EXECUTIVE SUMMARY

In 2017, the John S. and James L. Knight Foundation, with the Democracy Fund and Rita Allen Foundation, awarded $1 million to 20 organizations for projects designed to improve the flow of accurate news and information. The projects included promising proposals in the areas of media literacy, journalism and community engagement, infrastructure for accurate information and tools for fact-checking.

While many of the results are far from conclusive, important learnings emerged from these experiments, many of which are continuing. Of the 20 efforts, project work continues on 13 projects, while 12 are seeking additional funding. This report summarizes findings from an ongoing review conducted by the firm Network Impact

SIGNIFICANT FINDINGS:

- **Media Literacy Efforts Show Positive Results**: All the media literacy projects showed positive results, both to improve and deepen understanding of the news media as well as to serve as a foundation for fact-checking projects that require education and trust in media and media organization processes. Most media literacy projects produced measurable upticks in users’ ability to discern accurate information.

- **Computational Efforts to Identify Online Misinformation Promising**: Multiple tools to automate processes that can flag “junk” content showed high success rates. One prototype used machine learning to accurately score and elevate quality journalistic content with the goal of using those recommendations in search engines and curation systems.

- **Improving Credibility Challenging—Context Matters**: Some projects showed that certain approaches don’t increase the credibility of accurate information. Experiments to see whether design plays a role showed that some approaches don’t make much difference to readers’ assessment of the credibility of content. Fact checking sites were viewed as more credible when readers understood the background of the fact-checkers and the methodology used. This finding, along with the success of media literacy projects, suggests that media literacy curricula should include primers on what journalistic fact-checking is and does to improve trust in the process and outcomes.

- **Audio and Video Verification a Next Frontier**: As audio and video become more prevalent in the news ecosystem, tools to let people examine the source of audio and video clips and extracting the data for use in other reporting showed great potential and interest from journalism organizations.
I. BACKGROUND

This project, launched in 2017, provided $1 million for projects designed to improve the flow of accurate news and information. The investment, undertaken in collaboration with the Rita Allen Foundation and Democracy Fund, forms part of a broader Knight Foundation initiative to research and support efforts that address challenges affecting trust in the media, journalism and information ecosystem.

This approach was intended to provide smaller awards to engender experimentation and learning. Twenty grants were awarded to projects with promising proposals in these key areas: media literacy, journalism and community engagement, infrastructure for accurate information, and tools for fact-checking. The projects test a range of strategies for improving the flow of accurate information, limiting the spread of misinformation and building trust in journalism.

Most grantees reported that their award supported work that they would have had difficulty funding by other means. Several grantees reported that the grant increased their project’s stature with other funders, leading to more interest and, in some cases, commitments from other investors.

All 20 grantees have at minimum done informal testing on a proof of concept, and 13 had a full or limited release to the public. Grantees reported that grant-supported processes and tools, including training in design principles and progress check-ins, were useful.
II. OVERVIEW OF GRANTS AND PROGRESS TO DATE

In all, 20 grants were awarded to projects with promising proposals in these key areas:

- **Media Literacy**: Projects in this category develop and test curricular resources to help people be more discerning news consumers.

- **Journalism and Community Engagement**: These projects focus on involving the public in newsgathering and developing tools or approaches to engage different audiences, including diverse and politically disparate communities.

- **Infrastructure for Accurate Information**: These projects create tools or data to enable better tracking of misinformation and support efforts to elevate quality content more effectively.

- **Fact-Checking Tools**: These projects support the process of rating and correcting information being disseminated as news.

This table summarizes results and utilization of each project during the grant period — from the development of an initial testable prototype (denoted as “MVP” for “minimum viable product” in the table below) to public release. The concentration on the build phase for technical projects is clear. Most projects in the categories of media literacy and journalism and community engagement have released their results or a product to the field. Descriptions of each effort can be found in the appendix.

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* Incomplete information. No response from project for final interview.
III. PROJECT RESULTS

MEDIA LITERACY

All projects in this category created resources with positive results among prototype testers.

Media literacy projects addressed diversity by testing in different social or geographical environments to ensure that their materials would be applicable in a variety of settings: for example, Media Literacy @ Your Library (ML@YL) in libraries in small and large communities in rural and urban settings; Putting Civic Online Reasoning in Civics Class (CORCC) in 16 districts and 10 states; and KQED Learn in 28 diverse Bay Area classrooms.

