April 18th, 2024

**Comfort Airlines**

**Minutes of Meetings**

Client: Professor Michael Oudshoorn

Group Name: Byte Me

Contractors: Joellen A., Kyle B., Hanna Z., Alex H., Joshua T., JR V.

**About Minutes of Meetings**

The "Minutes of Meetings" document captures detailed records of discussions and decisions made during the planning and development of a project by the Byte Me group for Comfort Airlines. The attendees contractors, focused on creating database methodologies, user interface designs, and project simulations tailored for Mac and Windows platforms. The document reflects a rigorous and collaborative approach, highlighting the team's efforts in establishing a productive work environment, addressing technical challenges, and making strategic decisions to meet client requirements. Each meeting is meticulously documented to include attendee initials, project discussions, decisions made, and assigned tasks, ensuring all team members are aligned and accountable as the project progresses.

**Attendees Initials**

* AH = Alexandra Hall
* HZ = Hanna Zelis
* JA = Joellen Allah-Mensah
* JT = Joshua Thompson
* JV = JR Vano
* KB = Kyle Boan

**Date: January 11, 2024**

* Minutes: 1:35pm - 3:15pm (100 minutes)
* Attendees Initials: JA, JV, AH, HZ, KB, JT
* Meeting Description:
	+ The initial meeting focused on creating the foundation of the project
	+ JA: developed information that was from the Project.pdf, which was originally given by the client, to ensure the team had all necessary information
	+ KB: generated MacBook information for database methodologies performed research of various database methodologies, as half of the group has a Mac
	+ JV: generated Windows information for database methodologies performed research of various database methodologies, as half of the group has a Windows
	+ HZ: started with looking into UI/UX, ensuring that the user interface was easy to understand and also appealing
	+ JT: shared a Github repository, allowing for the team to be able to have a place to put all of their code to share it
	+ AH: started looking into the Project.pdf to ensure all necessary information regarding the simulation was evaluated and reviewed
* Discussion:
	+ After introducing ourselves to each other, we discussed our strengths and weaknesses, ensuring we knew the importance of communication, collaboration, and meeting deadlines
	+ Overview of Client Requirements: JA presented her notes from the Project.pdf so that way the group could start to understand the project and what was going on
	+ Discussion on Database Methodologies: KB and JV focused on researching and discussing the database information for MacBooks and Windows computers, which lead to the debate about using joecool versus MariaDB
	+ GUI Methods and UI Planning: HZ brought up the idea of UI/UX, as all of the code and understanding of how to present to the client at the end was going to be important, since what they could also create may also help in creating the first product for the client
	+ Establishing a Collaborative Environment: JT helped create the new Github repository, ensuring that each person could be connected to it and had easy access
	+ Project Simulation and Mapping Out: AH discussed the information regarding the airplane, from the Project.pdf, ensuring that all team members knew about how this information needs to be implemented into a simulation
	+ The meeting ended by having a quick overview of the project, ensuring that any question that needed to be asked could be and if the team could not figure it out, they could ask the professor or client
* Alternatives:
	+ Developing a UI vs GUI
	+ Joecool vs. MariaDB
	+ Create a website with PHP and HTML or a mobile app with Android Studios
	+ Creating a project or repository on GitHub
	+ Communication tools: Discord, texting, email, Microsoft Office
	+ Various approaches to creating realistic project simulations, including either a graphic movement of airplanes (where a country map is laid out and airplanes are flying all over the place, based on all the flight data) or developing a timetable
* Decisions Made:
	+ Develop a UI because right now this is what we believe will be best for the client to view and for the fliers to use
	+ Opted for Joecool as it is all the group knows regarding creating and developing a database and is compatible across Mac and Windows
	+ Website user interface because PHP and HTML are easier to learn than Android studio and it is also easier to apply to user interface
	+ Created a repository on GitHub as the team realized how difficult it was to use a project and that a repository would be easier to actually push/pull code, share code, and layout the files. The project part of it was too difficult to learn, understand, and implement in the little time we have for this project while all of us have at least one repository of our own
	+ Created a group chat on Discord and texting as texting is convenient for updating about quick questions and reminders about meetings and deadlines while Discord allows us to easily create channels to send updates to everyone regarding different portions of the project that are being worked on
	+ The time table is more of a better solution regarding an easier understanding of the flight data, information, and can be implemented to show the client our revenue, while also being able to apply that timetable to airports, future websites, and apps for Comfort Airlines
* Work Assignments (due date)
	+ JA: continue developing information regarding some more of the specifics from the client document and going to ask the professor and/or client any questions necessary (due date: 01/18/2024)
	+ JV: start developing an excel sheet with airports, longitude and latitudes, and their distances from one airport to another, blocking out any airport that is within 150 miles of each other (due date: 01/18/2024)
	+ AH: focus on researching joecool and its implementation (due date: 01/18/2024)
	+ HZ: begin the initial designing of the website layout and how the timetable is to be displayed (due date: 01/18/2024)
	+ KB: start reviewing the Project.pdf to see what type of formulas need to be created to put in the code that will help with keeping the timetable up to date and implementing the database (due date: 01/18/2024)
	+ JT: facilitate the team’s GitHub and Discord, setting up the repository on GitHub and sharing it with everyone on the team in addition to setting up a Discord with everyone and creating channels for future use where files, information, and updates can be shared (due date: 01/18/2024)
* Project Reports
	+ JA: successfully researched website layouts for GUI implementation and mock website layout on Adobe Suite
	+ JV: Found strong database methodologies for windows
	+ AH: started drafting database
	+ HZ: had success in developing different types of website layouts
	+ KB: Found multiple database options and methodologies for mac
	+ JT: Created Github and Discord to facilitate communication.

