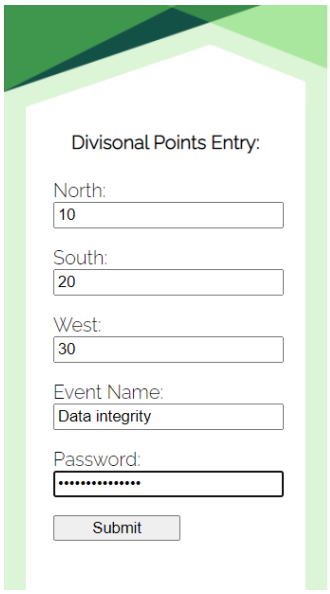
```
insert=connection.cursor()
query=('INSERT INTO Points(north, south, west, event, date) VALUES (?, ?, ?, ?, ?);')
insert.execute(query,(north,south,west,event,datet))
#insert the values into the divpoints table
```

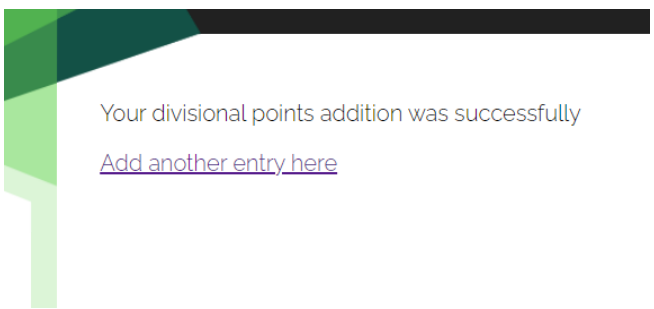
I have addressed this implication by moving the password into a table in the database. This was recommended instead of hardcoding it in as it can be changed much easier by staff in the occasion that the password was leaked, reducing the damage done and increasing the security of the website. It also allows different users to have different passwords which reduces the chance of the staff verbally sharing the singular password where it can be overheard. These can also be much more easily encrypted via hashing if the school deems that necessary.

Sustainability and future proofing is about keeping the end product up to date and designing it to be secure and relevant while technology improves.
To ensure that the database and divisional points system can continue to be used if our divisions change names or colours, there is another table within the divisional points database which is used to input the colours and names onto the website. If the names or colour codes are changed, the website is directly changed. The clubs database is designed for use with a large variety of clubs so if over time, the type of clubs which the students choose to participate in change, new categories can be added or removed. Clubs can be easily added or removed in the database. I have chosen to leave each function as a different database, they could be combined into one database but they don't need to link to one another. This is so that if one of my databases is compromised eg. the divisional points, the clubs which is stored in another database will continue to function.

Data Integrity: end to end procedures
The divisional points are first submitted by the user into the database in a division points entry form. This form is immediately checked in the python code to confirm that the data matches the restrictions and the password matches that which is in the database.

If entry is valid, this message is displayed:

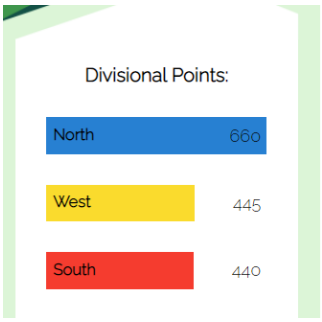




The data then immediately is inserted into the database as values by using a tuple so everywhere there is a ? in the query is now inserted as a value to prevent a query eg. delete inserted and performed through the form. The database is shown below, the values from the form are in the corresponding columns along with the current date.
The divisional points table is then updated with the most recent event at the top. The data is fetched again and the sum is used to determine the widths of the divisional point bars.

```python
if request.method=='POST':
    password=request.form['Password']
    passwordconfirm=connectsql("db/Divisionalpoints.db","SELECT password FROM Admin WHERE id=1")
    for passworditem in passwordconfirm:
        if password==passworditem[0]:
            north=request.form['North']
            #only continue if the value>0
            if check(north)==True:
                south=request.form['South']
                if check(south)==True:
                    west=request.form['West']
                    if check(west)==True:
                        event=request.form['Event']
                        #change error message to a confirmation of sucess
                        with sqlite3.connect("db/Divisionalpoints.db") as connection:
                            insert=connection.cursor()
                            query=('INSERT INTO Points(north, south, west, event, date) VALUES (?, ?, ?, ?, ?)')
                            insert.execute(query,(north,south,west,event,datet))
                            #insert the values into the divpoints table
                            return render_template('divisioncodesucessful.html')
            else:
                return render_template('divisioncodefailure.html', error="Invalid Input")
        else:
            return render_template('divisioncodefailure.html', error="Invalid Password")
```

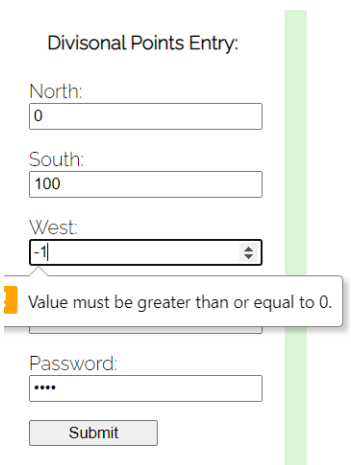
North	South	West	Event	Date
10	20	30	Data Integrity	2021-10-28
100	0	0	Fortnightly Grades	2021-09-29
50	20	30	Cabbage Challenge	2021-07-29
200	100	150	Rubics Cube	2021-07-27
100	100	100	Athletics	2021-05-21
100	100	100	Kio Rahi Tournament	2020-06-30
0	100	35	Cross Country	2019-06-24
100	0	0	Waiata Competition	2018-05-03

