Project 1

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IDEA:

Create a command line polling system for Twitter that can be used for polling, contests, etc.

OVERVIEW GOALS:

1. Ease of use and user agnostic
2. Scalability and portability
3. User able to perform contest with no limitations

PROPOSED SOLUTION:

PRO

1. Current 3rd party webtools require users name and login, posing security issues
2. Can port to systems for business verticals

CON

1. Might require Twitter API, which means their approval

SYSTEM ARCHITECTURE:

TOP LEVEL

CODING LEVEL

TECHNOLOGIES USED

- Python 3.7.4

```
import numpy as np

def incmatrix(genl1,genl2):
    m = len(genl1)
    n = len(genl2)
    M = None #to become the incidence matrix
    VT = np.zeros((n*m,1), int)  #dummy variable

    #compute the bitwise xor matrix
    M1 = bitxormatrix(genl1)
    M2 = np.triu(bitxormatrix(genl2),1)

    for i in range(m-1):
        for j in range(i+1, m):
            [r,c] = np.where(M2 == M1[i,j])
            for k in range(len(r)):
                VT[(i)*n + r[k]] = 1;
                VT[(i)*n + c[k]] = 1;
                VT[(j)*n + r[k]] = 1;
                VT[(j)*n + c[k]] = 1;

                if M is None:
                    M = np.copy(VT)
                else:
                    M = np.concatenate((M, VT), 1)

                VT = np.zeros((n*m,1), int)

    return M

```

Listing 1: Python example