**January 18, 2024**

* Minutes: 1:35pm - 3:15pm (100 minutes)
* Attendees Initials: JA, JV, AH, HZ, KB, JT
* Meeting Description:
	+ This meeting was when we started diving into the more technical side, not logistical side, of the project
	+ JA: shared her detailed evaluation of the Project.pdf, as the group was still trying to understand the project and what the client wanted
	+ JV: shared his Excel sheet listing airports with their longitudes, latitudes
	+ AH: presented her findings about joecool, talking about how we could use it for our project
	+ HZ: presented website designs and time table integration
	+ KB: reviewed the Project.pdf for necessary formulas that would update the timetable automatically
	+ JT: provided an update on setting up the team’s Github and Discord, emphasizing the creation of channels on Discord
* Discussion:
	+ JA’s update on the project focused our discussion on ensuring that our technical side was meeting the requirements on the logistical side
	+ JV presented the Excel sheet where he listed airports, discussing what the next step would be in filling information in this Excel sheet. The team deliberated on the hubs based on the locations and what airports were within a 150-mile radius of each other.
	+ AH’s talk about joecool’s implementation brought up how we were going to get the database created as for some reason we tried to make a database and it did not work. We realized we did not have access to actually creating a database anymore. So we figured out it was because we were not in the database systems class anymore and that we needed to talk to Blake and Tyler.
	+ HZ’s website design led to discussion about including the timetable in the user interface to ensure our project would look / appear better to the client at the end
	+ KB’s review formulas for database and timetable integration made us discuss what factors needed to be taken into consideration for these formulas and calculations. Formulas included travel time and the flight time. He said he was going to have to continue to figure out how to implement the factors into the formulas and then eventually put them into code.
	+ JT’s update on GitHub and Discord allowed us to discuss how GitHub and Discord work, explaining to each other what channels we wanted to have displayed that may not have been displayed and ensure we could find our access to the Github repository
* Alternatives:
	+ Different layouts of the timetable on the website
	+ The other options were the 26 other airports, some which include Denver, Chicago, LA, Las Vegas, Orlando, Miami, Charlotte, Seattle, Phoenix, San Francisco, Houston, Boston, Detroit, Philadelphia, Salt Lake City, Washington Metro, San Diego, Tampa, Nashville, Paris
	+ We could have used MariaDB or .txt files or joecool
* Decisions Made:
	+ Display for how we wanted to set up the timetable on the website
	+ Hubs: JFK, ATL, DALLAS, ST. PAUL as a majority of hubs are on the middle and east coast, are high in population to guarantee a lot of planes flying in and out of them, and then they were all at least 150 miles away from each other
	+ Creating a database in joecool - have to go to Blake to figure out how to get a database created so they can be implemented phpMyAdmin
* Work Assignments (due date)
	+ JA: start developing the front end (due date: 01/25/2024)
	+ JV: refine the Excel sheet with airport data and finalize which airports are under 150 miles, so to block those out (due date: 01/25/2024)
	+ AH: begin writing out the database tables and entities (due date: 01/25/2024)
	+ HZ: finalize website design and start focusing on developing the timetable on the UI (due date: 01/25/2024)
	+ KB: continue to develop the required formulas with the factors the group (due date: 01/25/2024)
	+ JT: work on developing the formulas and then implementing them in C++ files (due date: 01/25/2024)
* Project Reports
	+ JA: Chose the best language for optimization, PHP, researched in what ways I could combine it with HTML for styling
	+ JV: Got all the information for every airport to start great circle calculations
	+ AH: Filled out parts of database
	+ HZ: took into consideration good detail from the group and called Joellen for a quick question regarding color scheme as she is a major in graphic design, other than that, it was smooth sailing
	+ KB: work went well had questions on a couple equations, talked with Josh.
	+ JT: organized and fleshed out Discord channels as well as Github repositories

