

Bravo Team Final Report:

CIS 475

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Introduction:4

Client Background:4

Problem and Current System:4

Problem:4

Current Workload:5

Initial Problem Data Flow Diagram:.....6

Proposed Solution:9

Initial Proposal Solution:9

Improvement Processes:11

Final Proposal Solution:.....12

System Implementation:.....12

Previous Pre-Authorization Form Drawbacks12

Pre-Authorization Form Changes:13

Power Automate Implementation:14

Overview:.....14

1. Form Submission Trigger:14

2. Retrieve Form Data (Get Response Details):.....14

3. Data Formatting (Compose Actions):.....15

4. Folder Creation (OneDrive File Method):15

5. Sharing and Access Control:.....15

6. Share Link Generation:16

7. Email Automation:16

8. Delay Until Actions (Scheduled Notifications):.....16

9. Data Logging in Excel:16

Summary:17

Excel Automation:17

System Design and Data:18

Updated Data Flow Diagram:18

Statistics:.....	19
Statistical Changes:.....	19
Testing:.....	19
Testing Overview:.....	19
Usability Testing:.....	20
Usability Findings:.....	22
Benefits and Results:.....	22
Benefits of Changes:.....	23
Deployment:.....	23
Implementation to Client:	24
Future Work:	24
Future Proposals:	24
Appendix:.....	25
Previous Pre-Authorization Form	25
Updated Pre-Authorization Form	25
Figma Prototype Solution Proposal 1 (Travel Portal).....	25
Client Email Threads:	26
1. Initial Contact & Meeting Setup.....	Error! Bookmark not defined.
2. Kickoff Meeting & Initial Understanding.....	Error! Bookmark not defined.
3. Requesting Materials & Clarifications.....	Error! Bookmark not defined.
4. First Process Draft & Feedback Loop.....	Error! Bookmark not defined.
5. Data Flow Diagram + Specific Questions	Error! Bookmark not defined.
6. Iteration & Transition to Webex	Error! Bookmark not defined.
7. Final Clarification on Form Errors	Error! Bookmark not defined.

Introduction:

Towson University's Computer and Information Sciences (CIS) Department currently manages student travel through a manual, heavy email process that operates outside the university's official travel system, called Stratus. Stratus is Towson University's official travel management system used by faculty and staff to submit travel requests, route approvals, and complete expense reports. Students don't have access to Stratus, which is why their entire process must be handled manually by the department. Because students are not permitted to use Stratus, all communication, document collection, and form preparation falls on the department's travel coordinator. Our team project focused on simplifying the CIS student travel process. This will make the process much easier and smoother for the travel coordinator and the students.

Client Background:

Our client is Ms. Angela McDermott, the CIS Department Travel Coordinator. She supports a huge group of people within the university. This includes more than 50 faculty, 60 adjuncts, 60 doctoral students, and over 200 master students. Since students can't use Stratus, she's the one who must manage every single student's travel request from start to finish.

Problem and Current System:

Problem:

The original student travel process was inefficient, inconsistent, and highly manual. Originally, when students want to travel within the department, they must submit a DocuSign Student Travel Authorization Form. Students often misunderstood what information was required or how to format it. There were no examples, no routing logic, and no built-in validation to prevent mistakes. Because of this, students frequently submitted incomplete or inaccurate information, which led to delays, rejections, and repeated follow-up emails.

Additionally, the process relied entirely on email communication. Students emailed Ms. McDermott to begin the process; she emailed instructions back, and then she manually created the DocuSign form on their behalf, using whatever information the student provided. This system created a high risk of lost documents, miscommunication, and unnecessary administrative work.

Current Workload:

The workload for Ms. McDermott under the original system was very high. On average, she exchanged 10 or more emails per student, depending on how many corrections were needed. Each student's submission required:

- Sending instructions manually
- Reviewing the student's form for accuracy
- Requesting missing or incorrect information
- Waiting for the student to resubmit
- Manually preparing the DocuSign form
- Tracking receipts after the trip
- Following up when receipts were missing

Because students often misunderstood the form, Ms. McDermott spent a lot of time clarifying certain questions. The lack of examples and routing logic caused students to see fields that did not apply to them, which increased confusion and errors. This repetitive correction cycle diverted Ms. McDermott's time away from other department responsibilities and created unnecessary delays in the approval process.

Initial Problem Data Flow Diagram:

