RandWind

3308 Project Presentation: RandWind

Team 3:
Adam Salyers, Zach Ryan,
Luke Favret, Bao Tran, Kaiwen Chen

What is RandWind?

- A random number generator
- By measuring the direction of the eddies/vortices downstream of a given turbulent flow, the team can effectively generate random numbers.
- Inputs requested length and type of strings (digits, ASCII, letters, etc.)
- Deliver strings to user.

Tool Used


GitHub


spyder


ATOM


HEROKU


OpenCV


node
JS


Office Timeline

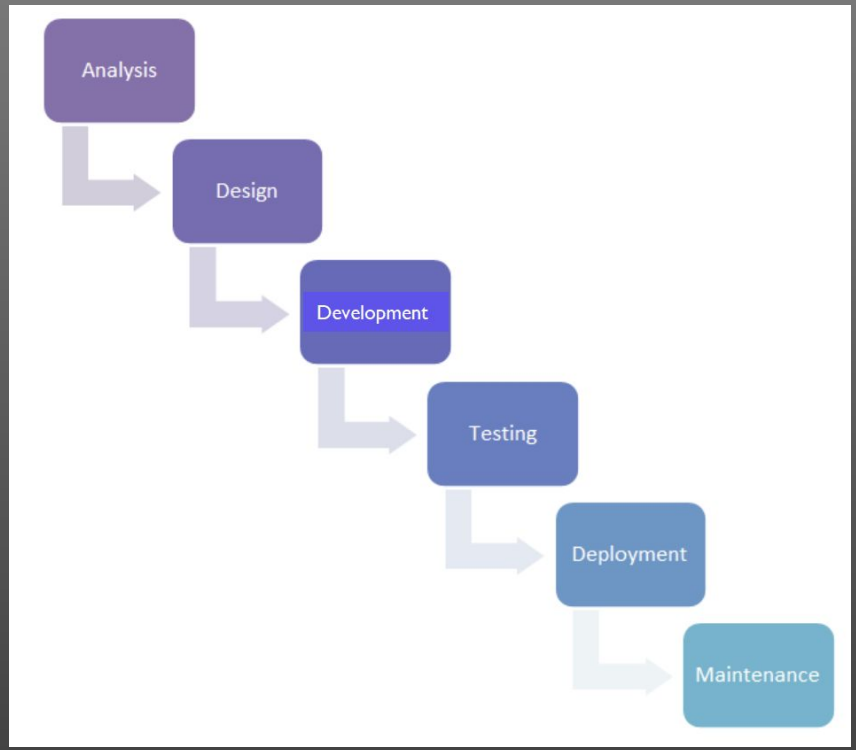

PostgreSQL

Tools Used

Purpose	Name	Rating(1-5, 5 is best)
Project Tracker	Office Timeline	3
VCS Repository	GitHub	5
Database	PostgreSQL	5
Deployment Env	Heroku	2
IDE	Spyder, Atom, VS Code	5
Framework	Node.js	3.5
Library	OpenCV	5

Waterfall Methodology

- Weekly meeting
- Make a clear plan for each milestone
- Split up in back-end and front-end team
- Check progress and distribute work to everyone
- Developed and integrated both ends
- Deployed, ran tests ,and deployed again



Challenges

- Hard to find a nice meeting time for everyone in the group
- Lack of knowledge when using different tools
- Unfamiliar with different programs and packages
- Unknown time commitments, a 1 hour problem could turn into an 8 hour problem
    - Transitioning from localhost to Heroku ate up much of the dev time that would of been used to implement more features before the presentation

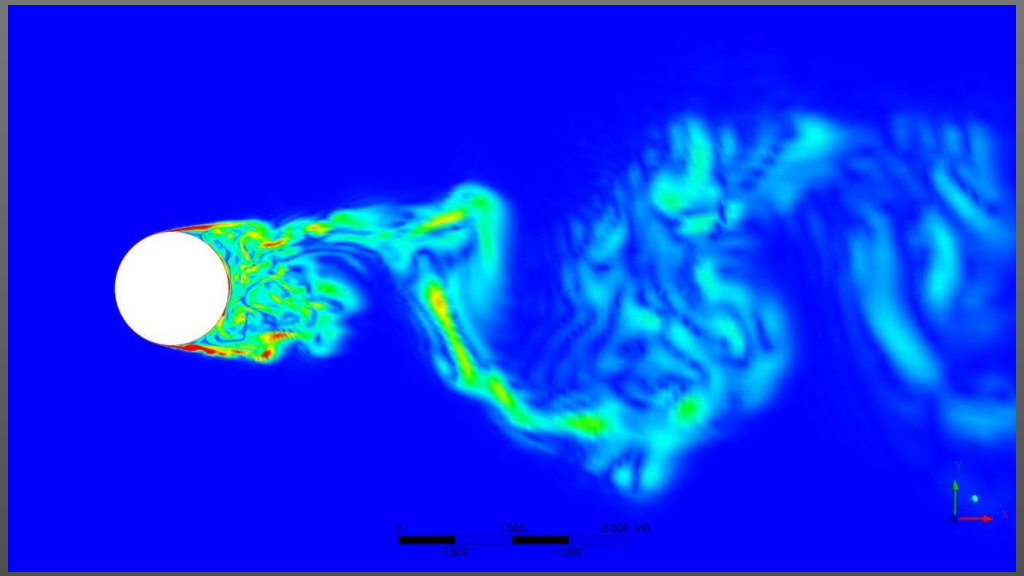
Overcome

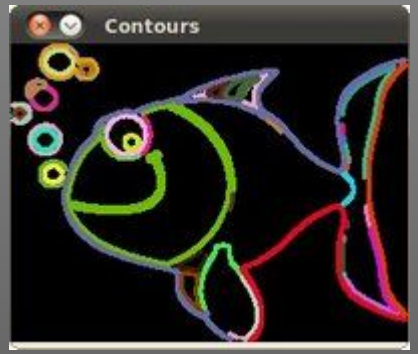
- Use meeting scheduling tool (when2meet.com)
- Plan for more time than needed
- Self-learn, research ,and tutorials
- Utilize lab materials and office hours
- Understand most of features before implementation.

Demonstration

Random numbers based on turbulent flow

- Reads each frame in video
- Find contours
- Determine orientation angle of contours
- Convert to 1's and 0's
- https://randwind.herokuapp.com/
- Testing
    - Test Cases





Example of contour determination in OpenCV

Challenges

Integrating Frontend & Backend

Necessary Precursor Steps

PUG

Future Directions

Complete Login System

Save & Retrieve User Generations

More Customized Generations

Enhanced Security & AWS