**January 25, 2024**

* + Minutes: 1:35pm - 3:15pm (100 minutes)
	+ Attendees Initials: JA, JV, AH, HZ, KB, JT
	+ Meeting Description:
		- This meeting was a continuation of work that was assigned and seeing if people’s work was running smoothly, in addition to seeing where they were at in their work
		- JA: showed the initial development of the user interface
		- JV: updated the team on the updated Excel sheet with the distances between the airports
		- AH: detailed progress on database development, including the tables, entities, and relationships
		- HZ: presented a most likely finalized website design that included the timetable
		- KB: showed the formulas they had and what was necessary in continuing to develop the formulas for the database
		- JT: discussed how the formulas may be integrated into the database and UI
	+ Discussion:
		- Delved into the details of the database, UI, and formulas in detail and started figuring out if we wanted to use a docker or not, and calculating more of the flying distances. The emphasis was on ensuring all elements had enough detail individually to enhance the user experience and meet the project’s technical requirements. We also had a discussion with Dr. Oudshoorn regarding using a UI versus a GUI, so the team discussed which one we wanted to use. Other than that, we had a big work day, continuing to work on our individual assignments that were due that day
	+ Alternatives:
		- Different technical approaches for database development and implementation - using a virtual machine or docker
		- GUI vs. UI
		- Languages we wanted to use for the coding: java or C++
	+ Decisions Made:
		- We decided to use a docker because of its portability
		- GUI because it is more graphic focused interfaced
		- C++ because we can implement it more easily and that is also what the team knows and as of now we believe we do not all have the time in learning a new language
	+ Work Assignments (due date)
		- JA: creating the templating for the submission files (due date: 02/01/2024)
		- JV: check flights to make sure there are no overlapping flights (due date: 02/01/2024)
		- AH: finalizing and adding relationships to the database table diagram (due date: 02/01/2024)
		- HZ: researching the GUI and helping write requirements and minutes of meeting documentation (due date: 02/01/2024)
		- KB: developing formulas and calculations and contribute to minutes of meeting documentation (due date: 02/01/2024)
		- JT: researching how to create and implement a docker (due date: 02/01/2024)
	+ Project Reports
		- JA: Decided that the GUI was necessary in the sense that we wanted to output our code on in an understandable way to the client
		- JV: Finished the great circle calculations and put it all in the spreadsheet and double checked to make sure they were correct. Had the wrong coordinates for one of the locations so had to redo those
		- AH: filled out tables for database
		- HZ: review the Project.pdf to ensure all documentation that was necessary at the time was being developed, with all work done in ease, no questions or situations came up
		- KB: work on equations went well
		- JT: Formulas and equations were fleshed out.

**February 1, 2024**

* Minutes: 1:35pm - 3:15pm (100 minutes)
* Attendees Initials: JA, JV, AH, HZ, KB, JT
* Meeting Description:
	+ This meeting continued the past meeting tasks of dockers, database, formulas, and GUI set up
	+ JA: continued showing us the code she was implementing into the code
	+ JV: explanation of how the calculations and formulas impact with the flights traveling from west to east
	+ AH: started to develop database data based on the excel sheet JV created
	+ HZ: started setting up the documentation in the shared files drive, formatting, and
	+ KB: explanation of how the calculations and formulas impact with the flights traveling from east to west
	+ JT: continued doing research into how to set the docker up
* Discussion:
	+ This was a big discussion regarding the development of the time management documentation, discussing the first half of the project with when we wanted to have the docker and database set up by and when to have
* Alternatives:
	+ Other dates we considered for finishing the docker and the database included before spring break and up to four weeks back after coming back from spring break
* Decisions Made:
	+ The due dates of the first half of the time table, including the docker and database, which was to have the docker done by the second week we get back from spring break
* Work Assignments (due date)
	+ JA: setting up documentation in the shared Google drive folder (due date: 02/08/2024)
	+ JV: continuation of developing formulas and calculations (due date: 02/08/2024)
	+ AH: start researching how the database can integrate with the docker (due date: 02/08/2024)
	+ HZ: continuation of setting up the documentation made in the Google drive (due date: 02/08/2024)
	+ KB: formulas and calculation development continuation (due date: 02/08/2024)
	+ JT: continuation of getting the docker setup and understanding how it runs and works (due date: 02/08/2024)
* Project Reports
	+ JA: began to formulate the first GUI page that would link to the database, simulated information being outputted to that page
	+ JV: Started to research what was needed to start the calculations and code for passenger density
	+ AH: edited data for database
	+ HZ: started going into detail about what needed to be included in each documentation and all of the headers, ensuring names and dates appeared on each one, and the development of the documentation was simple, no concerns
	+ KB: started developing code for equations, went well.
	+ JT: successfully looked into how to implement a basic docker, looking into figuring out what we need.

**February 8, 2024**

* + Minutes: 1:35pm - 3:15pm (100 minutes)
	+ Attendees Initials: JA, JV, AH, HZ, KB, JT
	+ Meeting Description:
		- There was focus on the technical development with the project regarding the docker, continuation of the GUI, and the docker
		- JA: started to create the GUI via PHP connection to the HTML/CSS website
		- JV: updated with the formulas that pertained to the distance between the ports
		- AH: worked with continuing the research with how to connect the database to the docker
		- HZ: started to create the GUI via PHP connection to the HTML/CSS website
		- KB: updated the team with the formulas regarding the distances between the rest of the airports
		- JT: helped the team get set up on Docker Desktop and explain how it is in our GitHub repository
	+ Discussion:
		- This week was important in getting the docker setup on each person's computer. JT was able to fully help out the other team members with getting Docker Desktop downloaded and how to download the right version of MariaDB image so that everyone was compatible with the same image on the docker.
	+ Alternatives:
		- There were multiple versions of MariaDB
	+ Decisions Made:
		- MariaDB image version = 11.3.2, as it was the most foundational/latest version we could all get that was compatible with all of our computers (for some reasons that version was the furthest back one we could get). We wanted the one furthest back as we wanted the version to be as compatible with the client’s computer as possible
	+ Work Assignments (due date)
		- JA: GUI implementation continuation (due date: 02/15/2024)
		- JV: formulas and calculation development continuation (due date: 02/15/2024)
		- AH: continuation of setting up docker and the database (due date: 02/15/2024)
		- HZ: GUI research of connecting to the docker (due date: 02/15/2024)
		- KB: continuation of developing formulas and calculations (due date: 02/15/2024)
		- JT: setting up the docker, database, and GUI research (due date: 02/15/2024)
	+ Project Reports
		- JA: sought out Blake and Tyler with their advice on the best way to connect the GUI to database, successfully created our shared database for practice on joecool
		- JV: Worked on the code and ironing it out
		- AH: worked on data for database
		- HZ: no questions or concerns came up when doing GUI and docker research, just a lot of videos and websites information to watch and read, as this is a whole new area of implementation to research
		- KB: work went well
		- JT: still looking into how to set up the docker