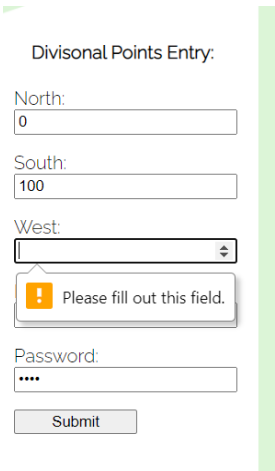


Digital Media Standard:

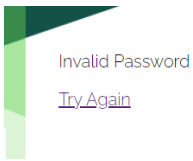
Relevant Implications:

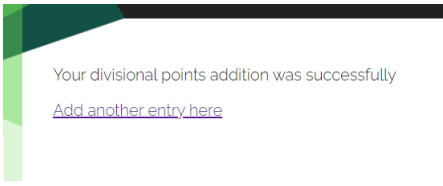
Usability is about the end product being flexible and easy for the end users to use. This means that the users know what is happening at all times and any errors are prevented. In my final website, I have reduced the number of links along the top to 6 to help users navigate and prevent confusion. The form to submit divisional points gives the user a guide on any fields which are invalid or required after clicking submit to prevent any errors from occuring.



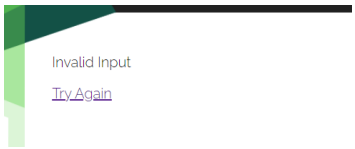


I also confirm whether or not a divisional points entry was successful and if it failed, whether the input or the password was the cause.

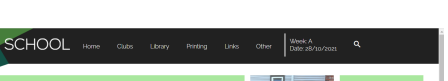




Aesthetics are about making the website pleasing through use of colours, font and any elements. Good aesthetics help attract users to



aesthetically other visual the website and help the website match any universal branding. In my website the colours which I have chosen have been taken from our existing school branding so that this website can represent its function as an official school student website. The top left logo is inspired by the geometric shape on our school's branding, posters and important documents.



https://www.schoolbrandingmatters.co.nz/2016/09/07/brand-clarity-burnside-high-school/

Social is about respecting all values and beliefs of the users and it has the intended audience in mind in all design decisions. In my website, the target audience is students from Burnside high school who wish to access features not currently available on the school's public website. I have kept in mind that parents and potential students may come across this website and so it mustn't include any private information and must have a formal and professional appearance as it is representing the school. I have received feedback from my target audience, the students, and displayed the divisional points on the main left. This is to help draw attention to them so that students will be more motivated and aware of the points at all times. I have also included a current week A/B widget for students using a paper timetable as this was not brought back in the new website.

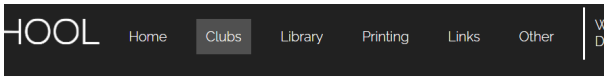
Iterative improvements:

Label:	How did it change?
Corner triangles	1. The logo was an image with text overtop- the text didn't layer easily so it was added to the image.

	2. The top of the left column was added to the corner triangle image to improve the shape. 3. The corner image was split into two images next to each other as the logo should be a link and the boundary of the link was over the main section of the page. 4. The z-index of the images and nav bar was increased as the page content was overlapping when scrolling.
Nav bar	1. The links were added and the hover was modified appropriately. 2. The search bar was added then reduced to a logo 3. The week and date was added in multiple different positions, ended in nav bar
Div points	1. Bars were modified in appearance and colour 2. The numbers were on the right side of the boxes but it was easier to read if they were all in line with each other instead.
Clubs	1. They were designed to expand and collapse. 2. The plus sign was added which changes to a minus and back to indicate the status to the user. The sorting was introduced which started with checkboxes for each day, time and categories but it was too busy and unnecessary. It was later changed to two simple drop down menus.
Main content	1. The boxes were manually created in html- this changed so they are a mix of html and data in a database 2. The widths and floats had to be messed around with until they were all equal and proportionate 3. New sizes, images and links were introduced- the ones with images didn't have padding so needed to be wider than the other similar boxes. 4. Interactive maps were added because I wanted to.- they needed to be modified with shape and size to fit
Printing	It was written and modified until it looked correct- I will check with the librarian staff to include any information which may be needed.

Applying relevant conventions:

Following appropriate web design conventions improves the usability of a website and is necessary for a well designed website. Some ways in which I applied some of these conventions was through the application of Nielson's heuristics to web design. Examples include: error prevention- the user is notified of any unfilled or invalid inputs when entering divisional points. Consistency and standards- the navigation bar is consistent throughout all of the pages, the font is all the same, the colours are from a chosen palette and the left bar keeps its shape but changes its content on each page. I also have included hover features to the navigation bar so that the colour changes around the text to show where the user is on the



screen, show that the navigation bar is clickable and help direct users to the main pages. The clubs page is similar as after a club is clicked, the bar expands, changing the plus button to a minus as well as changing the hue of the grey to distinguish clicked and unclicked clubs. There is a similar hover feature to the navigation bar as the clubs will change colour when hovered over to a grey like the clicked on clubs.