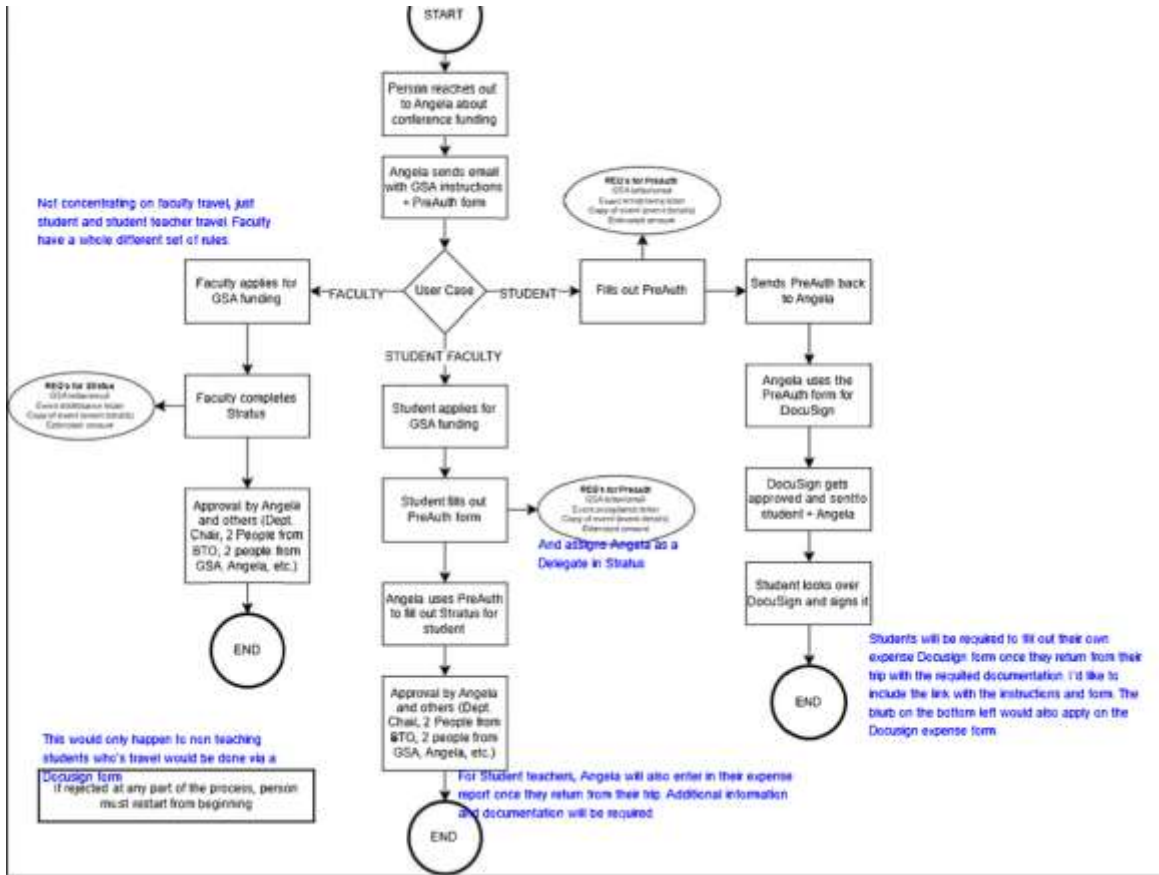


Figure 1

The Data Flow Diagram above is our initial diagram. To truly understand the process, we went through multiple drafts and made multiple changes to what the entire process is supposed to entail. In figure 1, the feedback in blue is what we received from our client, Angela McDermott. One of the concerns about the first draft was knowing our scope. Though we were told about the faculty portion, our client didn't want to concentrate on that. In addition, it was also important to us that we complete the full process to determine a feasible solution for our client that will last a long time.

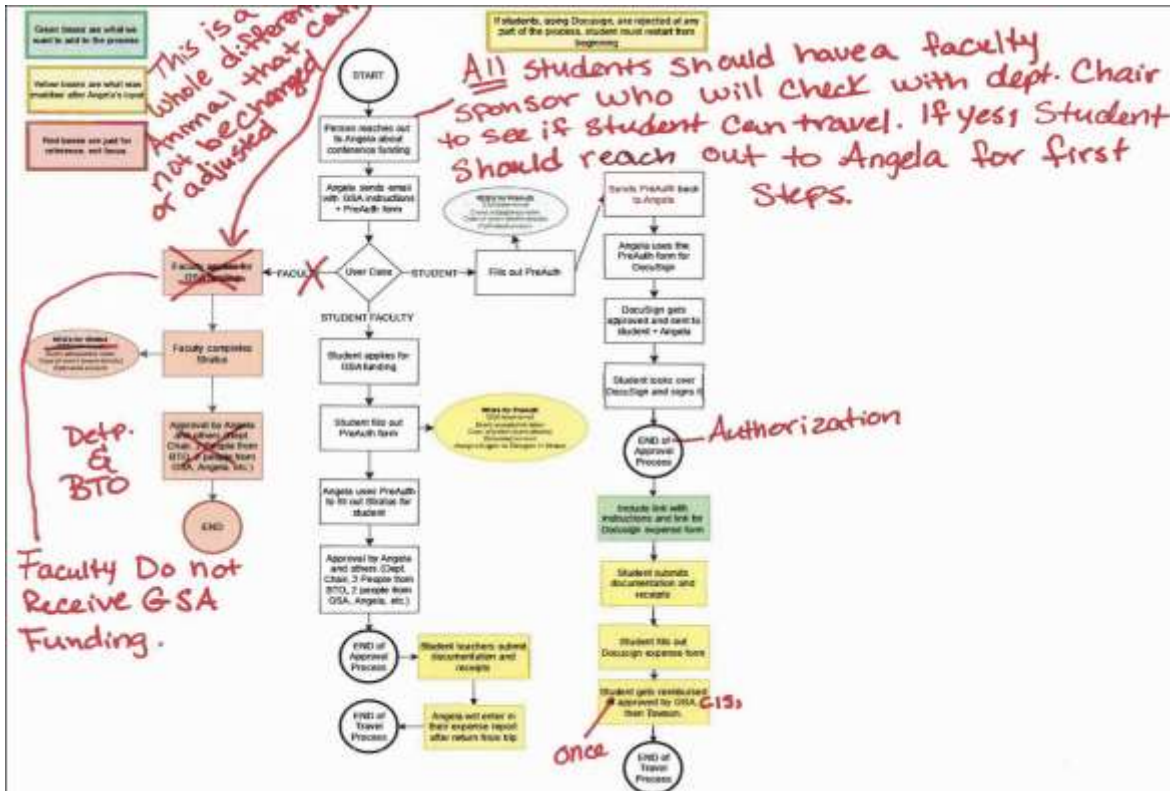


Figure 2

This second Data Flow Diagram encouraged us to focus on certain parts as well as understand the diagram. We used color coordination to show the thinking behind the changes we made, going from our initial diagram to this one. Green is for what we added to the process after feedback from our initial DFD. Yellow is for what was modified after the input of our clients, Ms. McDermott. Red is for our reference, not what we want to focus on. In this case, it would be the faculty process of travel. Our client did not want that in any part of the diagram because it is an entirely different process that we shouldn't even worry about.