**February 9, 2024**

* + Minutes: 12:00pm - 1:45pm (105 minutes)
	+ Attendees Initials: JA, JV, AH, HZ, KB, JT
	+ Meeting Description:
		- JA: Ironing out documentation
		- JV: Working on passenger density code
		- AH: Working on setting up database and helping with docker
		- HZ: Ironing out documentation
		- KB: Working on flight time code
		- JT: Working on setting up docker
	+ Discussion:
		- Important as we ironed out the timeline for the upcoming weeks and gave tasks that were due in the near future. Made sure everyone was caught up on where everyone was at and that the whole group was on the same page.
	+ Alternatives:
		- A Color scheme of red blue and yellow was an alternative
	+ Decisions Made:
		- Color scheme used for GUI
	+ Work Assignments (due date)
		- JA: GUI implementation continuation (due date: 02/15/2024)
		- JV: formulas and calculation development continuation (due date: 02/15/2024)
		- AH: continuation of setting up docker and the database (due date: 02/15/2024)
		- HZ: GUI research of connecting to the docker (due date: 02/15/2024)
		- KB: continuation of developing formulas and calculations (due date: 02/15/2024)
		- JT: setting up the docker, database, and GUI research (due date: 02/15/2024)
	+ Project Reports
		- JA: focused on the GANT Time management chart documentation, color coding for each member and designating tasks up until the end of the semester
		- JV: Continued working on the code as well as helped KB with flight time
		- AH: edited data to match what was changed
		- HZ: continued doing GUI research and is going smoothly
		- KB: continuation of equation work, went well
		- JT: asked blake for assistance, continuing to implement what is learned into docker

**February 15, 2024**

* + Minutes: 1:35pm - 3:15pm (100 minutes)
	+ Attendees Initials: JA, JV, AH, HZ, KB, JT
	+ Meeting Description:
		- JA: research of GUI
		- JV: planned out basic flight routes and choose hubs
		- AH: database research
		- HZ: research of GUI
		- KB: planned out basic flight routes and choose hubs
		- JT: set up docker compose file
	+ Discussion:
		- Talked about what hubs we planned on choosing. Made sure we had everything ready for to submit at the end of the day
	+ Alternatives:
		- Chicago was an alternative hub
	+ Decisions Made:
		- Choose the 4 hubs of St. Paul, JFK, Atlanta, Dallas
	+ Work Assignments (due date)
		- JA: finish GUI research and start GUI (due date: 3/8/24)
		- JV: finish passenger density code (due date: 3/8/24)
		- AH: finish database research and start database template (due date: 3/8/24)
		- HZ: finish GUI research and start GUI (due date: 3/8/24)
		- KB: finish flight time code (due date: 3/8/24)
		- JT: docker compose set up (due date: 2/23/24)
	+ Project Reports
		- JA: Started putting in sample data of database to prepare for testing querying from PHP site after I finished the timetable GUI in preparation for next week
		- JV: Had some logistical struggles picking the hubs and basic routes but planned them all out and worked out what would be best
		- AH: research for docker and database to work together
		- HZ: started developing the GUI and seeing how to implement, going smoothly, research doing well
		- KB: work on flight routes going smoothly
		- JT: continued to tinker with docker compose file

**February 16, 2024**

* + Minutes: 2pm-3:10pm
	+ Attendees Initials: JA, JV, AH, HZ, KB, JT
	+ Meeting Description:
		- JA: Began working on GUI
		- JV: Discussed more detailed flight paths with KB
		- AH: Started implementing a database with HZ
		- HZ: Started implementing a database with AH
		- KB: Discussed more detailed flight paths with JV
		- JT: Discussed docker compose and what is required for us to finish the docker
	+ Discussion:
		- This meeting focused on integrating the components developed thus far and setting a definitive path for the upcoming tasks. The team reviewed the progress on GUI development, database setup, and the initial planning of flight routes and hubs. Efforts were concentrated on aligning these components to ensure smooth functionality and interoperability.
	+ Alternatives:
		- Integration of GUI with Backend: Detailed discussions on the technicalities involved in connecting the GUI with the backend database. JA presented a strategy for utilizing PHP to help with this integration, ensuring easy querying and data retrieval.
	+ Decisions Made:
		- Finalization of Hubs: After thorough discussion, the team unanimously agreed on the selection of St. Paul, JFK, Atlanta, and Dallas as the primary hubs, with Chicago still a potential alternative for possible future expansion.
		- Integration Approach: We agreed to use PHP for the backend integration with the GUI, making a user friendly experience
	+ Work Assignments (due date)
		- JA: To expedite the creation of PHP files for GUI-database integration and focus on the user interface styling, drawing inspiration from existing airport timetable websites (Due Date: 2/23/24).
		- JV: To continue refining the passenger density calculations and optimize flight routes accordingly (Due Date: 3/8/24).
		- AH: To finalize the database setup, ensuring all necessary tables and entities are properly configured (Due Date: 3/8/24).
		- HZ: To proceed with GUI development, incorporating feedback from the team to enhance functionality (Due Date: 2/23/24).
		- KB: To initiate the development of flight time calculation code, considering operational and maintenance schedules (Due Date: 3/8/24).
		- JT: To finalize the Docker Compose setup, facilitating seamless integration with the project(Due Date: 2/23/24).
	+ Project Reports
		- JA: Began creating the PHP files that connected the GUI to the database, started styling based on other airport timetable websites and querying from the database
		- JV: Work went well
		- AH: docker and database connection research
		- HZ: work went well this week, no problems
		- KB: working on more equation code, going smoothly
		- JT: Started to implement a LAMP docker setup

