Project Thor

Team Members:

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Faculty Advisor:

Name	Email
Sid Bhattacharyya	sbhattacharyya@fit.edu

Client:

Name	Email
Amitabh Nag - Aerospace, Physics and Space Sciences	anag@fit.edu

Current Progress of Milestone 5

Task	Adonay	Jared	Josh	Luke	Progress
Update Demos	25%	25%	25%	25%	100%
Update documentation	25%	25%	25%	25%	100%
Finish writing solution explanation and add to web app	0%	0%	50%	50%	100%
Create draft of data explanation	100%	0%	0%	0%	100%
Finish getting metrics on the data in its various forms	0%	100%	0%	0%	100%
Begin performing requirement and verification testing as specified in the test doc	50%	50%	0%	0%	100%
Analyze the results of the web app testing as bug reports arrive.	50%	0%	0%	50%	100%
Finalize web app and script handshake	0%	0%	0%	100%	100%

5. Discussion - Accomplishments

1. Update Demos:
    a. No demos to update.
2. Update Documentation:
    a. Test Documentation updated. Created document to track results of current testing.
3. Problem Explanation:
    a. The document is completely done and uploaded to the website.
4. Finish writing solution explanation and add to web app:
    a. The document is written and uploaded to the web application. Just needs peer reviewed.
5. Create draft of data explanation:
    a. Created draft, some writing left to finish and then peer review.
6. Finish getting metrics on the data in its various forms:

a. Metrics have been gathered, but need to be analyzed. We have found some issues with the data (leading one that shouldn't be there) and this has slowed our analysis.
7. Begin performing requirement and verification testing as specified in the test doc:
   a. Created test documentation to track current state of bugs/requirements testing.
8. Analyze the results of the web app testing as bug reports arrive:
   a. Test Documentation is being used to track current bugs and failures.
9. Finalize web app and script handshake:
   a. Script handshake complete.
   b. Finalized button and uploading file formatting. Elements now show only when they are needed, and not all the time by default.

6. Discussion - Contributions

Luke Bonenberger:
   Heavily updated Generate Key page to fully integrate new combination attributes. Additionally, the formatting of the Generate Key page was fully completed. The final production version of the Generate Key page was completed. Aided in poster construction and provided feedback for the ebook page.

Jared Blanco:
   Created project team poster, consolidated and summarized team progress, recreated the system architecture diagram, data flow diagram, and focused on updated metrics for showing entropy data as well as a visualization of 'randomness'
Adonay Pichardo:
   Performed all quality assurance tests, logged results, created tickets to fix bugs reported. Test Documentation updated. Created document to track results of current testing.

Josh Temel:
   For this milestone I have completed writing both the Problem and Solution explanation documents as well as the ebook page. I helped Jared review the poster and I have run the Dieharder test suit on our data and am working on analyzing the resulting metrics.

7. Milestone 6 Plan

Task	Adonay	Jared	Josh	Luke
Showcase poster	25%	25%	25%	25%
Ebook page edits	25%	25%	25%	25%
Update demos	25%	25%	25%	25%
Complete documentation	25%	25%	25%	25%
Create documentations for future teams and adaptations	25%	25%	25%	25%
Format Raspberry Pi for portable use	0%	0%	50%	50%

8. Discussion & Lessons Learned

Update Demos: Recreated diagrams such as the system architecture diagram, the data flow diagram, and am implementing graphs showing latest metrics on entropy in order to easily explain the process behind generating these encryption keys and bringing them forward to our application.

Update Documentation: There has been no need to update our documentation for this milestone.

Write Solution Explanation:
        After writing the solution explanation article, igt became far easier to create both the poster and eBook page as the information that needed to be presented in those was similar to what was already written in the solution explanation. With that sadi, one thing that we learned in writing the solution explanation (or at least came to better understand) was how our project stands apart from similar works. Specifically, we learned that our project addresses issues such as the source not being inherently random by also using the least significant bits in the measurement of the lightning strikes.

Draft Data Explanation:

In creating the draft for the solution explanation we found out about issues the team has been having with vocabulary. Often when writing code and naming variables. So to solve this problem, I have decided to specify these terms in the explanation.

Web App Test Plan:

Unfortunately, there has been no class participation in helping to test our web application. However, Adonay has been able to run most of our acceptance test cases and we have learned of a few shortcomings in our project. The results and those shortcomings are posted in a Test Results doc that will be added to our project site.

Web application and scripts handshake:

The web application and scripts proved to be easy in theory, but difficult within the implementation. The areas with most difficulty were oversaught. The oversaught areas include the working directories of the scripts and the application. The web application does not have full access to the server, whereas the python scripts do. Moving the scripts to the web application came with difficulty as directory references needed to be changed, and folder permissions needed to be modified in order for the scripts in the web application to be correctly executed. More clear communication could have made this problem faster and easier to solve.

9. Date(s) of Meeting(s) with Client:

Date	Topic
March 21, 2022	● Current progress and deliverables

10. Client feedback of current milestone

1. Not actually using nano second.
2. More thought needs given to how the key is shared so as to not loose security.
3. Correct the units on the web application.
4. Add citations to the solutions article.
5. Add Sponser to heading of poster.
6.

11. Dates of Meeting with Faculty Advisor

Date	Topic
March 21, 2022	● Feedback for Milestone 6

12. Faculty Advisor Feedback for Milestone 5

1. Dr. Sid mentioned that he liked to plan a meeting with the client to take place in the near future to update the client on our progress.

13. Approval from Faculty Advisor

"I have discussed with the team and approve this project plan. I will evaluate the progress and assign a grade for each of the three milestones."

Signature: _____ Date: _____

1. Evaluation by Faculty Advisor
   - Faculty Advisor: detach and return this page to Dr. Chan (HC 214) or email the scores to pkc@cs.fit.edu
   - Score (0-10) for each member: circle a score (or circle two adjacent scores for .25 or write down a real number between 0 and 10)

Adonay	0	1	2	3	4	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10
Jared	0	1	2	3	4	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10
Josh	0	1	2	3	4	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10
Luke	0	1	2	3	4	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10

Faculty Advisor Signature: _____ Date: _____