



The Opportunity Project

— 2018 Sprint Information —

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Project

Promoting Access to and Interest in STEM Fields

CHALLENGE: Develop tools for parents and students that promote students' interest in STEM and empower them to pursue STEM education locally.

PROBLEM: Today, too many of our Nation's K-12 and postsecondary students lack access to high-quality STEM education, and thus are at risk of being shut out from some of the most attractive job options in the growing United States economy. Courses in Computer Science are especially scarce in too many schools and communities, despite the job opportunities that these skills create. Nearly 40 percent of high schools do not offer physics and 60 percent of high schools do not offer computer programming. Of the nearly 17,000 high schools that were accredited to offer Advanced Placement exams in 2015, only 18 percent were accredited to teach Advanced Placement Computer Science (AP-CS). Minorities and students in rural communities often have even less access to Computer Science education. Nationwide, only 34 percent of African American students and 30 percent of rural high school students have access to a Computer Science class. Furthermore, even where classes are offered, there is a serious gender gap: less than a quarter of the students who took the AP-CS A exam nationally in 2016 were girls.

WHY IS THE PROBLEM IMPORTANT: With the growing role of technology in driving the American economy, many jobs increasingly require skills in science, technology, engineering, and mathematics (STEM) — including, in particular, Computer Science. These skills open the door to jobs, strengthening the backbone of American ingenuity, driving solutions to complex problems across industries, and improving lives around the world. As part of the Administration's commitment to supporting American workers and increasing economic growth and prosperity, it is critical that we equip America's young people with relevant knowledge and skills that will enable them to compete and excel in STEM fields.

VISION: Students and families are excited about what a STEM education can mean for them and have the information and resources they need to translate enthusiasm into skill-building. Digital tools to solve this problem could focus on STEM (including computer science) offerings in communities across the country at the K-12 and postsecondary level.

TARGET AUDIENCE: Parents, students, and/or STEM advocacy groups

POTENTIAL DATASETS:

- Civil Rights Data Collection (CRDC)
- National Assessment of Education Progress (NAEP) assessment data
- National Assessment of Education Progress (NAEP) survey data
- Program for International Student Assessment (PISA)
- Trends in International Mathematics and Science Study (TIMSS)
- Integrated Postsecondary Education Data System (IPEDS)
- Education Demographic and Geographic Estimates (EDGE)

Helping States Develop Education Report Cards

CHALLENGE: Develop parent-friendly, scalable approaches to communicating data about public schools that drive insight and engagement—and meet the requirements of a recent federal law.

PROBLEM: The Every Student Succeeds Act—a landmark federal education law passed in 2015—requires states to make an estimated 2,107 data points about their public school systems accessible to parents. In response, states are looking to provide this information through digital “report cards.” These websites would give parents an interface for navigating important data about schools in their state, including per-student spending, test results, and more. Developing these will be a challenge: government tends to lack digital services expertise that would help ensure their solutions align with best practices around data visualization and human-centered design. The requirements of federal law and those around student privacy complicate the task, increasing the risk that parents end up with clunky tools that confuse rather than illuminate.

WHY IS THE PROBLEM IMPORTANT: The Every Student Succeeds Act has catalyzed nation-wide interest in new approaches to making data about schools transparent and accessible. A state-led wave of report card solutions is coming, one that will transform how families across the country learn about the schools in their neighborhood, and this is your opportunity to help shape a movement.

VISION: Digital tools that present this data in user-friendly and engaging ways will give states better tools and strategies for tackling data reporting requirements, resulting in more accessible information for families and their advocates as they navigate students’ options for a great education.

TARGET AUDIENCE: States; parents as a secondary audience

POTENTIAL DATASETS:

- Civil Rights Data Collection (CRDC)
- National Assessment of Education Progress (NAEP)
- Common Core of Data (CCD)
- ED Facts data on assessments and graduation rates
- Education Demographic and Geographic Estimates (EDGE)

Using AI to Connect Veterans with Registered Apprenticeships

CHALLENGE: Develop tools that use artificial intelligence algorithms or natural language processing technology to match veterans to registered apprenticeship programs.

PROBLEM: Veterans have difficulty translating their military skills to civilian skills. This is both a relevancy problem (they don't know how their military skills relate to civilian skills) and a communication problem (they don't know how to describe their military skills into civilian terms). As a result, veterans are matched to – and subsequently employed in – jobs that do not fully utilize their skills.