The CORCC digital literacy curriculum materials were piloted with teachers for use in high schools. Results show improved reasoning regarding online content among participating students. Seventy-five percent or more of the teachers who participated in the KQED Learn pilot said that students exposed to online resources produced by the project improved their ability to determine the reliability of a source or find reliable sources.

Teachers in three Seattle high schools where Calling Bull resources were tested reported that the resources were useful and effective with students. Evaluation by ML@YL confirmed that prototype materials, adapted from the Center for News Literacy’s curriculum, built the capacity of participating librarians to understand and use project materials with library clients. However, the project also recorded a gap between patrons’ confidence in their media literacy skills and actual media literacy skills.

There are also early signs of adoption. KQED Learn launched publicly in March 2018. More than 1,700 teachers have signed up to use the platform and, as of June 2019, more than 12,000 students are actively using it. Calling Bull curriculum materials that high school teachers reported to be useful have been packaged and shared with hundreds of other teachers through project outreach. The ML@YL project trained an additional 5,000 librarians at the recent American Library Association Annual conference. A new California law that advocates for media literacy cites CORCC prototype work.

JOURNALISM AND COMMUNITY ENGAGEMENT

Projects in this category align with initiatives to increase trust in journalism (e.g., Trusting News, The Trust Project, News Integrity Initiative). They include efforts to forge closer connections between journalists and people in diverse communities who produce or consume news content (the Documenters Project, Immigration Lab, News Inequality) and efforts to test the resonance of materials and messages designed to help consumers distinguish between accurate and inaccurate information (CrossCheck, Breaking Filter Bubbles, Facts Matter). The overarching hypothesis is that these types of interventions will lead to an improvement in the quality and relevance of news reporting and, ultimately, increase public confidence in journalism.
Several projects helped uncover approaches that do not work to promote trust. The CrossCheck team found that presentation of news content during the 2017 French presidential election (content phrased as a statement versus a question, content with or without logos/badges of fact-checker organizations) had inconsistent results. The actually fact-checks did reduce belief in rumors, but specific design features — such as logos or badges — did not have the intended effect. The project leads concluded that features intended to debunk rumors are useful, but that the specific features only matter if people pay attention to them.

Another effort, Breaking Filter Bubbles in Science Journalism, used the Breaking Filter Bubbles platform to assess the response of climate change skeptics to factual content about climate change delivered by trusted messengers. The results showed the power of motivated reasoning, that is, the ability for people to rationalize what they already believe. The data indicated that users who already believe that climate change is a hoax were not influenced by the intervention.

Other projects found promising insights. The News Inequality project developed a tool to measure “blind spots” in local news coverage (such as low-income neighborhoods where coverage is disproportionately low). They found that motivations matter: Some newspaper editors were more interested in using findings to increase subscriptions than in adjusting their coverage. The Facts Matter team prototyped a local outreach approach, engaging residents in pop-up events with partners in three Red-leaning states. That team found that audiences were more apt to trust fact-checking on a more local level and that the more they learned about the fact-checking process from the people who lead the work, the more likely they were to trust it.

**INFRASTRUCTURE FOR ACCURATE INFORMATION**

These projects created tools or data to enable better tracking of misinformation or to support efforts to elevate quality content more effectively. These efforts generated important insights into how to assess the quality of information online.

NewsTracker found that systematic review of “likes” of users who engage with known “junk” news is a successful approach to identifying other junk news sources. Veracity analysis found that metadata is often more valuable than content itself as a signal for junk content. Its algorithm shows 98 percent accuracy in automated identification of junk news content in testing. DeepNews testing found that story angle, article depth and grammar were useful signals for credibility. Its prototype has greater than 80 percent accuracy in scoring articles for credibility compared with human testers. Credibility Coalition’s first round of testing of its framework suggested that a clickbait title and the accurate representation of sources cited in articles showed promise as consistent indicators of either credibility or its absence.

All of these prototypes are still in early versions and not yet fully deployed — although promising partnerships are emerging. Veracity is the technical foundation for the Global Disinformation Index, a nongovernmental organization that independently rates domains on the probability of those sources carrying disinformation. It is also coordinating with Open Brand Safety Initiative in an effort to provide advertisers with ratings to inform ad buys. Hoaxy Botometer beta was released publicly last summer. Credibility Coalition’s framework of
credibility indicators is accessible online as it undergoes the proposal, review and refinement process.