**February 20, 2024**

* + Minutes: 1:35-3:15 (100 minutes)
	+ Attendees Initials: JA, JV, AH, HZ, KB, JT
	+ Meeting Description: At this meeting, we discussed the overall output of what we want our project to look like, as well as formatting how we’d want the code to be integrated with the GUI
		- JA showed the current state of the GUI, and gained feedback on where we’d want outputs to be located, and how to incorporate the database successfully
		- JV sifted through project.pdf file and sought out any more missing calculation info needed to complete calculations with flight time
		- AH Finalized the set up of the database, preparing it for data input, by adding all appropriate tables and entities
		- HZ added new documentation templates to google drive, gave feedback on current state of GUI
		- KB Finalized first draft of the scheduling info and maintenance program, taking into account the flight hours
		- JT installed the docker image necessary for integration with GUI, researched how to implement it in docker yml file
	+ Discussion:
		- Discussed important topics that would be crucial to bring up during our presentation that seemed relevant as we worked
		- The location of each function output in the Graphical User Interface
		- Discussed how the flight time and maintenance calculations needed to be outputted over the course of the two weeks
	+ Alternatives:
		- Another change to timetable layout to account for 14 days of flights
		- Changes to calculation function language, converted some to PHP from C++
	+ Decisions Made:
		- The data types that would be the most understandable to use for the outputs to the GUI
		- Decided to use joecool database to practice for setting up with our own database system which we intend to use for the final project, (not joecool)
		- The conversion of C++ to PHP when doing investments, not yet implemented, something for the following week
	+ Work Assignments (due date)
		- JA: needs to research on how to invoke C++ files within PHP documents, and call functions within PHP connection to database (due date: 03/03/2024)
		- JV: needs to finalize the calculations with the flight time, taking into account the correct latitude and longitudes (due date: 03/07/2024)
		- AH: needs to add more entities to each table to account for flight time entities (due date: 03/07/2024)
		- HZ: researching connection to docker of PHP (due date: 03/07/2024)
		- KB: finish the flight maintenance calculation, switching data types for accuracy (due date: 03/07/2024)
		- JT: needs to visit Blake and Tyler on how to add PHP image to docker and have it installed (due date: 03/03/2024)
	+ Project Reports
		- JA: found the specific PHP commands to link c++ files to the database and researched what the best and “cheapest”, most optimal way to do this.
		- JV: Worked on flight time code and made sure it was all set and we weren’t missing any crucial information.
		- AH: Worked on database no issues
		- HZ: helped with finding information to connect docker to PHP and sent the information along to JT, went well
		- KB: work went well on calculations
		- JT: continuing to work on connecting LAMP docker, and have implemented services that others have requested

**February 22, 2024**

* + Minutes: 1:35-3:15 (100 minutes)
	+ Attendees Initials: JA, JV, AH, HZ, KB, JT
	+ Meeting Description: Started to correct documentation based on feedback of previous checkpoint, as well as beginning to plan the most optimizable routes from each hub, as well as deciding the most important hubs. Read through the project.pdf as well to see what we’d have time to complete, and what we need to leave out.
		- JA research how to account the maintenance days into the investments chart and timetable GUI
		- JV compared scheduling maintenance calculations to pdf to ensure every element was included, including the number of maintenance days taking 1.5 days
		- AH went through the sample database created and compared it to her personal excel sheets to ensure actual data going to database based on chosen flights matched up via tables and entities
		- HZ started to revise the requirements documentation to be more detailed
		- KB looked at the best hubs chosen for optimization, and took it into account for the flight time C++ file calculating the time between each flight
		- JT find the image for the web service for the docker set up, begin to install necessary files and docker desktop app for testing
	+ Discussion:
		- Looked at feedback given from the previous checkpoint, and had a discussion regarding the response from Dr. Oudshoorn, that we needed to alter several documentation files that were more descriptive and detailed in a way that a client would understand. Also planned the entire GANT Chart for time management throughout the entire semester, since initially, we only filled it up to the point of our checkpoint upon submission.
	+ Alternatives:
		- No Alternatives were made during this meeting, only revisions of previous documents and updates to PHP and C++ codes
	+ Decisions Made:
		- Decided to not do the simulation for the 14 days of flying as stated in the project.pdf in interest of time and coding.
		- Redid the minutes of meetings documentation entirely, correcting format based on feedback as well as requirements document to be more descriptive, added the inputs and outputs of each functional and non-functional component
	+ Work Assignments (due date)
		- JA: should finalize the timetable core components, so that next week would be able to focus on styling and selecting flight via dropdown (due date: 03/03/2024)
		- JV: needs to finalize the calculations with the maintenance days in the flight time for accurate results to prepare for testing (due date: 03/07/2024)
		- AH: should do more research on connecting the Database to the docker, should find the answer so we can start testing in 2 weeks for it (due date: 03/10/2024)
		- HZ: should finish the structure of the documentation for preparation to submit new updated documents based on clients feedback for the next checkpoint (due date: 03/07/2024)
		- KB: should finish the flight maintenance files and take into account the longitude and longitude calculations in correlation with flight speed, to be queried from database within FLIGHT table (due date: 03/07/2024)
		- JT: needs to visit Blake and Tyler on how to add the mysql image to the docker (due date: 03/03/2024)
	+ Project Reports
		- JA: had success in selecting from the database a flight from the GUI, and updating the timetable based on its information and correctly simulating a timetable
		- JV: Researched for maintenance code to make sure I had all the info before I started coding
		- AH: put more columns in for calculations
		- HZ: reviewed the feedback for documentation and been altering the documentation as necessary, going well
		- KB: work on flight maintenance went well
		- JT: contacted blake for assistance with connecting docker to web service

