CS 481A3
Term Projects

COLLEGE OF
NATURAL SCIENCES
COLORADO STATE UNIVERSITY

DISCOVERY BEGINS HERE

CS481A3 Term Projects

Students will be expected to come up with a suitable and original project idea, complete a substantial amount of work in order to demonstrate their idea, and presents results via a Final Report and a 5 minute PowerPoint or video recorded Screen-Cast presentation.

Students will work in teams of 3, or with approval, 4 → 20 projects.

All projects must be approved by Dr. Gersch

Throughout the project, the instructor and TAs will provide support, although students will be expected to operate independently and show creative thinking and problem-solving skills.

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The effort and time commitment dedicated to the project must be proportional to the scope of the project and to the size of team (4 students should accomplish more than a 3 student team).

Students are allowed to choose between two general project categories, described in the following.

- **Option 1**: A blockchain application
  - Include smart contract, WEB GUI, Test Harness, Demo

- **Option 2**: A blockchain research project involving some implementation or proof-of-concept with Demo

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Where do you get ideas? Google is your friend.

- Create a novel Dapp
- Look at existing Dapps and expand on them (cite your source and what you have added). I have some good books giving examples.
    - Games
    - Security (PKI, DDoS, BGP protection using blockchain….)
    - Supply Chain
    - Just about anything
- Look for unsolved problems: consensus, wallets, IoT, anonymity, throughput, IoT applications scalability, etc.

DELIVERABLES

1. **Formal Project Description:**

   - Title
   - Team Members
   - Summary Description of project
   - Motivation: why did you choose this
   - Summary of expected complexity of project
   - A list of project goals, including final expected results and how they will be reached
   - An expected schedule for accomplishing intermediate and final goals
   - Workload distribution among team members

Submit to CANVAS in PDF format

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DELIVERABLES

2. Presentation:

Each project team will be required to produce a 5 minute presentation showing their work.

Presentations should describe the motivation for the project, background on the project's domain, a summary of the work that was done and a summary of results.

The presentation should be based on a slide deck in PowerPoint, or a 5 minute video recording (screencast with voiceover).

Submit to CANVAS

DELIVERABLES

3. Formal Report:

The project report should be structured as a formal paper, including

- abstract,
- introduction describing project, motivation, and goals,
- one or more technical sections on results, issues encountered, etc.
- conclusion
- references

The project report should be approximately 4-5 pages in length and must be written using either Word or LibreOffice or Google DOCs.

Submit PDF to CANVAS

DELIVERABLES

4. Technical Content:

Submit to Canvas a TARBALL of all relevant code, etc.

SCHEDULE

Week 1, March 25:

- send preliminary proposals to me ASAP at cs481a3@cs.colostate.edu. Talk to me, email me ideas, etc.
- Send me list of team members

Week 2,

Thursday, April 4: **FORMAL Project Descriptions due**

Week 3, April 8… Week 4, April 15, Week 5, April 22

Week 6, Friday May 3 midnight: Final Report & Presentation due

Week 7, May 7 & May 9: 5 Minute Presentations to Class, random order

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GRADING, part 1

No credit will be given to students that fail to provide all deliverables

deliverables include: having the project description approved by the instructor and submitted by the deadline; producing the final presentation; delivering final project report and all implementation-related materials)

GRADING, part 2

20% Project description: does the project description precisely and convincingly motivated the project, describes the project plan, and lists project goals? Is the project idea original?

20% Project presentation: was the team able to present the work in an informative and concise way?

35% Final project report: does the project report presents an informative exposition of the project's goals and results?

25% Quality of results: was the student able to successfully achieve the expected results (or, if not, did the student learn valuable insights into the problem that could lead to success in the future)?