Crowdsourcing, Kind Of

Katherine Krems *

TABLE OF CONTENTS

I.	Introduction	64
II.	BACKGROUND	66
	A. Definitions	66
	B. Public Comments and Net Neutrality	67
	C. The FCC and Net Neutrality Public Comments	68
	 Net Neutrality Comment Data Studies Action (and Inaction) In Response to Fake Comments Chairman Pai's Proposal to Change the Comment System 	71
III.	THE ADMINISTRATIVE PROCEDURE ACT AND PUBLIC COMMENT	74
	A. The APA	74
	B. Public Comment	75
	C. Judicial Review	77
IV.	PROBLEMS WITH FINDING AND REMOVING FAKE AND FRAUDUL COMMENTS	
V.	SUGGESTED REMEDIES FOR ADDRESSING FAKE AND FRAUDULE COMMENTS	
	A. CAPTCHAs	80
	B. Authentication	81
	C. Administrative Fee	82
VI.	CONCLUSION	82

^{*} J.D., May 2019, The George Washington University Law School. B.A., Wesleyan niversity. Senior Articles Editor, *Federal Communications Law Journal*, Vols. 70-71. Thank you to the FCLJ staff for all of their hard work and assistance with publication.

I. Introduction

As public comment on rulemaking procedures increasingly occurs online¹ and more advanced technology becomes available to interested parties,² fake comments submitted during rulemaking procedures present a noteworthy problem for the FCC and other government agencies. Fake comments do not accurately reflect public sentiment and skew the facts on the record. Consideration of or even non-action around these comments is anti-democratic because leaving fake comments in the record drowns out the voices of real commenters.

Democracy is "[g]overnment by the people; that form of government in which the sovereign power resides in the people as a whole." Comments submitted by bots and other parties under fake names take the power of the opportunity to comment on agency rulemakings from the people. At a time when public trust in the government and government institutions is near an all-time low, the FCC and other agencies should act to remove fake comments from the record. If these comments remain in the record, the public's trust in these institutions will falter even more.

For public comments to remain relevant and for agencies to remain credible through rulemaking processes, agencies must revise the way they consider comments in the digital age, most significantly by discounting comments that are demonstrably fake and fraudulent. As prescribed by the Administrative Procedure Act ("APA"),⁵ in notice-and-comment rulemaking⁶ agencies must provide interested parties with opportunity to comment on proposed rules⁷ and then consider "relevant matter presented." The statute

¹ See, e.g., John M. de Figueiredo, *E-Rulemaking: Bringing Data to Theory at the Federal Communications Commission*, 55 DUKE L.J. 969, 992 (2006) (finding "a long-term trend from paper to electronic filings").

² See, e.g., Issie Lapowsky, How Bots Broke the FCC's Public Comment System, WIRED (Nov. 28, 2017), https://www.wired.com/story/bots-broke-fcc-public-comment-system/ [hereinafter System] [https://perma.cc/N2BT-N455] ("When the Administrative Procedure Act became law in 1946, requiring government agencies to accept public comments, a world in which bots wreaked havoc on the rule of law was the stuff of science fiction. Today, it's a reality that the FCC can no longer ignore."); Human-Like Bots Infiltrate U.S. Lawmaking Process, FISCALNOTE (Nov. 13, 2017), https://fiscalnote.com/2017/11/13/human-like-bots-infilitrate-u-s-lawmaking-process/ [hereinafter Human-Like Bots] [https://perma.cc/A9YG-YJRR] (expounding artificial intelligence "is only continuing to advance and mature, as machines acquire enhanced understandings of human-generated content").

³ Democracy, OXFORD ENGLISH DICTIONARY (2d ed. 1989).

⁴ See, e.g., Pubic Trust in Government: 1958-2017, PEW RES. CTR. (May 3, 2017), http://www.people-press.org/2017/05/03/public-trust-in-government-1958-2017/ [https://perma.cc/XWB7-SAG4]; Confidence in Institutions, GALLUP, http://news.gallup.com/poll/1597/confidence-institutions.aspx [https://perma.cc/SC7J-UK8A] (last visited Apr. 8, 2018).

⁵Administrative Procedure Act, 5 U.S.C. § 500 et seq. (2012).