**March 7, 2024**

* + Minutes: 12:00pm-2:00pm
	+ Attendees Initials: JA, JV, AH, HZ, KB, JT
	+ Meeting Description:
		- JA: GUI and database connection
		- JV: Flights and calculations set up
		- AH: Database setup and organization
		- HZ: Documentation, calculations
		- KB: Worked on calculations and code
		- JT: Docker setup and testing
	+ Discussion:
		- Worked on calculations, documentation and database work. Discussed how to connect everything with the GUI.
	+ Alternatives:
		- No alternatives discussed or needed, set on our own projects.
	+ Decisions Made:
		- Decided who was going to work on what was needed and set due dates.
	+ Work Assignments (due date)
		- JV, HZ, KB: Finish all flight routes and plans (Due March 21st)
		- AH, JT: Docker and database connection (march 28)
		- JA: GUI work and connecting (march 28)
	+ Project Reports
		- JA: started to draft how to invoke maintenance hours in GUI given the maintenance scheduling c++ file created by contractor JR Vano
		- JV: testing to make sure the calculations and flights worked together
		- AH: created tables for database
		- HZ: no problems to report this week, work went well
		- KB: work on calculations going smoothly
		- JT: testing the connected web service with the LAMP docker

**March 14, 2024**

* + Minutes: 1:35pm - 3:15pm (100 minutes)
	+ Attendees Initials: JA, JV, AH, HZ, KB, JT
	+ Meeting Description:
		- JA: Worked on GUI and database implementation
		- JV: Worked on creating and finalizing flight routes
		- AH: Worked on spreadsheets for database integration
		- HZ: Worked on creating and finalizing flight routes
		- KB: Worked on creating and finalizing flight routes
		- JT: Worked on setting up a LAMP docker
	+ Discussion:
		- Discussed the ideas of different possible flight routes between our airports and selected hub airports. Also discussed and decided to move one of our hub airports from St. Paul to Chicago.
	+ Alternatives:
		- An alternative was to keep the hub the same and not change its location, we decided against this because we thought that Chicago would be a better hub airport than St. Paul.
	+ Decisions Made:
		- The team decided to change one of the hub airports from St. Paul to Chicago
	+ Work Assignments (due date)
		- ALL: Work on documentation (Due March 22nd)
		- JV, HZ, KB: Finish all flight routes and plans (Due March 21st)
		- JT, JA: Get PHP connected to docker
		- AH: Create tables for database
	+ Project Reports
		- JA: Began implementing the investment PHP file called calc.php, where we plan on outputting all financial information, including profits and losses, linking to database
		- JV: Changed some flights around after drawing it out and being able to visualize the routes as well as decided to change a hub for logistical reasons
		- AH: created tables for database
		- HZ: was able to debate but had much good conversation to finish up flights so that data can get into the database
		- KB: Flight route talk went relatively smoothly, had to change some things around but went well.
		- JT: Finalized list of services required on docker

**March 15, 2024**

* + Minutes: 12:00pm-2:00pm
	+ Attendees Initials: JA, JV, AH, HZ, KB, JT
	+ Meeting Description: Worked on documentation. Docker and database setup were also worked on. Database spreadsheets and further testing were also started. The spread sheets were made for extra detail and ease of planning.
		- JA: Worked on GUI and database implementation
		- JV: added extra flight routes and edited existing ones
		- AH: Made spreadsheets
		- HZ: added extra flight routes and edited existing ones
		- KB: code for database to equations
		- JT: Docker and MariaDB connection work
	+ Discussion:
		- Docker setup was one of the main topics discussed and worked on. Several issues were worked on and discussed problem solving for the connection between DB and docker.
	+ Alternatives:
		- Discussion of something besides a docker did start
	+ Decisions Made:
		- nothing could make up for what the docker provided us and we decided to keep with it.
	+ Work Assignments (due date)
		- All: work on documentation (march 22)
		- AH and JT: work on docker and database (march 28)
		- JA: GUI work (march 28)
		- JV and HZ: Flight table (march 20th)
	+ Project Reports
		- JA: Wrapped but the investments table, got it to successfully output the sum of each flights pricings per day for the 14 days we are simulating
		- JV: Changed around some flights due to a limitation that I forgot
		- AH: Added some flight data to database
		- HZ: no problems to report this week, work went well
		- KB: work on flight maintenance was successful
		- JT: Troubleshoot with group different docker connections

