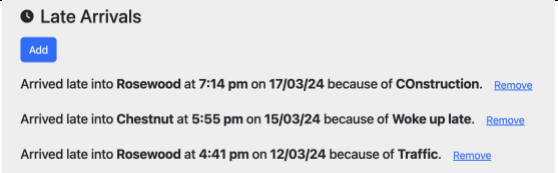
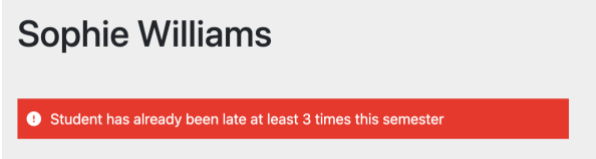






**Criteria E – Evaluation****Word count: 276**

S. no	Success Criteria	MET/ NOT MET	Evidence
1	Dashboard with button to select building name, can be accessed by faculty members.	MET	 <p>The screenshot shows a 'Login' page with two large images representing buildings. The left image is labeled 'Rosewood' and the right image is labeled 'Chestnut'.</p>
2	Allows assistant to look up a student by their name and be able to see the student ID, photo, and grade.	MET	 <p>The screenshot shows a student profile for 'Sophie Williams'. It includes a search bar with 'Sophie Williams' entered, a profile picture, and details: ID: PSN12345, Grade: 9, and Section: C. A red notification bar states: 'Student has already been late at least 3 times this semester'. Below the profile, there is a 'Late Arrivals' section with an 'Add' button and a list of arrivals with 'Remove' links.</p>
3	Assistant can see previous late arrivals including their date and reason	MET	 <p>The screenshot shows the 'Late Arrivals' list for Sophie Williams. It includes an 'Add' button and three entries: 'Arrived late into Rosewood at 7:14 pm on 17/03/24 because of CONSTRUCTION.', 'Arrived late into Chestnut at 5:55 pm on 15/03/24 because of Woke up late.', and 'Arrived late into Rosewood at 4:41 pm on 12/03/24 because of Traffic.' Each entry has a 'Remove' link.</p>
4	A notice informing assistant that student has already been late thrice (in previous month/semester) should be clearly visible if that is the case.	MET	 <p>The screenshot shows the student profile for 'Sophie Williams' with a red notification bar stating: 'Student has already been late at least 3 times this semester'.</p>
5	Assistant can click a button to record late arrival and enter the reason of late arrival	MET	 <p>The screenshot shows the student profile for 'Sophie Williams' with a modal open for adding a late arrival. The modal has a title 'localhost:3001 says', a text input field for 'Enter a reason:', and 'Cancel' and 'OK' buttons. Below the modal, the 'Late Arrivals' section is visible with an 'Add' button.</p>

6	Time of late arrival, date of late arrival, and building is automatically recorded for above	MET	<pre>{   arrivalTime: ISODate('2024-03-17T13:44:17.978Z'),   building: 'Rosewood',   reason: 'COstruction',   _id: ObjectId('65f6f3b154071dc48ef85a8e') }</pre>
7	An email is sent to the student's form room teachers every time they are late stating the reason and time of arrival.	MET	<p>Dear Mia Wilson,</p> <p>Kindly excuse your student Sophie Williams for coming late to class today. They entered Rosewood at 7:14 pm and were late because of COstruction.</p>  <p>Regards,</p>
8	An email is sent both to student and student's parents the third time they are late, informing that the student will be sent back home next time they are late.	MET	<p>Dear Sophie Williams,</p> <p>You have reached school late 3 times this semester. Please ensure that you leave home on time. If you are late another time this semester, you will be sent back home.</p>  <p>Regards,</p> <p>Dear Chris Hemsworth,</p> <p>Your ward, Sophie Williams has reached school late 3 times this semester. Please ensure that your ward leaves home on time. If they are late another time this semester, they will be sent back home.</p>  <p>Regards,</p>
9	Assistant can delete a late arrival by clicking a button in case an entry was made by mistake.	MET	<p>localhost:3001 says Are you sure you want to remove this entry?</p> <p>Sophie</p> <p>Cancel OK</p> <p>Student has already been late at least 3 times this semester</p>  <p>ID: PSN12345 Grade: 9 Section: C</p> <p>Late Arrivals</p> <p>Add</p> <p>Arrived late into Rosewood at 12:17 am on 18/03/24 because of traffic. <a href="#">Remove</a></p> <p>Arrived late into Rosewood at 7:14 pm on 17/03/24 because of COstruction. <a href="#">Remove</a></p> <p>Arrived late into Chestnut at 5:55 pm on 15/03/24 because of Woke up late. <a href="#">Remove</a></p> <p>Arrived late into Rosewood at 4:41 pm on 12/03/24 because of Traffic. <a href="#">Remove</a></p>