⁶ See Perez v. Mortgage Bankers Ass'n, 135 S. Ct. 1199, 1203 (2015) (explaining that rulemaking applies to "formulating, amending, or repealing a rule" as defined as "statement [s] of general or particular applicability and future effect") (citing 5 U.S.C. §551(5) and (4) (2012), respectively).

⁷ 5 U.S.C. § 553(c) (2012).

⁸ *Id.*; see also Perez, 135 S. Ct. at 1203.

specifies that agencies must provide "interested persons" with the opportunity to comment and then "consider and respond to significant comments received." Agencies do not have to consider and respond to every comment, 11 but an accurate record is important for judicial review of agency action. 12

As public comments on agency proceedings increasingly move online, 13 opportunities for fraudulent, fake, and mass-solicited comments are increasing. Fake and fraudulent comments submitted by people, bots, or other entities under fake names that look like real names; under words (or numbers) that do not look like real names; or under misused real names and information should not be included in the record. If the public believes an agency is considering fake comments in rulemaking processes or not acting to investigate, address, and remove these comments from the record, they may become wary of that agency and its actions, furthering distrust of the government that plagues our society today. 14 Additionally, if these comments remain in the record, their inclusion could affect agency rulemaking judgment, making it nearly impossible for agencies to gauge public sentiment. Finally, in judicial review of agency action, fake comments present a problem because they skew the record against which courts must judge agency decision-making.

This Note will argue that agencies have an obligation to remove fake and fraudulent comments from the record. It will argue that when agencies leave fake and fraudulent comments in the record, these comments overwhelm real, legitimate comments. It will use the recent comment period leading up to the FCC's December 2017 vote to repeal net neutrality rules to frame the argument, focusing on fake and fraudulent comments that include fake names, fake or short-term email addresses, and/or stolen personal information.

Section II will look at the background of the recent net neutrality public comment period. Section III will analyze the FCC and other agencies' obligations to the public and public comments under the APA. Section IV will examine difficulties agencies may face with finding and removing fraudulent comments from the record. Section V will address possible remedies for the problem. This Note will conclude by suggesting that for agencies to comply with the APA and for rulemaking to remain relevant to the public and to our democracy, agencies must take measures to limit the damage that fake and fraudulent comments can do.

⁹ 5 U.S.C. § 553(c); *see also* Animal Legal Def. Fund v. Vilsack, 237 F.Supp.3d 15, 22 (2017) (explaining that because agency decisions almost always affect the public at large, an "expansive interpretation of 'interested person' . . . is often necessary").

¹⁰ Perez, 135 S. Ct. at 1203.

¹¹ See, e.g., 5 U.S.C. § 553(c); Thompson v. Clark, 741 F.2d 401, 408 (1984) ("[5 U.S.C. § 553(c)] has never been interpreted to require the agency to respond to every comment, or to analyze every issue or alternative raised by the comments . . .").

¹² 5 U.S.C. § 706 (2012) (explaining a reviewing court "shall review the whole record").

¹³ See, e.g., de Figueiredo, supra note 1, at 992.

¹⁴ See Pubic Trust in Government, supra note 4 (explaining public trust in government "remains near historic lows").

II. BACKGROUND

A. Definitions

Bots are "software developed to automatically do tasks online." Bots (short for robots) appeared widely in the news as it became clear that bot-run Twitter pages were active leading up to the 2016 presidential election. Based on the totality of available information about the comments submitted to the FCC during the net neutrality public comment period, it is highly likely that bots submitted fake and fraudulent comments to the FCC's Electronic Comment Filing System during this time.

Fake and fraudulent comments, for the purposes of this Note, are comments submitted by people or bots with either completely made up identifying information 18 or real information belonging to a person who did not submit the comment. For the purposes of this Note, the words fake and fraudulent will be used interchangeably to describe this category. Fake comments may be submitted under a real person's name but not by that person, such as Ajit Pai, who is the current FCC Commissioner, 19 Donna Duthie, who died long before the first net neutrality regulations were passed, 20 or Sebastian Jakubowski, who discovered his name was used in a comment submission when a reporter from the *Wall Street Journal* sent him a survey to be used as research for an article. 21 Often, when fraudulent comments use real

¹⁵ Douglas Guilbeauly & Samuel Woolley, *How Twitter Bots Are Shaping the Election*, THE ATLANTIC (Nov. 1, 2016), https://www.theatlantic.com/technology/archive/2016/11/election-bots/506072/ [https://perma.cc/7BHN-32F4].