**March 21, 2024**

* + Minutes: 1:35pm-3:15pm
	+ Attendees Initials: JA, JV, AH, KB, JT
	+ Meeting Description:
		- JA - Continued working on database implementation
		- JV - Finalized flight routes
		- AH - Added latitude and longitude to the existing database to help with calculations.
		- KB - Requested for a C++ service for the docker as well as finalized flight routes
		- JT - Asked for assistance with finalizing the connections to the docker.
	+ Discussion:
		- Discussed how we would implement our code and the docker on the HPU Linus server as well as any services we would need to do so. We also discussed the remaining documentation we needed to complete for the assignment.
	+ Alternatives:
		- There were no alternatives made this day
	+ Decisions Made:
		- There were no decisions made this day
	+ Work Assignments (due date)
		- Everyone: Finish documentation (Friday 3/22/2024)
		- JT: Connect Mariadb and the docker (3/29/2024)
		- JA: Finalize GUI (3/29/2023)
		- KB: Find services required (3/22/2024)
	+ Project Reports
		- JA: Worked on the translation of the flighttime.cpp and schedulermaintenece.cpp c++ files to PHP in order to connect functions to the database and utilize database table entities to carry out calculations
		- JV: Double checked the flight routes to make sure that there were no more issues
		- AH: Added flight data to database
		- KB: Confusion on connecting code to database, asked Joellen and Alex for help
		- JT: Successfully connected docker to every service except mariadb, commented code
		- HZ: no problems to report this week, work went well

**March 22, 2024**

* + Minutes: 12:00-2:00pm
	+ Attendees Initials: JA, JV, AH, HZ, KB, JT
	+ Meeting Description:
		- JA: Worked on documentation
		- JV: Worked on documentation
		- AH: Worked on documentation
		- HZ: Worked on documentation
		- KB: Worked on documentation
		- JT: Worked on documentation
	+ Discussion:
		- Discussed finishing all documentation for submission
	+ Work Assignments (due date)
		- All: Submission 3 (Due TODAY)
	+ Project Reports
		- JA: Tarred up all the files and reshared a new template for the individual submissions in regards to our feedback in preparation for this upcoming checkpoint
		- JV: Commenting in the code and making sure the code and documentation is all up to date before the submission
		- AH: Added more columns to database
		- HZ: no problems to report this week, work went well
		- KB: Finished all comments in code and documentation, no problems
		- JT: Finalized documentation

**March 28, 2024**

* + Minutes: 1:35 - 3:15pm
	+ Attendees Initials: JA, JV, AH, HZ, KB, JT
	+ Meeting Description:
		- JA: Discussed grades and comments from Dr. Oudshorn on checkpoint 3.
		- JV: Discussed next steps for continuation of project
		- AH: Continued work on Database tables.
		- HZ: Worked with Joellen to discuss information from checkpoint 3.
		- KB: Discussed next steps for continuation of project
		- JT: Discussed next steps for continuation of project
	+ Discussion:
		- Talked with Dr. Oudshorn about checkpoint 3 comments.
	+ Work Assignments (due date)
		- All: Figure out next steps for assignment progress
	+ Project Reports
		- JA: mapped out the logistics of the routes page and how I wanted to code it based on the database tables and querying
		- JV: no problems this week
		- AH: edited plane table and simplified database
		- HZ: no problems to report this week, work went well
		- KB: successful week, no problems
		- JT: work completed successfully

**April 4, 2024**

* + Minutes: 1:35 - 3:15pm
	+ Attendees Initials: JA, JV, AH, HZ, KB, JT
	+ Meeting Description:
		- JA: Continued implementation of GUI with Joshua assisting
		- JV: Discussed with Hannah involving the layout of the tables.
		- AH: Continued work on Database tables.
		- HZ: Discussed with JR involving the layout of the tables.
		- KB: Discussed with Joshua the possibility of a script
		- JT: Assisted Joellen with the GUI, discussed with Kyle the possibility of writing a script to simplify the docker
	+ Discussion:
		- Determined how we wanted the flights to be shown on our GUI, as well as how our costs should be displayed.
	+ Work Assignments (due date)
		- Joshua: Find out how to create a script to start and configure the docker.
		- All: Continue working on database
	+ Project Reports
		- JA: Included the last portion of financial summary, subtracting the revenue from the operational costs to receive the total profit and loss of entire project
		- JV: Worked on tables for flights
		- AH: worked on flights and passenger information
		- HZ: worked on documentation and figuring out how to layout the flight table for the database
		- KB: Worked on data for flight table, went well.
		- JT: Looking into possibilities on scripts, ran into trouble with windows computers