WHY IS THE PROBLEM IMPORTANT: DOL places a priority on preparing and providing veterans with career opportunities. Both DOL and the Administration also place a priority on providing high quality job training through registered apprenticeships (for example - a recent Executive Order directed expansion of apprenticeships). By showing the relationship between specific military skills to related civilian skills, digital tools can help veterans understand what civilian jobs and registered apprenticeship programs match to their military skills, helping them to succeed in the workforce.

TARGET AUDIENCE: Veterans

POTENTIAL DATASETS:

- Veterans resumes
- Job postings
- Registered apprenticeship listings
- BLS job outcomes data
- Census salary data
- Census American Community Survey (ACS)
- O*NET occupational listings

Increasing Government Accountability by Connecting Federal Spending and Performance Data

CHALLENGE: Develop public facing tools that link federal spending and performance (or outcome) data to provide comprehensive insight into the use of federal taxpayer dollars across programs.

VISION: Connect Federal financial and performance data in high impact areas such as disaster relief, infrastructure, and financial assistance, allowing the American public to track progress in key areas, unlock economic opportunities, and expand research capabilities.

PROBLEM: The Federal government has extensive data that currently exists in silos. Agencies maintain data about their programs, open data sources maintain various elements of meta data, and government-wide systems like Performance.gov and USASpending.gov hold data about specific areas of Federal operations. Although the Federal government has made strides with improving accountability and transparency, linking these data sets together would tell a holistic story of federal financial management.

WHY IS THE PROBLEM IMPORTANT: In 2017, the Federal government spent over \$3 trillion dollars in financial assistance. While USASpending.gov provides access to federal spending data at lower levels of granularity, there is still an opportunity to enhance transparency and show the American public how programs are performing with tax payer dollars. With an increase in spending in high impact areas such as disaster relief, there is public interest in more accountability and transparency into federal spending. Linking federal spending and performance in high impact areas using government open data can enhance data transparency, promote economic growth and research, and improve services to the American public. The President's Management Agenda also places a priority on leveraging data as a strategic asset to grow the economy, increase the effectiveness of the Federal Government, facilitate oversight, and promote transparency.

TARGET AUDIENCE: Engaged citizens seeking clear information

POTENTIAL DATASETS:

- USASpending.gov
- Performance.gov
- DisasterAssistance.gov
- Sam.Gov
- Grants.gov
- Catalog of Federal Domestic Assistance (CFDA)
- Federal Procurement Data System (FPDS)
- GPS data
- Data.gov
- Census data
- FedBizOps

Improving Access to and Management of Federal Grants

CHALLENGE: Develop tools that expand on existing systems to help grant recipients manage the entire grants lifecycle, helping grant managers and recipients search for opportunities, streamline reporting, and assess risks.

VISION: Grant recipients and agencies spend less time on administrative compliance and can redirect resources to achieving program results.

PROBLEM: Grant managers—including those that administer funds from inside the Federal Government and those from external organizations that receive Federal funds—report spending 40% of their time using antiquated processes to monitor compliance instead of data and analytics to monitor results. The organizations that receive Federal grant funds—from states, localities, and tribes to schools and non-profits—report that the current process is overly burdensome and takes away from the missions they are working to deliver. Furthermore, local governments struggle to plan for future opportunities while balancing reporting requirements and managing overall risks.

WHY IS THE PROBLEM IMPORTANT: Approximately \$700 billion is invested annually through more than 1,800 diverse Federal grant programs listed on CFDA.gov. These funds support activities that touch every American, such as medical research, education, transportation infrastructure, workforce initiatives, economic development, and services for veterans. Streamlining access to grants opportunities, with reporting requirements and risk assessments, will reduce burdensome compliance activities and fuel economic growth, focusing more on results for the American taxpayer (a Priority of the President's Management Agenda).

TARGET AUDIENCE: Grant managers and recipients

POTENTIAL DATASETS:

- USASpending.gov
- SAM.gov, including CFDA.gov
- Federal Audit Clearing House
- Grants.gov
- Benefits.gov
- USA.gov
- FSRS.gov
- Tracking Accountability in Government Grants Systems (TAGGS)
- U.S. Department of Agriculture Grants and Loans
- U.S. Department of Veteran Affairs Office of Finance
- Fish and Wildlife (TRACS)
- USDA NIFA Data Gateway
- Performance.gov