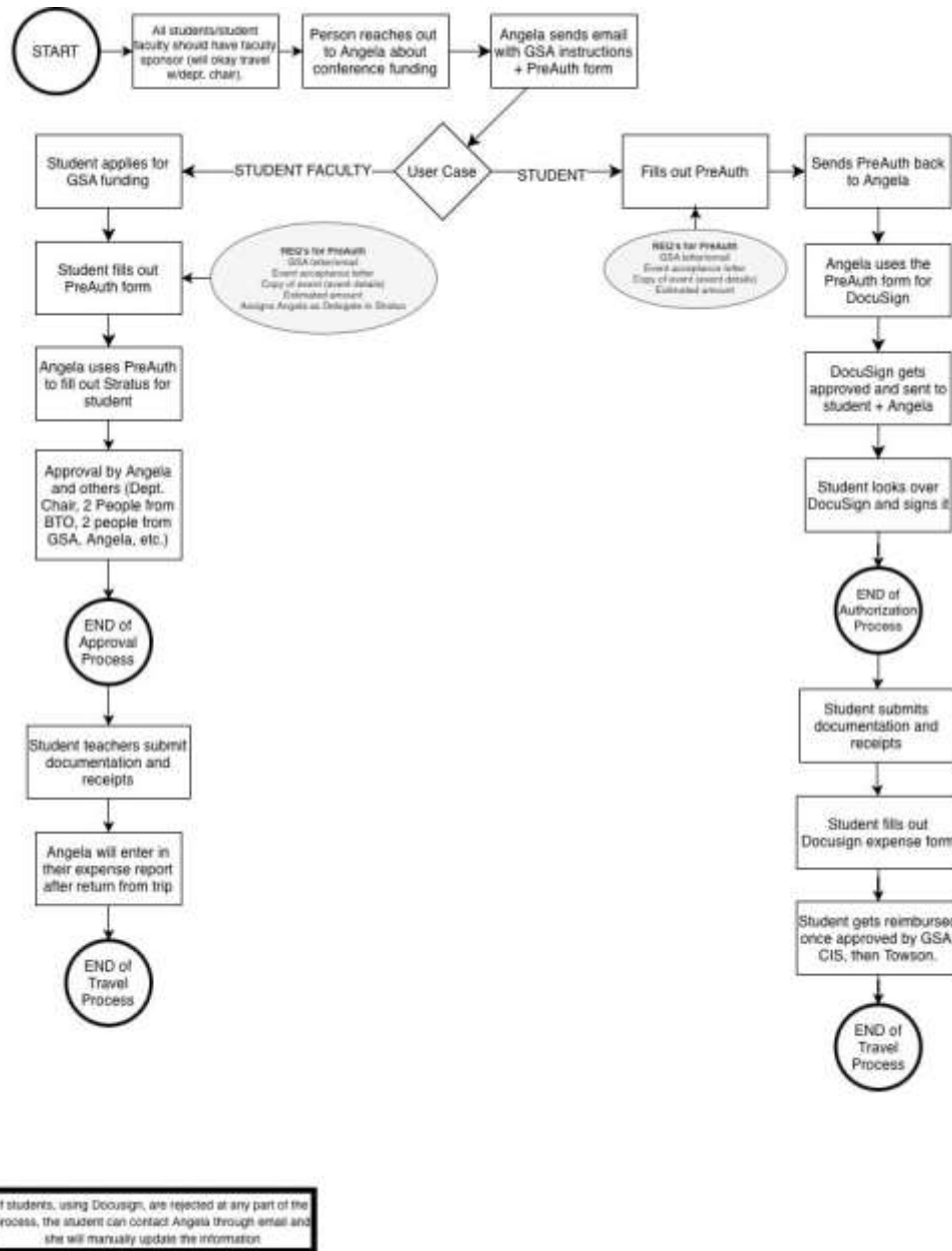


Figure 3

The figure above is the last of our data flow diagram drafts. To start the process all students, whether student faculty or student must have a sponsor. After that, they must reach out to Ms. McDermott about the conference funding. She replies with an email that includes GSA (Graduate Student Association) instructions and the pre-authorization form. From there, the diagram is split by user cases. Starting with student faculty on the left. The student must apply for GSA funding and fill out the pre-auth form which consists of: GSA Letter/ email, event acceptance letter, copy of event (event details with estimated amount), and assign Ms. McDermott as a delegate in Stratus. Using what the student faculty filled out, Ms. McDermott

uses that information to fill out stratus for that student. It must be approved by Ms. McDermott, department chair, 2 people from the BTO (Business Travel Office), and 2 people from GSA. That is the end of the approval process. Once the student faculty comes back from their trip, they must upload their receipt and documentation. Ms. McDermott will enter their expense report after returning from the trip.

The other user case is a student. The students fill out the pre-authorization form which consists of: GSA Letter/ email, event acceptance letter, copy of event (event details with estimated amount). Students don't use Stratus, so their process is a little different than student faculty. After the student fills out the pre-authorization form and sends it to Ms. McDermott, that information will be used for DocuSign. That gets approved and that is sent to both the student and Ms. McDermott. The students look over everything to ensure accuracy before signing the final copy. That is the end of the authorization process. Lastly, after the students come back from their trip, they must upload receipts and documents as well as fill out an expense form. The students can finally get reimbursed once everything is approved by GSA, CIS department, and then Towson.

Proposed Solution:

The Bravo team wanted to propose a solution to reduce Ms. McDermott's workload. This solution would also improve submission accuracy, which decreases the amount of email communication between the student and Ms. McDermott. Lastly, it would simplify the whole experience for students, making the whole travel process more palatable. Our solution is focused on creating a more organized and automated process for getting traveling students' information. The constraint was remaining within Towson University's existing technology and security constraints. This system was hoped to improve communication, reduce repetitive email exchanges, centralize travel documentation, and guide students through the correct travel authorization path.

Throughout the project, the team explored multiple solutions before we landed on the best option. Each solution was evaluated based on usability, maintainability, security, feasibility, and compatibility with Towson University's existing systems and Mrs. McDermott's administrative processes.

Initial Proposal Solution:

The team developed three main solutions before selecting the final implementation.

Solution 1: Centralized Admin Portal

The team's first proposal idea was to create a centralized administrative portal which would help manage the entire student travel authorization process from one place. The portal would be a place where students could submit travel information, upload required documentation, track approval progress, receive automated updates throughout the authorization and reimbursement process.

The portal solution included:

- Automated routing between Stratus and DocuSign workflows
- Submission tracking dashboards
- Document storage all in one place
- Automated email reminders and notifications
- Improved approval visibility for administrators
- Validation and input constraints for students

To present this proposed solution, the team created an interactive prototype in Figma. The prototype was presented during class presentations and directly to Ms. McDermott during a client meeting. *[The Figma prototype link is included in the appendix of this report.](#)*

The actual feasibility of implementing this solution raised some concerns even though the portal concept could have been the most ambitious long-term solution. Limitations included Towson University's security restrictions, limited access to systems like PeopleSoft or Stratus, administrative approval barriers, and the amount of time and development that it would have taken to develop it to be a comprehensive custom platform.

