

CPRE 491 WEEKLY REPORT 10

Project Molecule

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1 CONTENTS

2	Weekly Summary	2
3	Past week accomplishments.....	2
4	Individual contributions.....	2
5	Comments and extended discussion	3
5.1	User Interface	3
5.2	Particles.....	3
5.3	Atomic Layer	3
5.4	Bonding Layer	3
6	Plan for coming week.....	3
7	Summary of weekly advisor meeting.....	3

2 WEEKLY SUMMARY

For project milestones, we focused on working on getting parts of the project ready for demo. We were able to split the work into four sections and had each member work on their piece. Listed below is each member tasks.

For administration assignments, the design document was also completed this week. We had a small issue when we found out no one was assigned to work on the atomic layer but we resolved that and completed the design doc on time. We also signed up for the demo after break.

3 PAST WEEK ACCOMPLISHMENTS

All Members:

- Design Doc Submission
- Work on Project Plan v2

Ryan Wade:

- Administration
- Worked on UI

Nathan Volkert:

- Worked on Particle API

Daniel Griffen:

- Encryption Work and early work on shell atomic layer

Alex Berns:

- Redux UI State

4 INDIVIDUAL CONTRIBUTIONS

NAME	Hours this week	Hours cumulative
Ryan Wade	18	67
Nathan Volkert	8	50
Daniel Griffen	7	53
Alex Berns	8	51

5 COMMENTS AND EXTENDED DISCUSSION

5.1 USER INTERFACE

The first version of the user interface is under way. Currently it is a nodejs server using socket.io to connect server to clients and have a UI that is controlled by a redux state. The client will be using React components designed to display the Redux state.

5.2 PARTICLES

The API of the particles is under way. The early adaptation of this is just rust code with methods so the atomic layer can appropriately communicate with it. This includes constructors for adding new particles to the system, methods to retrieve information about current particles in the system, and an iterator method that will help manage events, keep a log and be responsible for communication. At this time communication will mostly be completed through sockets.

5.3 ATOMIC LAYER

Early atomic layer will just be thin manager between particles and bonding layer. Atomic layer will be in charge of listening for events and messages from particles and telling the network layer to send messages and events to the appropriate places. The permission subsystem is not a primary goal for the first implementation of the atomic layer.

5.4 BONDING LAYER

Bonding Layer has an encryption scheme mostly finalized. The general design since the last weekly report has not changed, but some of the implementation details have undergone revision. Nonces are no longer generated and sent with each message across the same stream. Since the keystream isn't reset between each message, it was determined to be unnecessary overhead.

6 PLAN FOR COMING WEEK

This upcoming week will primarily consist of finishing up our individual parts and integrating them together. With break coming up, we hope to have most of this work done before that.

7 SUMMARY OF WEEKLY ADVISOR MEETING

Two members were not able to make it to the scheduled weekly advisor meeting, so the meeting was cancelled.