**FACT-CHECKING TOOLS**

These projects rate and correct information that is being disseminated as news. These efforts are all in the proof-of-concept and trial phase, with limited results to date.
V. OPPORTUNITIES

Both the challenges projects faced and their successes point to some key opportunities:

- **Information Accuracy Is Time- and Effort-Consuming:** The most cited challenges to projects were time and money. Grantees were generally optimistic at the outset but, over time, some teams were forced to redefine the scope of what they could achieve during the grant period. A dynamic environment, with social media platforms changing policies and synthetic media creators adapting, meant that some project plans needed to evolve in real time, and acquiring clean data sets and running machine learning annotation were problematic.

- **Personnel Matter:** Projects that had the right personnel in place were naturally able to start earlier. Screening for team readiness may be a factor to consider in future similar initiatives.

In addition, the insights generated point to areas where further research may be necessary:

- **Identify How to Improve Retention for Media Literacy:** Grantees in the media literacy category pointed to the need to test retention and performance over the long term among educators and instructors as well as the students/clients they serve. The quality of learning from exposure to media literacy curricula remains an important research area since standards of satisfactory performance for students/clients exposed to these curricula vary widely, even among the limited number of 2017 projects funded in this category.

- **Better Understand the Public Trust Gap in Fact-Checking:** Investments to bolster the standing of fact-checking as a journalistic enterprise as well as the credibility of public-facing fact-checking resources are an essential complement to Knight Foundation’s investments in media literacy resources. In addition to support for projects like PolitiFact, funded interventions should continue to include media literacy curricula that incorporate detailed primers on what journalistic fact-checking is and does.

- **Go Deeper on the Power of Motivated Reasoning:** One of the ancillary findings of the CrossCheck project is that, to the extent that debunks had any effect on users recruited in France, political affiliation made a difference. The Media Literacy @ Your Library team reported that one of the prototype library sites was unable to engage a conservative local newspaper to contribute to their programming and, as result, the library’s media literacy education efforts were perceived as biased. Climate change skeptics in the Breaking Filter Bubbles tests proved immune to experiments in messaging. And, on the technology side, teams’ reflections on the challenges they face in designing successful solutions included questions about what’s actually driving the human behaviors they hope to shift.

- **Bring the Tech Industry into the Fold:** This observation is not a surprise, but it bears repeating. Engaging the tech industry is vital to the success of any effort to accelerate accurate information and combat disinformation. Grantees offered evidence that large
social platforms (e.g., Facebook and Google) as well as ad tech/digital advertising firms are interested in their work, but cautious about revenue implications. Engaging industry players in a continuing dialogue, as well as actively facilitating conversations between tech companies and innovators/researchers such as 2017 grantees, can build bridges and result in scaled solutions.
APPENDIX: PROJECT SUMMARIES

CALLING BULL IN THE AGE OF FAKE NEWS

DEVELOPING A CURRICULUM AND TOOLS TO TEACH STUDENTS AND THE PUBLIC TO BETTER ASSESS QUANTITATIVE INFORMATION AND COMBAT MISINFORMATION.

Organization: University of Washington
Project Lead: Jevin West

The project adapted a popular University of Washington course (Calling BS) for use with high school students with the idea that materials revised at the high school level could be used more broadly with general audiences. Project leads worked with teachers and librarians at three Seattle high schools to create and test curriculum materials that help high school students filter misinformation from quantitative reporting (statistics, graphs). Curriculum materials that high school teachers reported to be useful have been packaged and shared with hundreds of other teachers through project outreach, including video conference presentation to humanities teachers through the National Endowment for the Humanities. They are now working on the release of a PSA inspired by Knight prototype work.

Project leads are seeking additional funding to develop a series of PSAs to be used in the lead-up to the 2020 presidential election, encouraged by Sally Lehrman at Trust Project, among others.

IMPROVING YOUTH CIVIC ENGAGEMENT THROUGH KQED LEARN

ENCOURAGING YOUNG PEOPLE TO ASK CRITICAL QUESTIONS THAT DEEPEN LEARNING AND IMPROVE MEDIA LITERACY THROUGH KQED LEARN, A FREE ONLINE PLATFORM FOR STUDENTS AND TEACHERS.