Solution 2: Hosted Webpage Form

The second proposed solution was a hosted webpage that had the student travel intake form (pre-authorization form). This option would have allowed us to be more flexible with the design of the form and a more customized user experience with more robust input validation than Microsoft Forms.

The team decided, after meeting with the client and deliberating, that hosting a totally separate webpage created more security and deployment concerns. The solution also needed a lot of development and maintenance work while only providing many of the same benefits as the Microsoft Forms solution. After analyzing all these concerns, the team concluded that the added complexity did not justify the few advantages over using existing university-supported tools.

Solution 3: Enhanced Microsoft Forms Solution

The last proposed solution focused on redesigning and expanding the existing Microsoft Forms workflow which was already being used by Ms. McDermott. By staying within the Microsoft tool, which was already supported by Towson University, the team was able to avoid many of the security, deployment, and access limitations which came with the other proposed solutions.

Keeping the platform simple let the team focus more on improving the actual workflow experience. This included developing detailed routing logic, improving its usability, reorganizing backend data handling, automating communication through Power Automate, and creating centralized document submission system through OneDrive.

The team ended up selecting this solution because it was the most realistic, maintainable, and deployable option while still significantly improving the student travel authorization process.

Improvement Processes:

The proposed solution changed a lot after client meetings, usability testing, professor feedback, and repeated team reviews. Early versions of the system mainly focused on replacing the existing Pre-Authorization Form, but after some thought, the project expanded later into helping improve communication, organization, and some backend workflow automation. If the solution was meant to save Ms. McDermott time, we needed to be creative on how to shave off minutes throughout her whole process.

One major improvement was the structure and wording of the form itself. We learned during usability testing that participants had confusion with certain terms and questions, especially regarding Stratus routing, purpose of travel, mileage estimates, and reimbursement expectations. Because of this, the team revised some field wording, we added examples and guidance text, clarified instructions, and introduced Microsoft branching to simplify the experience for users logically.

The team also revised the routing process after learning that student-teachers and standard students follow different authorization processes. Routing questions were added to help direct users toward their specific questions based on their travel status, which department they were in, and trip type. This lowered the number of incorrect submissions and reduced approval delays.

Some technical improvements were also made during implementation. While building the Power Automate workflow, the team found some limitations with the automatic folder creation inside OneDrive. We found a workaround using placeholder files to generate student-specific folders automatically, and this helped solve that problem. More improvements within Power Automate included automated email confirmations, reminder notifications, centralized file storage, and enhanced Excel organization.

The solution evolved a lot through rounds of feedback from Ms. McDermott, who looked at diagrams, workflow drafts, automation processes, and considered some usability concerns throughout development. Each revision helped improve the clarity and usability of the final flow.

Final Proposal Solution:

The final proposed solution is a basic student travel workflow that combines Microsoft Forms, Power Automate, OneDrive, and Excel into a partially automated travel authorization system for the CIS Department at Towson.

The new and improved Microsoft Form is the primary intake system for students who need travel authorization. The form now includes conditional routing, required fields, examples, guidance text, and clearer instructions to reduce incomplete or inaccurate submissions, which reduces the need for back-and-forth emailing. Student-teachers are now directed toward the Stratus path first, while standard students continue only through the DocuSign path.

Power Automate manages the backend workflow automatically after a form is submitted. The automation creates student specific OneDrive folders, then it generates shareable upload links, feeds the data into Excel, and then sends automated confirmation emails and reminders. Students can now upload required documentation directly into their assigned folder whenever they'd like, which makes a single location for travel files and receipts.

Since we stayed within the Microsoft ecosystem, which is already used by the CIS Department, we were able to deliver a realistic solution without creating any unnecessary roll out or security issues. While the final solution is simpler than the original portal concept, the straightforward approach let us focus more deeply on usability, routing logic, workflow organization, and automation.

The final solution significantly reduces manual email communication, improves organization, simplifies document collection, and reduces repetitive administrative work for Ms. McDermott. But most importantly, the system drastically improves user experience for students by guiding them through the process step-by-step and reducing confusion during travel authorization.

System Implementation:

Previous Pre-Authorization Form Drawbacks

The previous Pre-Authorization Form helped collect student travel information, but it also had a bunch of issues that caused some confusion and incomplete submissions. One of the biggest problems was the lack of routing logic throughout the form. Every student saw the same questions and fields, and it did not matter if they were a standard student, student-teacher, international traveler, or even from an entirely different department. This made the form less straightforward and increased the chances of students filling out sections that did not apply to them or missing important instructions entirely.

The previous form also didn't have clear guidance or examples for students. Many students entered information in ways that did not match what Ms. McDermott needed in order to complete the travel authorization process. For example, some students were unsure how to explain their purpose of travel, estimate expenses correctly, or understand what documentation was required for submission. Because of this, Ms. McDermott usually had to spend more time emailing students back and forth to clarify or correct information before continuing the process.

Another issue with the original form was the wording of a few of the questions and fields. Some titles and descriptions were too broad or unclear, which caused inconsistent answers between students. More complicated parts of the process, such as GSA funding, Stratus routing, international travel requirements, mileage estimates, and reimbursement documentation, did not include enough explanation for students who weren't familiar with the process or terms. *[The previous Pre-Authorization Form is included in the appendix for reference.](#)*

Pre-Authorization Form Changes:

The updated Pre-Authorization Form was redesigned to make the student travel process clearer, more organized, and easier for students to complete correctly. The changes made to the form were based on feedback from Ms. McDermott, professor, and class feedback, usability testing results, and multiple internal reviews done by the Bravo Team throughout the project. *[The updated form is included in the appendix.](#)*

One of the biggest improvements made to the form was the addition of routing logic. The updated form now guides students based on their specific travel situation, such as whether they are a student-teacher, whether they are within the CIS Department, whether the trip is international, and whether their travel should go through Stratus or DocuSign. This helps prevent students from going through the incorrect process and lowers the chances of Business Travel Office rejections caused by incorrect routing.

