# Proposed Approach for Discussion

1.  Create frame of individuals receiving science funding. This frame should
    a.  Initially use only publicly available data on PIs and coPIs
    b.  Go back as far as possible
    c.  Be updated on a monthly basis from administrative data from universities
2.  Provide initial match to outcomes using existing data on patents, patent applications and citations.  Use existing matches using contract vehicles
    a.  Zucker and Darby STAR
    b.  Fleming
    c.  Borner
3.  Update match to outcomes on flow basis using webscraping technologies and administrative data
4.  Create prototype reports for principal investigators, universities, science agencies and scientific disciplines  (see below).  All should use the following approaches
    a.  Use the existing frame
    b.  Update on a monthly basis
    c.  Provide visually interesting summaries and updates
5.  Post prototypes on data.gov
6.  Create openly accessible enclave
7.  Announce the existence of the enclave and create prize for best report in each of the four categories
8.  Update data.gov with best reports

# Reports to Principal Investigators: BioSketches and Annual/Final Reports

Criteria:

Must create automated reporting that responds to standardized federal biosketches (Research Business Methods)

Must create flexibility to add personal discussions

Must be subsettable to a specific award, a specific timeframe, or full set of achievements

**General Accomplishments**

1. Publications  (source: webscraping; requirement: PI confirmation)
2. Training and Professional development
    a. Graduate student names, time contributed (source: HR records; requirement: informed consent)
    b. Undergraduate student names, time contributed (source: HR records; requirement: informed consent)
3. Dissemination
    a. Presentations (source: webscraping; requirement: PI confirmation)
    b. Citations (source: webscraping, ISI, Scopus, PubMed etc.; requirement: PI confirmation)
4. Other products
    a. Patents (source: PTO; requirement: PI confirmation)
    b. Patent Applications (source: PTO; requirement: PI confirmation)
    c. Websites  created (source: webscraping)
5. Collaborators

**Additional Possible Features**

Visualization of collaboration network

Visualization of citation network

Map of citations

# Reports to Universities

1. Awards (source: administrative records)
   a. Total $
   b. By agency
   c. Historical patterns
2. Job Creation (source: administrative records)
   a. Total
   b. By Occupation
   c. Historical pattern
3. Publications of faculty (source: webscraping; confirmed by PIs)
4. Citations of faculty (source: webscraping; confirmed by PIs)
5. Patents (source: PTO; confirmed by PIs)
6. Patent Applications(source: PTO; confirmed by PIs)

**Additional Possible Features**

Visualization of job creation

Visualization of publications

Visualization of citations

Visualization of patents and patent applications

Map of citations/patents/patent applications

Emerging scientific networks within  university

# Reports to Science Agencies

1. Awards (source: administrative records)
    a. Total $
    b. By disciplines
    c. Historical patterns
2. Job Creation (source: administrative records)
    a. Total
    b. By Occupation
    c. Historical pattern
3. Publications of PIs (source: webscraping; confirmed by PIs)
4. Citations of PIs (source: webscraping; confirmed by PIs)
5. Patents (source: PTO; confirmed by PIs)
6. Patent Applications(source: PTO; confirmed by PIs)

**Additional Possible Features**

Visualization of job creation

Visualization of publications

Visualization of citations

Visualization of patents and patent applications

Map of citations/patents/patent applications

Visualization of emerging scientific networks