**April 5, 2024**

* + Minutes: 12:00-3:10pm
	+ Attendees Initials: JA, JV, AH, HZ, KB, JT
	+ Meeting Description: At this meeting, contractors focused on ensuring database information was supplemental for the Graphical user interface inputs and outputs. Docker info was also updated to ensure code was updated when there were changes to the database
		- JA: Continued implementation of GUI, ensured pricing outputted in correct format, as well as the number of rows to be outputted once connected to database via docker
		- JV: Compared and confirmed the equation outputs from the Flighttime files matched or were accurate to googles outputs for flight times between airport destinations.
		- AH: Ensured all tables, entities, and columns matched up with the ones from the coded database output worked on by HZ and JR.
		- HZ: created updated list of things to be completed based on client feedback from last checkpoint, also aided the comparison of flight time and conversion of said units
		- KB: Drafted a script to run several docker commands that would do the same job as multiple commands that would output the localhost successfully to the browser with database changes
		- JT: Updated documentation on docker based on what was last changed, also drafted the user manual info for client to refer to when checking project output
	+ Discussion:
		- Decided the machine to present the project based on requirements from the clients pdf.
		- Decided for canceled flights, instead of setting them to NULL, output them to a 00:00:00 format within the database to catch the incorrect time, rather than not setting a value, easier for Graphical User Interface setup
	+ Work Assignments (due date)
		- All: contractors continue the current work from the last week with the updated changes and client feedback. JR and Hanna continue to check and add to database information on flight times within AIRPORT, AIRCRAFT, and FLIGHT tables. Alex ensuring PASSENGER table aligns with the number of transported passengers minimum for our airline. Joshua continues with Docker script, Joellen continues with GUI implementation, finalizing initial three pages.
	+ Project Reports
		- JA: worked on setting up the default values and error outputs based on incorrect flight departure and destination selection less than 150 miles apart
		- JV: worked on database tables and organizing flights
		- AH: worked on flights and database tables
		- HZ: set up the flight table for the database
		- KB: successfully created script
		- JT: worked on flights and database tables

**April 11, 2024**

* + Minutes: 1:35 - 3:15pm
	+ Attendees Initials: JA, JV, AH, HZ, KB, JT
	+ Meeting Description:
		- JA: implemented the translation of English to French and the conversion of U.S. dollars to euros so that way passengers who are natives in France can look at the timetable and read it in their own language
		- JV: went through and started to fact check the times for routes 1-14 for days 1-7
		- AH: went through and started to fact check the times for routes 15-26 for days 8-14
		- HZ: developed brochure and found brochure template in addition to finding presentation template
		- KB: went through and started to fact check the times for routes 1-14 for days 8-14
		- JT: went through and started to fact check the times for routes 15-26 for days 1-7
	+ Discussion:
		- How would we implement the date into the database to easily work with the GUI code - decided to do yyyy-mm-dd
		- Decided what flights for day 13 needed to be canceled - decided to cancel the first flights from routes 8 and 10, as in order to actually work with day 13’s requirements, there only needed to be one other flight canceled after it due to the routes only being from airport a to airport b and back to airport a, allowing for minimization of flight cancellations while still following protocol for day 13
	+ Work Assignments (due date)
		- All: continue to work on the flight database as that is what needs to be done in order to put together the GUI, docker, and database while Joellen continued to work on implementing the additional language and currency translation features
	+ Project Reports
		- JA: worked on translating the initial timetable page from french to english with single button, accounted for distance in kilometers, and prices in euros and their translations via PHP equations
		- JV: Calculated all departure airports West of 103° to figure out what flights have a possibility of being canceled as well as worked on documentation
		- AH: worked on flights and database tables, worked on documentation
		- HZ: worked on setting up and explaining how to help with implementing the time schedule based on the gate-to-gate times and the different types of requirements for the 14 days
		- KB: fact checked data, went well
		- JT: worked on flights and database tables

**April 12, 2024**

* + Minutes: 12:00-3:10pm
	+ Attendees Initials: JA, JV, AH, HZ, KB, JT
	+ Meeting Description:
		- JA: worked on gui/presentation organized the descriptions on each slide and coordinated with the group on where each member's contribution would go.
		- JV: worked on the flights table, added final information needed. Example, flight numbers and checked date and time for departure and arrival
		- AH: worked on flights table/presentation, made script for passenger database to fill out every flight.
		- HZ: worked on discussion of implementing the database into the GUI developed every single unique flight number
		- KB: worked on the flight table, checked data for dates and times for accuracy and requirements.
		- JT: worked on the flights table and contributed to combining scripts and code together. Worked on the docker and gui connection for final checks.
	+ Discussion:
		- Discussed how database worked with all members and its finalization with the gui
		- Write all information needed in flight table to finish up what is needed
	+ Work Assignments (due date)
		- All: end of project submission
	+ Project Reports
		- JA: added javascript leaflet gui output for outputting the maps between routes based on what destination airport, departure airport, and time the user selects
		- JV: worked on making sure all of the flight table information was correct
		- AH: worked on presentation/tables for database
		- HZ: worked on ensuring all elements of the flights table for the database were implemented appropriately into the database
		- KB: worked on implementing data from database to docker and gui
		- JT: ensured that the database is correctly formatted after importing it into the docker, verified the table information was correct

**April 18, 2024**

* + Minutes: 1:35 - 3:15pm
	+ Attendees Initials: JA, JV, AH, HZ, KB, JT
	+ Meeting Description:
		- JA: Prepare for final presentation
		- JV: Prepare for final presentation
		- AH: Prepare for final presentation
		- HZ: Prepare for final presentation
		- KB: Prepare for final presentation
		- JT: Prepare for final presentation
	+ Discussion:
		- Preparation for presentation
	+ Work Assignments (due date)
		- All: Fully prepare for presentation, Due: April 19th
	+ Project Reports - not included as itis the day the project is to be submitted so everyone is working on preparing for the client presentation tomorrow