The wording throughout the form was also revised to make questions clearer for students. Many field labels, subtitles, and instructions were rewritten to explain better what information students needed to enter and how Ms. McDermott needed to receive it. Additional examples and guidance text were also added for fields such as purpose of travel, miscellaneous expenses, and estimated expense amounts. The team also corrected smaller wording issues throughout the form, such as replacing "i.e." with "e.g." when examples were being shown to users.

The updated form also improved the way travel details and estimated expenses are collected. The word "tentative" was added to departure and return date fields because students may not have finalized or confirmed their travel plans while completing the form. The "personal vehicle" question was also reviewed and fixed, so students better understood whether they were entering mileage or estimated travel cost. Additional examples for miscellaneous expenses, such as visa fees or data plans, were included to help students understand what types of expenses belong in that section.

The team also added more guidance for special travel situations. If a student is not presenting a paper, the form now stops the process unless there is sponsor approval or another special circumstance. Students are directed to contact their sponsor or supervisor before continuing any further. The updated form also reinforces that students should always have a faculty sponsor connected to their travel request before starting the authorization process.

Lastly, the updated form better supports the reimbursement process by reminding students to keep detailed receipts throughout their trip. Since hotel confirmations are not considered receipts, and reimbursement happens after travel is completed, the form now gives stronger reminders regarding receipt collection and documentation. These improvements help reduce missing information, improve organization, and lower the amount of manual follow-up required from Ms. McDermott throughout the process.

Power Automate Implementation:

Overview:

The automation of the student travel request system was implemented using Power Automate to reduce manual administrative work and streamline the processing of student submissions. The flow connects Microsoft Forms, OneDrive, and Excel to automatically generate student-specific folders, manage access permissions, and send notifications.

1. Form Submission Trigger:

The workflow begins when a student submits a Microsoft Form containing trip information such as:

- Student name
- Student email
- Departure date
- Trip details

This submission acts as the trigger for the entire automation process.

2. Retrieve Form Data (Get Response Details):

The “Get response details” action extracts all submitted values from the form. These values are used throughout the flow to:

- Generate folder names
- Populate emails

- Determine scheduling for reminders

This step ensures that all dynamic content is accessible for downstream actions.

3. Data Formatting (Compose Actions):

Compose actions are used to standardize and format key values, particularly:

- Formatting the departure date into a consistent structure
- Building a combined string for folder naming (e.g., *Student Name – Date*)
- Constructing the final folder URL used in email notifications

This step ensures consistency across file paths and prevents mismatches between folder creation and link generation.

4. Folder Creation (OneDrive File Method):

Since direct folder creation was not available in the implementation environment, a workaround was used within OneDrive for Business.

A file is created in the intended directory path, which automatically generates the required folder structure. A placeholder .txt file is used to enforce folder creation.

Folder Structure Format:

StudentTrips / Student Name – Departure Date

This ensures that each student receives a unique directory for trip-related documents.

5. Sharing and Access Control:

After folder creation, a sharing action is applied to grant the student access to their folder.

Permissions are configured as:

- **Edit access**
- Allows uploading, modifying, and managing files within the folder

This ensures students can submit required documents while maintaining centralized storage under the administrator's OneDrive.

6. Share Link Generation:

A shareable link is generated for each folder using Power Automates sharing functionality. This link is then used in automated email communications.

The link dynamically reflects:

- The student's folder name
- The correct OneDrive Directory Path
- The sharing permissions assigned in the previous step

7. Email Automation:

Automated emails are sent to students containing:

- Confirmation of submission
- Access link to their personal trip folder
- Instructions for uploading required documents

This eliminates the need for manual communication from the administrator.

8. Delay Until Actions (Scheduled Notifications):

The "Delay until" action is used to schedule reminder emails based on the student's departure date.

For example:

- A reminder email is automatically sent at a specified time on the departure day (e.g., 10:15 AM)

This ensures timely communication without manual intervention.

9. Data Logging in Excel:

All submissions are recorded in an Excel file for tracking and administrative purposes. This includes:

- Student information
- Trip dates
- Folder references
- Submission timestamps

This provides a centralized dataset for auditing and reporting.

Summary:

The Power Automate implementation successfully automates the student travel request workflow by integrating form submissions, file storage, permission management, and scheduled notifications. The system reduces manual workload, improves consistency in document organization, and ensures timely communication with students through automated processes.

Excel Automation:

Our client required a more efficient way to review and access information without becoming overwhelmed by excessive or disorganized data. To address this need, we developed a streamlined solution that improves clarity, organization, and ease of navigation.

Before Automation:

Data fields are disorganized by date and there is so much information overload it is hard to read and not easily scannable.