Organization: KQED
Project Lead: Randall Depew

The project created and tested KQED Learn, a free online platform for middle and high school classrooms that models how students should assess media content. It also allows students to create their own content for review by teachers and peers. The platform was tested with 28 diverse Bay Area classrooms, reaching 2,664 students in 29 schools and 33 active teachers. Seventy-five percent or more of the teachers who participated in the pilot said that students improved in areas including ability to determine the reliability of a source or find reliable sources. KQED Learn launched publicly in March 2018; over 1,700 teachers have signed up to use the platform. Knight’s initial investment has helped KQED Learn attract other funding from Silver Giving Foundation, the Stuart Foundation and the William and Flora Hewlett Foundation.
PUTTING CIVIC ONLINE REASONING IN CIVICS CLASS

CREATING RESOURCES FOR TEACHERS TO BECOME BETTER CONSUMERS OF DIGITAL CONTENT, WHICH THEY CAN USE TO HELP STUDENTS DO THE SAME.

Organization: Stanford History Education Group, Stanford University
Project Leads: Sam Wineberg and Joel Breakstone

The project aimed to develop digital literacy curriculum for use in high schools. Materials developed through the project piloted with 20 teachers in 16 districts in 10 states. Pre- and post-test of students’ online reasoning shows improvement. The project is now conducting two followup studies where project materials are combined with professional development for teachers — one in a red state, one in a blue state. Students’ pre- and post-test results will be made available to schools, and curriculum materials will be posted online for free. The project team is now developing short lessons to be used across high school curricula, since instruction in online reasoning/digital literacy is increasingly being mandated by states. A new California law that advocates for media literacy cites the Stanford History Education Group’s Knight prototype work. There are plans to connect with the Poynter Institute and Google to distribute materials and with other partners to create a video series. Still needed: more research on performance of students outside the classroom and over time.

MEDIA LITERACY @ YOUR LIBRARY PILOT

DEVELOPING ADULT MEDIA LITERACY PROGRAMS IN FIVE PUBLIC LIBRARIES.

Organization: American Library Association
Project Lead: Samantha Oakley

This project recruited teams of librarians from five libraries in different regions of the country to evaluate and contribute to the refinement of online materials for use in media literacy instruction. Monitoring and evaluation by project leads showed that prototype materials, adapted from the Center for News Literacy’s curriculum, built the capacity of participating librarians to understand media literacy concepts and use them to create educational programming for their communities.

The American Library Association (ALA) is looking for funding to produce a final version of project materials for wider distribution to librarians and other audiences. Details of the Knight prototype project were shared widely with the library field through ProgrammingLibrarian.org, a website of ALA’s Public Program’s Office. Key finding: News literacy training works best when resources can be customized with local news content. Rural communities evidenced the most interest in pilot sessions. Digital natives evidenced less interest.
FACTS MATTER

HELPING TO IMPROVE TRUST IN FACT-CHECKING THROUGH A SERIES OF FACE-TO-FACE, CONTENT AND DIGITAL EXPERIMENTS.

Organization: PolitiFact
Project Lead: Aaron Sharockman

PolitiFact engaged residents in pop-up events with local partners in three conservative states — Alabama, Oklahoma and West Virginia — and found that after participants learned more about the fact-checking process there was an increase in trust in PolitiFact’s news and information (85 percent responding “not biased” after the event compared with a baseline of 46 percent). Trust was higher for fact-checking on the local level. Local partners in those states are interested in continuing local efforts. There is potential to expand local fact-checking via partnerships with university departments. Pilots have a PolitiFact trainer working with faculty to teach a class how to fact-check, and students work in groups on fact-checking local issues that PolitiFact publishes and makes available to all newspapers in the state/region. The grant also covered development of a PolitiTruth game that has been downloaded 21,400 times and played more than 500,000 times. Other research that audited language found no signs of bias in PolitiFact content. The organization receives funding from organizations including the Democracy Fund and Craig Newmark Philanthropies, in addition to individual donations.

CROSSCHECK

USING DESIGN FEATURES TO MAKE ACCURATE NEWS MORE MEMORABLE, SO THAT PEOPLE CAN RECALL IT EASILY WHEN FACED WITH MISINFORMATION.