			
10	Data for all the students, parents and teachers can be easily imported into the database from a JSON format using a simple command line utility each new academic year.	MET	
11	Backups are regularly made for the late arrival data in JSON format.	MET	
12	Emails are sent using a Outlook account password in a securely stored file.	MET	
13	Accessing the interface after selecting the building name requires a passkey to ensure only	MET	

	authorized people can access it.		
14	Rate limiting for requests to ensure security and minimize impact of accidents or buggy code.	MET	
15	Log out button that prevents access to the interface until passkey is entered again in the dashboard.	MET	
16	Data both entered by assistant and from JSON file validated.	MET	<pre> required: true, validate: (grade) =&gt; Number.isInteger(grade) &amp;&amp; grade &gt;= 6 &amp;&amp; grade &lt;= 12, , section: {   type: String,   required: true,   validate: (section) =&gt; ["A", "B", "C", "D", "E", "F"].includes(section), </pre>
17	Intuitive, uncluttered, and usable user interface, with large font size and elements.	MET	Client: “Yes, its very easy for me to navigate the UI, I was able to start using it myself as soon as you showed it to me.” (Appendix E.1)
18	The code base should be	MET	Advisor: “The code is very well organized into relevant modules and folders. Good job.”

	modular, extensible and readable to allow for easy maintenance and future changes.		
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Firstly, the product was sent to the client for beta testing. After using the product hosted locally with dummy data, the client was satisfied that the success criteria have been met (Appendix E.1).

Then, the application was implemented and deployed first in a pilot setting for Grade 8, and the client used it in real-world situations. An interview was then conducted, and the client talked about what the application did well, some issues they faced and suggestions for future improvement (Appendix E.2).

### Ease of distribution

Both the client and the server have been packaged as NPM packages (dependencies/libraries of correct version get automatically installed) and git repositories (to clone the latest code excluding binaries and sensitive files), using the “package.json” and “.gitignore” files (shown below) to specify the configuration.

```
{
  "name": "server",
  "version": "1.0.0",
  "description": "",
  "main": "index.js",
  "scripts": {
    "test": "echo \\\"Error: no test specified\\\" && exit 1",
    "dev": "nodemon index.js"
  },
  "keywords": [],
  "author": "",
  "license": "ISC",
  "dependencies": {
    "cors": "^2.8.5",
    "dotenv": "^16.4.5",
    "email-validator": "^2.0.4",
    "escape-string-regexp": "^5.0.0",
    "express": "^4.18.3",
    "express-rate-limit": "^7.2.0",
    "mongoose": "^8.2.1"
  },
  "devDependencies": {
    "nodemon": "^3.1.0"
  },
  "type": "module"
}
```

```
node_modules/
.env
static/
```

The application can be easily installed and initialized by running the following commands:

#### For server:

```
git clone http://xxxx.xx
// Edit .env file and fill it with details
npm install
node index.js
```

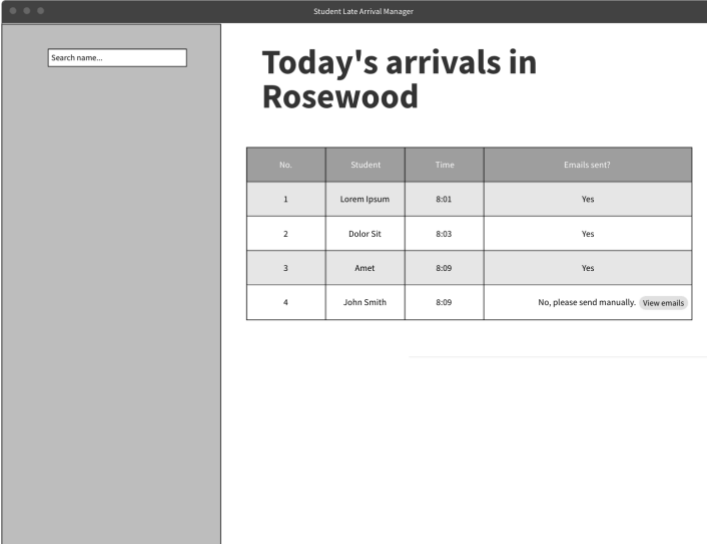
#### For client:

```
git clone http://xxx.xx
```

```
npm install  
npm run build
```

## Suggestions for future improvement

- During the implementation, while the data was imported successfully, there were some issues with collecting the images for each student and each ID which had to be manually imported. In the future, a script could be made to get the images of each student so that they can be automatically added each year.
- After the actual implementation, the client noted that were sometimes some errors with sending the emails (network issues) or the emails had to be sent to different addresses (Appendix E.2). Therefore, in the final interview, the client recommended that instead of a blank page after login, the students late today along with the email sent status be shown on the dashboard. This will allow the client to look at the late arrivals for the day, check that emails have been sent, and manually intervene if necessary. A design for this potential extension is shown below.



No.	Student	Time	Emails sent?
1	Lorem Ipsum	8:01	Yes
2	Dolor Sit	8:03	Yes
3	Amet	8:09	Yes
4	John Smith	8:09	No, please send manually. <a href="#">View emails</a>