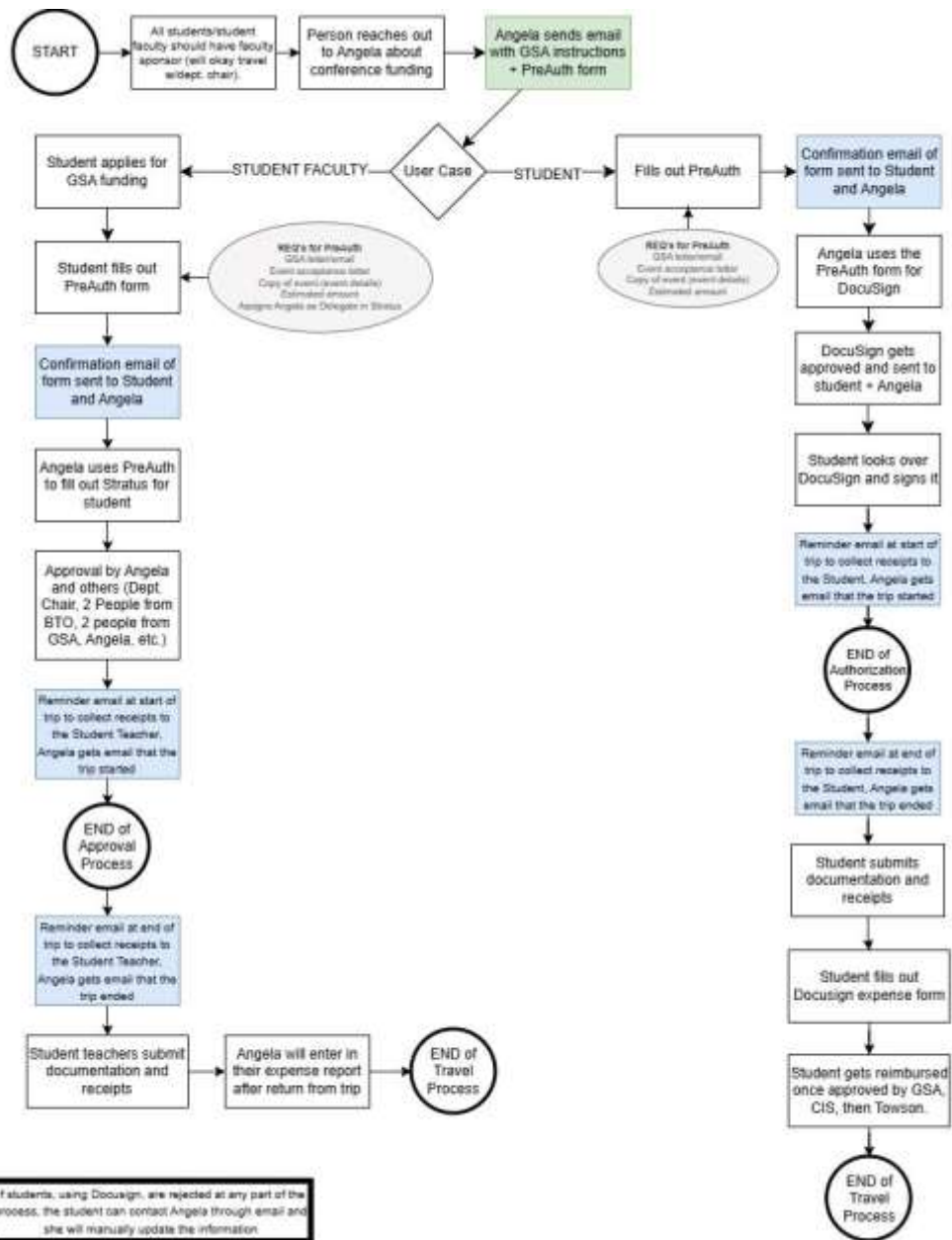
After Automation:

STUDENT TRAVEL PRE-AUTHORIZATION — ADMIN PANEL													
#	Student Name	TU Email	Department	Destination	inf?	Purpose	Departure	Return	Days	Est. Cost	Faculty Sponsor	USA	Submitted On
1	James Bramble	jbrambll@students.towson.edu	CIS 476	Florida	No	fair	1/0/1900	1/0/1900		\$200.00	100	No	4/9/2026
2	James B	jbrambll@students.towson.edu	CIS 111	Florida	No	fair	1/0/1900	1/0/1900		\$200.00	100	No	4/9/2026
3	James	jbrambll@students.towson.edu	CIS 111	florida	No	fair	1/0/1900	1/0/1900		\$200.00	100	No	4/9/2026
4	James b	jbrambll@students.towson.edu	CIS 111	florida	No	fair	1/0/1900	1/0/1900		\$200.00	100	No	4/9/2026
5	James b	jbrambll@students.towson.edu	CIS 111	florida	No	fair	1/0/1900	1/0/1900		\$200.00	100	No	4/9/2026
6	Aiden Maisel	amaisel1@students.towson.edu	CIS	Florida	No	John	1/0/1900	1/0/1900		\$111.00	5	No	4/9/2026
7	James b	jbrambll@students.towson.edu	CIS 111	florida	No	fair	4/14/2026	4/14/2026	1	\$200.00	100	No	4/14/2026
8	j	jbrambll@students.towson.edu	CIS	f	No	f	4/14/2026	4/14/2026	1	\$2.00	1	No	4/14/2026
9	j	jbrambll@students.towson.edu	CIS	f	No	f	4/14/2026	4/14/2026	1	\$2.00	1	No	4/14/2026
10	j	jbrambll@students.towson.edu	CIS	j	No	j	4/14/2026	4/14/2026	1	\$2.00	1	No	4/14/2026
11	j	jbrambll@students.towson.edu	CIS	j	No	j	4/14/2026	4/14/2026	1	\$2.00	1	No	4/14/2026
12	j	jbrambll@students.towson.edu	CIS	j	No	j	4/14/2026	4/14/2026	1	\$2.00	1	No	4/14/2026
13	j	jbrambll@students.towson.edu	CIS	j	No	j	4/14/2026	4/14/2026	1	\$2.00	1	No	4/14/2026
14	j	jbrambll@students.towson.edu	CIS	j	No	j	4/14/2026	4/14/2026	1	\$2.00	1	No	4/14/2026
15	John doe	john@gmail.com	CIS 324	new york	Yes	fair	4/14/2026	4/17/2026	4	\$200.00	mcjohn	No	4/14/2026
16	[bvt]	cbost11@students.towson.edu	CIS	YUCUCWCF	No	F68F	4/15/2026	4/17/2026	2	\$641.00	FHFV17	No	4/14/2026
17	James Bramble	jbrambll@students.towson.edu	CIS 411	Florida	No	Convention	4/15/2026	4/15/2026	1	\$200.00	100	No	4/15/2026
18					0	0	0	0		\$0.00	0	0	4/15/2026
19	James Bramble	jbrambll@students.towson.edu	CIS 411	j	No	j	4/15/2026	4/15/2026	1	\$2.00	1	No	4/15/2026
20	Aiden Maisel	amaisel1@students.towson.edu		0 Florida	Yes	Speech	4/15/2026	4/15/2026	1	\$2.00	1	No	4/15/2026

The admin portal reduces data complexity by organizing all submissions into a structured, centralized table with clearly defined fields. This eliminates redundancy, standardizes inputs, and allows the client to quickly filter, sort, and access only the most relevant information without being overwhelmed. Most importantly it takes over 30 points of information to under 15, reducing the visual load.