Organization: Vanderbilt University in collaboration with First Draft
Project Lead: Lisa Fazio

The project tested whether presentation of news content produced during the 2017 French presidential election (content phrased as statement versus question, content with or without logos/badges of fact-checker organizations) makes a difference to reader recall or perceived credibility of the content. A comparison of pre- and post-rating of content by 953 U.S. and about 800 French subjects (pre-rating, read article, post-rating) shows that, while U.S. readers showed a larger effect and, among French readers, political affiliation made a difference, belief in the false rumors decreased after reading the debunks. However, most participants had no recall of design features and design had no significant impact on credibility rating. The project’s top takeaway: Debunks are useful, but designers should make sure that people are paying attention to the important features.
BREAKING FILTER BUBBLES IN SCIENCE JOURNALISM

CREATING VISUALLY ENGAGING SCIENCE JOURNALISM TO DISCOVER WHETHER CONTENT FROM A TRUSTED MESSENGER IN A CULTURALLY RELEVANT CONTEXT HAS GREATER REACH.

Organization: The University of California, Santa Cruz, Science Communication Program
Project Lead: Erika Check Hayden

The project used the Escape Your Bubble platform to test whether climate-related science stories delivered by “trusted messengers” have more impact than stories delivered by “untrusted messengers” and which formats of science storytelling are most effective for diverse audiences. The project recruited 1,028 users who qualified as climate change skeptics and recorded responses to different presenters and content. The project met the target number of climate change skeptic users (1,000-plus) and users were highly engaged with content. However, results showed little post-exposure difference in response to the question, “Do you accept the science of climate change?” regardless of messenger and format.

Since the project had difficulty finding good local science reporting to draw from in selecting materials to show users, Hayden, who is director of the UCSC Science Communication Program, is focusing now on establishing and strengthening partnerships between science journalism students and local newsrooms. She has secured funding to involve her students in local reporting initiatives, thus training them in community impact journalism, and to and place students directly as interns at local news outlets, thus bolstering the capacity of newsrooms to cover locally relevant science and environment stories.

IMMIGRATION LAB

ENGAGING UNDOCUMENTED IMMIGRANTS ON ISSUES THAT AFFECT THEIR LIVES WITH A RELIABLE NEWS RESOURCE TO HELP THEM ACCESS AND GATHER INFORMATION.

Organization: Univision News
Project Lead: Ronny Rojas

The project aimed to develop and test a toolkit to help Univision journalists engage hard-to-reach immigrant communities. Survey research yielded information on the most trusted sources of information and patterns of social media use in two U.S. communities with large percentages of undocumented residents. In June and July 2018, layoffs at Univision interrupted the development of the toolkit, so no prototype was produced. However, survey results informed development of Univision programming using Facebook Watch, the social network’s video-on-demand service, to engage hard-to-reach immigrant audiences.
According to the project lead, this has led to a 30 percent increase in the number of people in targeted communities who connect to Univision’s Watch programming. Univision is training journalists to communicate using Facebook Watch, gathering better data from sources in faith communities and elsewhere about how to engage with undocumented viewers. A key question for follow-up posed by the project lead is how to measure audience trust, not just audience engagement.

**DOCUMENTERS.ORG**

**CREATING A NETWORK OF CITIZEN “DOCUMENTERS” WHO ARE TRAINED IN THE USE OF JOURNALISTIC ETHICS AND TOOLS AND WHO ATTEND PUBLIC GOVERNMENT MEETINGS AND PRODUCE SUMMARIES THAT ARE POSTED ONLINE AS A PUBLIC RESOURCE, IN COLLABORATION WITH LOCAL JOURNALISTS.**

*Organization: City Bureau  
Project Lead: Darryl Holliday*

The project successfully built an open source tool that collects information from multiple websites and compiles upcoming public meetings in Chicago. The process engaged more than 40 technologists as volunteers who continue as a self-sustained open source community. Documenters.org has since completed their online platform (in January 2019) and have exported use of the web app to Detroit. The project is currently working with organizations in Pittsburg, Cleveland and Akron to add those cities’ public meetings to the platform that incorporates the public meeting calendar and allows residents to efficiently upload notes from public meetings and journalists to find content. This platform is owned by City Bureau with plans to expand elsewhere. Several city administrations around the country have expressed interest in the aggregator function since many are not posting a full list of municipal meeting as required by law. In Detroit, they are in year 2 of their collaboration with WDET in using the platform to assign journalists to cover public meetings. City Bureau will explore creation of a “Documenters Institute,” working with news organizations, community groups and education institutions to spread the Documenters platform to other locations. It is looking for funding to support this next stage.

**NEWS INEQUALITY PROJECT**

**DEVELOPING AN ANALYTICS DASHBOARD TO HELP JOURNALISTS AND OTHERS UNDERSTAND HOW — AND HOW OFTEN — DIFFERENT COMMUNITIES ARE COVERED IN NEWS OUTLETS OVER TIME.**

*Organization: Portland Press Herald/Maine Sunday Telegram  
Project Lead: Hamdan Azhar*

The project partnered with three newspapers in New York City to review a tool that measures “blind spots” in local news coverage (places where coverage is disproportionately low). The
tool is intended to be used by media organizations to adjust their news coverage and reduce inequality, by civic organizations to develop citizen journalism and initiatives, and by nonprofits or journalism schools to increase focus on less-covered places. The tool was deployed successfully to analyze type and geographic focus of news stories revealing inequalities in coverage. Key findings: Some newspaper editors were more interested in using the findings to increase subscriptions rather than adjust their coverage. Journalism students like the tool for generating story ideas. Opportunity: The tool can be used to guide investment in local journalism based on identified gaps.

VIZLAB

DEVELOPING A DASHBOARD TO TRACK AND VISUALIZE IMAGES AND “MEMES” AS COMMON SOURCES OF FAKE NEWS.

Organization: A collaboration of independent researchers, journalists and developers
Project Leads: Susie Cagle, Caroline Sinders and Francis Tseng

The Vizlab project built a tool that tags memes with information about where they came from, where they have appeared, and how and to what extent they have spread, in order to enable people (fact-checkers, journalists, researchers) to more rapidly identify memes that are being produced and deliberately used as propaganda. The prototype technology build produces exact search results with a high degree of accuracy. The alpha version is anticipated this fall. The design of user interface for search results highlighted the importance of user feedback to understand what users need to make use of query results information. The team is exploring how to create a search function by keywords to understand what topics are associated with specific images. The project now has an institutional partner—Harmony Labs, a nonprofit dedicated to media research which supports open, resilient democracy—that will facilitate the continued development of the tool and research. The team is seeking additional funding opportunities. Sinders reported that the project was instrumental in generating greater interest in meme research and is now working with Harvard’s Shorenstein Center on a meme research project.

HOAXY BOTOMETER

DEVELOPING A TOOL TO UNCOVER ATTEMPTS TO USE INTERNET BOTS TO BOOST THE SPREAD OF MISINFORMATION AND SHAPE PUBLIC OPINION.

Organization: Center for Complex Networks and Systems Research, Indiana University School of Informatics, Computing and Engineering
Project Leads: Filippo Menczer and Valentin Pentchev

The prototype product was built leveraging existing tools—Hoaxy, which visualizes the spread of misinformation and fact-checks on Twitter, and Botometer, which checks the activity of Twitter accounts and gives them a score based on how likely they are to be bots. The new Hoaxy integrates bot scores to illustrate the role of bots in the spread of misinformation.
Hoaxy functionality expanded with this project beyond initial plans to add video to illustrate diffusion over time and includes the ability to search Twitter directly to expand what can be searched beyond the Hoaxy database (limited to recent tweets), as well as the option to embed results to encourage sharing. The beta version is live, and the team has communicated with Facebook and Google on how to use the tool to better address mis/disinformation sharing. Initial analysis of Hoaxy results indicates that fact-checks are not reaching the accounts that are spreading false information. User feedback on beta and clarification of use cases is continuing. The team is working with First Draft to make the interface more approachable for journalists. The project has some funding for continuing work with First Draft, and also submitted to the AI and the News open challenge.

**WHO SAID WHAT**

HELPING PEOPLE MORE EASILY FACT-CHECK AUDIO AND VIDEO NEWS CLIPS WITH A TOOL THAT ANNOTATES THE CLIPS AND LETS USERS EXPLORE WHAT’S SAID AND THE SPEAKER’S IDENTITY.

*Organization: Joostware Project Lead: Delip Rao*

The Who Said What project developed a prototype of a tool that allows users to search audio/video files to identify speakers and the context of their statements. This involved creating a system for extracting data from audio/video files that parses out who was talking and what was said. The early prototype can accurately identify one speaker and spoken words or phrases. A link to the specific clip can then be generated to allow for sharing of video to facilitate verification and contextualization of quotes/clips more easily and quickly. Initial feedback from journalists indicates keen interest in this ability to quickly access data from original video/audio source files. The team plans to continue refining the prototype to include multispeaker models and conduct more user studies. It is exploring other funding sources and opportunities.