System Design and Data:

Updated Data Flow Diagram:



Changes to the DFD can be seen in green and blue; these boxes represent manual steps taken in the previous DFD that are now autonomous. The green box represents a manual email message the Ms. McDermott still must send as reaching out to individual students in the beginning cannot be automated. The 4 blue boxes are emails that Ms. McDermott once had to send but are now autonomous. An email will be sent automatically to Ms. McDermott once the student completes the PreAuth form and the student will get one as confirmation. Also, both students and student teachers will receive an automated email at the start and end of their trip to remind them to collect and document all receipts to be reimbursed. Ms. McDermott will get an email that the student or student teacher started and ended their trip to keep her informed and updated.

Statistics:

Ms. McDermott had to send more than ten emails to each student to complete the approval process. This email number fluctuated depending on how many inaccuracies or missing information the student had with the PreAuth form. Many students also failed to upload all their receipts from their trip, which resulted in non-reimbursement. With a high frequency of incomplete or inaccurate student submissions, there was an increase in processing time per request. Ms. McDermott's administrative time is then diverted from other departmental priorities due to repetitive correction and resubmission tasks. Which creates strain on her as she supports more than 50 faculty, more than 60 adjuncts, more than 60 doctoral students, and more than 200 master students.

Statistical Changes:

Communication was able to be reduced from about 10 emails per request to just one. This will save roughly one hour per student by eliminating the email back and forth.

Testing:

Testing Overview:

- Tested form with college students (ages 22–24)
- All users had general tech experience
- Given specific scenarios to simulate real use (complex path)
- Key conditions tested:

- Presenting a paper
- CIS department
- International travel
- GSA funding
- Teaching contract (for routing)

Usability Testing:

Users were given specific criteria to simulate the most complex path through the form, helping us identify unclear wording, confusing fields, and potential usability issues.

Aiden's Usability Study

Criteria:

- She has received a contract to teach within the past 6 months
- She is presenting a paper
- She is CIS as Home Department
- Yes to international trip
- Yes to received funding from GSA

User profile: 22 y/o college student, tech experience

Additional Notes:

- Confused about Stratus language and link purpose.
- Confused about mileage question, (mileage or cost?).
- Felt confident in DocuSign purpose.
- Unsure about "purpose of travel" question.

Emily's Usability Study

Criteria:

- He is presenting a paper
- He is CIS as Home Department
- Yes to international trip

- Yes to received funding from GSA

User profile 24 year old, tech experience

Additional notes:

- Didn't like where the help section was located thought it was randomly placed
 - Retitle to fill out form do this etc
- For taxi bus metro estimate what if the value is going to be zero or they don't require that.
- Had a little too much fun filling out parts of the form.

Chelsea's Usability Study

Criteria:

- She is presenting a paper
- She is CIS as Home Department
- Yes to international trip
- Yes to received funding from GSA

User profile: 22 y/o college student

Additional Notes:

- She feels like it would be better for someone with the intentions of traveling to fill this out, since she is just filling out each question just to fill it out.
- Possibly get people who plan to travel, or who have traveled before to really test if this is a better form than before.
- Didn't feel confused by any of the questions in the form.
- Questions seemed straightforward.

Gnima's Usability Study

- She is presenting a paper
- She is CIS as Home Department
- Yes to international trip
- Yes to received funding from GSA

User profile: 22 y/o college student, tech experience

Additional Notes:

- For “Purpose of Travel” it is not clear that the majority should put presenting a paper. She put “Study abroad”.
- She does not understand what she is doing. She is frustrated because she doesn’t understand the form or its intent.
- The form was “asking too many things”.
- Have not received a confirmation email.

Jesse’s Usability Study

- he is presenting a paper
- he is CIS as Home Department
- Yes to international trip
- Yes to received funding from GSA

User Profile: 22 y/o college student

Additional Notes:

- Wording is confusing if you're seeing it for the first time.
- Thought the conformation email was instant.
- Pretty easy to complete given context.

Usability Findings:

Common Usability findings were confusion with language used such as Stratus vs the form. Also, several unclear questions, for example: “Purpose of travel” and mileage vs cost. As not all the participants were from Towson, there was some confusion about what the form was actually for. Also, there was some confusion with examples that needed to be changed, for example: 100.00 = \$100.00. Lastly, some fields felt overwhelming and needed to be explained more or broken down further.

Benefits and Results:

The redesigned student travel pre-authorization system significantly improved both student and administrative experience. Key benefits include:

- Email communication per student dropped from about 10 to just 1, saving roughly 1 hour of manual work per student for Ms. McDermott.

- The intake form was simplified from over 30 input points to under 15, reducing visual complexity and easing review.
- Built-in validation and required fields stopped incomplete submissions, cutting down rejected authorizations.
- Conditional routing based on teaching contract type ensures correct processing paths, eliminating rejections due to routing errors.
- A reorganized Excel tracker with centralized submissions with filterable views, replacing a disorganized spreadsheet.
- Usability testing confirmed that the step-by-step form was intuitive, even for complex cases like international travel and funding requests.
- Overall, Ms. McDermott regained significant time to focus on other departmental priorities, identified as the primary success measure.

Benefits of Changes:

The new Microsoft Forms intake replaced an outdated form that lacked required fields, validation, and routing logic. Key improvements include:

- Enforced required fields to ensure students attach essential documents like GSA acceptance letters, conference acceptances, and event brochures.
- A conditional routing question directs student-teachers to the Stratus path and standard students to DocuSign, preventing misrouted submissions and BTO rejections.
- The step-by-step form structure clarifies the required versus optional information at each stage.
- At the backend, Microsoft Power Automate integrates with email and OneDrive to automate submission management, replacing Angela's manual email workflow.
- The reorganized Excel sheet eliminates redundancy, standardizes inputs, and enables quick filtering and sorting by student, replacing a cluttered spreadsheet.
- These changes reduced incomplete submissions, eliminated duplicate work, and cut down repetitive corrections, saving significant administrative time for Ms. McDermott.

Deployment:

The team delivered three core components:

- A redesigned Microsoft Forms intake with validation and conditional logic.
- A Power Automate workflow connecting form submissions to email notifications and OneDrive storage.
- A reorganized Excel tracking spreadsheet.