**CONTEXTUBOT**

CREATING A TOOL THAT PROVIDES THE ORIGINAL SOURCE OF AUDIO AND VIDEO CLIPS AND IDENTIFIES WHO ELSE DISCUSSED IT ON THE NEWS.

*Organization: Bad Idea Factory Project Lead: Dan Schultz*

ContextuBot is an experiment to design a tool that enables the use of video clips to search video. The aim was to add more context to video clips that are shared by not only identifying the broadcast video the clip originated from, but also producing transcripts and a comic-book-style storyboard version. The development process refined an audio fingerprinting tool, Duplitron 5000, which finds audio matches, and in the process made key improvements that enable the addition or removal of computers/computer clusters, so it is faster and easier to scale up and down. An initial functional prototype was tested with users to collect feedback and possible use cases. Particular interest came from the academic community for the tool’s
potential to automate summarization of video, improving access to video as a data source. A refined prototype is live as a proof of concept at Contextubot.net with about two weeks of searchable video (as of late March 2018). Users enter a video clip link, and results present possible broadcast video matches, an interactive transcript of the broadcast and, for some videos, a captioned storyboard as an experiment in different presentation formats. The Contextubot team is working with the University of Iowa on a partnership related to a National Science Foundation grant.

The project lead reported the need for scaling up the audio fingerprinting to make it faster so more files can be included in the search.

NEWSTRACKER.ORG

DEVELOPING A TOOL THAT COMBINES ONLINE NEWS CONTENT WITH ENGAGEMENT DATA TO HELP PEOPLE BETTER UNDERSTAND THE SCALE, SCOPE AND SHAPE OF THE MISINFORMATION PROBLEM.

Organizations: “PBS NewsHour” and Miles O’Brien Productions LLC
Project Lead: Cameron Hickey

The NewsTracker project combined algorithmic and manual approaches to classifying junk content to create a machine learning model that automates the identification, collection and tagging of junk news content on social media. This process included developing a set of indicators for scoring content looking at Facebook posts and the domain source as well as formulating an approach to extracting information within images using Optical Character Recognition because of the prevalence of meme images shared on social media. Research found that systematically reviewing the “likes” of users who engage with known junk news is a successful approach to identifying other junk news sources. Analysis of the data collected highlighted the continuous emergence of new junk news sources (about 80 or more per month) and the utility of a system that identifies and tracks trends and narratives in junk news content as they emerge. Building on the prototype, the plan is to add social media platform data with a goal to develop an early warning system for journalists to understand the spread of junk news and how it is evolving across social media.

VERACITY

HELPING TO CURB THE FINANCIAL INCENTIVES OF CREATING MISLEADING CONTENT WITH AUTOMATICALLY UPDATED LISTS OF “FAKE NEWS” WEBSITES AND TOOLS THAT ALLOW AD BUYERS TO BLOCK DOMAINS WHERE MISINFORMATION IS PROPAGATED.

Organization: Veracity Project Lead: Danny Rogers

The project included assembling a data set of known junk news and credible domains, conducting analysis using portions of the data set to identify indicators/signal of junk news.
and quality news content. Testing of the classifier on the other half of the domains demonstrated 98 percent accuracy in automated identification of junk news content. Notably, analysis found that metadata is often more valuable than the content itself as a signal for junk content. The technical feasibility for scaling the concept is promising. The Veracity.ai tech platform and prototype analytics is now the technical foundation for a new effort, the Global Disinformation Index (GDI), a nonprofit entity with a mission to independently and transparently rate domains based on the probability that they carry disinformation. The team is also coordinating with the Open Brand Safety Initiative in an effort to provide advertisers with ratings to inform ad buy decision-making. GDI is seeking funding, and recently received funding from two governments and two foundations. The Veracity.ai data set is available to the research community, and it includes over 1 million pieces of content and metadata from over 1,000 junk news and disinformation domains.

**DEEP NEWS (FORMERLY NEWS QUALITY SCORE)**

CREATING A TOOL TO ELEVATE QUALITY JOURNALISM FROM THE WEB, WHICH WILL ALSO EVALUATE AND ATTACH A SCORE BASED ON THE QUALITY OF THE CONTENT.

Organization: DeepNews  
Project Lead: Frederic Filloux

Deepnews created a proof of concept tool using a machine learning algorithm to accurately score articles on journalistic quality criteria including depth of reporting, information density, diversity of sources and stylistic elements (vocabulary, phrase structure, etc.) The prototype model has greater than 80 percent accuracy in scoring articles. The scores are intended to be used by other applications and services such as recommendation engines or curation systems to elevate quality content. The prototype has generated interest in the concept, and pilots with several news organizations are being planned for 2019; the Deepnews team is in conversation with The Guardian and New York magazine.

Additional funding has been received from European Google Digital Initiative. The team reported exploring other opportunities including venture capital funding; however, initial conversations with VCs have focused on potential for advertisers. Grantee interest is in emphasis of use cases related to supporting and promoting journalism.

**CREDIBILITY COALITION (FORMERLY TECHNICAL SCHEMA FOR CREDIBILITY)**

CREATING A STANDARDIZED FRAMEWORK TO DEFINE THE CREDIBILITY OF A PIECE OF CONTENT, HOW CONCLUSIONS ABOUT ITS CREDIBILITY WERE REACHED, AND HOW TO COMMUNICATE THAT CREDIBILITY EFFECTIVELY.

Organization: Meedan in collaboration with Hacks/Hackers  
Project Lead: An Xiao Mina
The project formed out of discussions at MisinfoCon 2017 with a goal to collaboratively and openly develop a systematic framework of indicators for evaluating the credibility of online content. The framework is designed to serve as a reference tool that creates a shared vocabulary related to credibility to make it easier for communities, publishers, content platforms and the public to make decisions about content they might consume, publish or share. The grantee developed a draft indicators framework with 12 major categories, including reader behavior, revenue models, publication metadata, and inbound and outbound reference via a collaborative process that aggregated input from a diverse group of stakeholders. An initial test asked human annotators to apply the indicators to a small sample of popular articles on public health and climate change. The test produced promising results for refining the indices which were published as a paper presented at the Web Conference in April 2018. The project was instrumental in the formation of the Credibility Community Group, an effort that will focus on developing consensus on technical standards for exchanging credibility-related data on the web. Credibility Coalition has received additional funding from Google News Lab, the Facebook Journalism Project and Craig Newmark Philanthropies to expand its work developing indicators of content credibility on the web and develop training data with these indicators based on real news articles.

**CHARTCHECK**

**ADDRESSING MISINFORMATION THROUGH CHARTS, GRAPHS AND DATA VISUALIZATIONS BY FACT-CHECKING THESE RESOURCES AND PUBLISHING RESULTS.**

*Organization: Periscopic  
Project Lead: Dino Citraro*

The grantee developed a proof of concept for a fact-checking site that evaluates data visualizations. The prototype used an expert panel of reviewers and contributors to create and trial a rubric for scoring data visualizations according to data quality, data analysis and presentation. The rating system includes a rating for each category as well as for the visualization overall using a four-point scale: pass, pass with reservations, fail with reservations and fail. The scoring template performed well in the piloting on eight charts iterating the rubric with reviewers over four rounds. The team is preparing a beta version of the site that displays pilot results. Periscopic is exploring partnerships to leverage the ChartCheck prototype, potentially for use by fact-checking organizations, journalists or data literacy curricula.
SOCIAL MEDIA INTERVENTIONS TO REDUCE THE SPREAD OF MISINFORMATION

EXPERIMENTING WITH THE EFFECTIVENESS OF REAL-TIME ONLINE INTERVENTIONS WITH PEOPLE WHO ARE SHARING KNOWN MISINFORMATION ONLINE.

Organization: Boston University
Project Lead: Dylan Walker

The project aimed to build a prototype tool that identifies mis/disinformation being spread on Twitter and facilitates use of a semi-automated bot that replies to the tweet to add corrected information and notifies misinformation spreaders. The prototype monitors social media for posts that include links to known junk news and allows for tests of different types of bot responses to better understand what messaging approaches are effective in curbing the spread of mis/disinformation and on whom. The prototype was designed for use by nontechnical staff for various programmatic research with the ability to quickly and easily modify monitoring and interventions and download the data. While beyond the scope of the Prototype Fund grant, the tool is being used to test responses to misinformation about antibiotics and several other health topics and collected data on the spreaders of misinformation indicating that those creating content on social media are often most misinformed and spreading this misinformation. Results of testing of interventions related to news disinformation are forthcoming.