Usability testing involved college students aged 22–24 with general tech experience. Testers completed scenarios simulating complex real-world paths such as presenting papers, CIS department travel, international trips, GSA funding, and teaching contract routing. The product demo showcased the form’s step-by-step user experience, highlighting how routing and structure reduce confusion and errors, and demonstrated the Power Automate workflows managing submissions behind the scenes.

Implementation to Client:

Ownership of the form and automation was transferred to Ms. McDermott by creating a Microsoft Form Group, giving her full control to maintain and modify the system independently. A document handoff guide was provided for reference, enabling her to make adjustments without team assistance. Though the project scope was limited by time and permissions, the team delivered solutions beyond the core form redesign, including email automation and Excel reorganization, to address most of Ms. McDermott pain points within those constraints.

Future Work:

Several opportunities remain to further improve the CIS department's travel process:

- Automate receipt reminders at trip start to prompt students to collect and save receipts for reimbursement.
- Introduce a structured intake for the reimbursement process, which Ms. McDermott currently manages manually.
- Update the routing logic between Stratus and DocuSign as Towson's policies evolve with the Business Travel Office.
- Enhance the Excel tracker with dashboard-style reporting for quick views of submission status, approvals, and funding breakdowns (GSA and departmental).
- Conduct ongoing usability testing with a wider student range, including graduate and doctoral students, to ensure the form meets evolving needs as the department grows.

Future Proposals:

The team's original proposal aimed to build a dedicated admin portal as a centralized hub for managing the entire travel pre-authorization workflow. Due to Towson’s restrictions around PeopleSoft, security and approval barriers, and time constraints, this was not feasible within the project timeline.

If granted more time and permissions, the portal remains a viable long-term solution, consolidating the intake form, submission tracking, document storage, routing logic, and approval visibility into one interface.

- Meanwhile, the team maximized value within existing constraints by delivering:
- Email automation via Power Automate,
- A reorganized Excel tracking spreadsheet,
- A document handoff guide enabling Ms. McDermott to maintain and evolve the system independently.

Appendix:

Previous Pre-Authorization Form

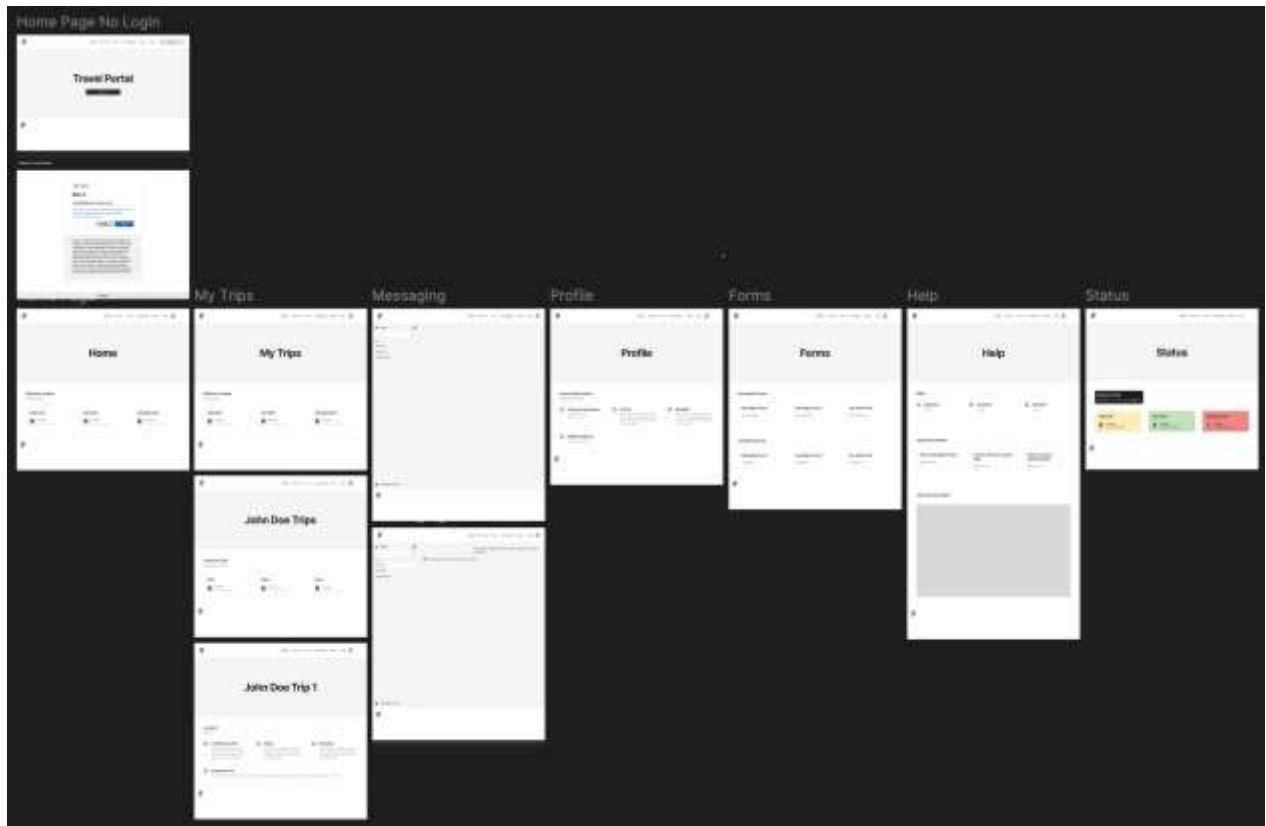
https://tu-my.sharepoint.com/:b:/g/personal/amaisell_students_towson_edu/IQB84aCheRjMT7iqWkL9ShheAYpeea57eKJHU8Pq_E9T15Q?e=gXw93K

Updated Pre-Authorization Form

[UPDATED CIS Student Travel Pre-Authorization Form.pdf](#)

Figma Prototype Solution Proposal 1 (Travel Portal)

<https://www.figma.com/proto/PyY4IcF6dcVzd6WdPy00gv/Proposal-3--Website-Portal---Draft?node-id=35-1066&p=f&t=cs0oav6MFNNAwkVi-1&scaling=min-zoom&content-scaling=fixed&page-id=0%3A1&starting-point-node-id=35%3A1066>



Client Email Threads:

Removed for Privacy Purposes