¹⁶ See id. ("Marginal populations use bots to create an illusion of popularity around fringe issues or political candidates.").

¹⁷ See, e.g., Paul Hitlin et al., Public Comments to the Federal Communications Commission About Net Neutrality Contain Many Inaccuracies and Duplicates, PEW RES. CTR. (Nov. 29, 2017), http://www.pewinternet.org/2017/11/29/public-comments-to-the-federal-communications-commission-about-net-neutrality-contain-many-inaccuracies-and-duplicates/ [https://perma.cc/LJZ8-L9ZB] ("Some 57% of the comments utilized either duplicate email addresses or temporary email addresses created with the intention of being used for a short period of time and then discarded . . . many individual names appeared thousands of times in the submissions . . . it is often difficult to determine if any given comment came from a specific citizen or from an unknown person (or entity) submitting multiple comments using unverified names and email addresses.").

¹⁸ See, e.g., id. (listing top name submissions during the net neutrality debate as Net Neutrality and the Internet).

¹⁹ See Jon Brodkin, People Who Were Impersonated by Anti-Net Neutrality Spammers Blast FCC, ARS TECHNICA (May 25, 2017, 4:30 PM), https://arstechnica.com/information-technology/2017/05/identity-theft-victims-ask-fcc-to-clean-up-fake-anti-net-neutrality-comments/ [https://perma.cc/54F8-4TEH] [hereinafter Spammers] (citing Commissioner Pai's statement that hundreds of comments were submitted under his name).

²⁰ James V. Grimaldi & Paul Overberg, *Millions of People Post Comments on Federal Regulations. Many Are Fake.*, WALL ST. J., https://www.wsj.com/articles/millions-of-people-post-comments-on-federal-regulations-many-are-fake-1513099188 [https://perma.cc/52R4-LS5D] (last updated Dec. 12, 2017, 2:13 PM).

²¹ Interview with Sebastian Jakubowski in Alexandria, Va. (Nov. 7, 2017) (on file with author); see also id.

personal information, that real information was collected during data breaches.²²

Mass-solicited comments are comments solicited on a large scale by a certain group or entity, such as when the television host John Oliver implored his audience to submit comments to the FCC on net neutrality,²³ or when an interest group encourages members to submit form emails to lobby a government agency or entity.²⁴ Mass-solicited comments are not fraudulent if, as often is the case, organizations submitting the comments have permission to use individuals' personal information.²⁵ Mass-solicited comments can and do encourage participation in the rulemaking process by making it easier for people to voice their views,²⁶ and these comments cannot be ignored or discarded.²⁷ Because mass-solicited comments are not inherently fraudulent, this Note will not focus on these comments and will instead focus on those that are clearly fake.

B. Public Comments and Net Neutrality

Agencies are required to consider and respond to what courts have described as "significant" comments.²⁸ While an agency is not expected to consider and respond to every single comment it receives,²⁹ failure to consider and respond to comments is meaningful when the failure "demonstrates that the agency's decision was not 'based on a consideration of the relevant factors.""³⁰

²² See, e.g., Jon Brodkin, Ajit Pai Not Concerned with Number of Pro-Net Neutrality Comments, ARS TECHNICA (July 14, 2017), https://arstechnica.com/tech-policy/2017/07/ajit-pai-not-concerned-about-number-of-pro-net-neutrality-comments/ [https://perma.cc/DJ5U-S7AB] [hereinafter Comments] (explaining that many of the anti-net neutrality comments were submitted by bots using data collected during breaches); Grimaldi & Overberg, supra note 20 ("Hundreds of identities on fake comments were found listed in an online catalog of hacks and breaches.").

²³ See, e.g., Ali Breland, FCC Flooded with Net Neutrality Comments After John Oliver Plea, The Hill (May 9, 2017), http://thehill.com/policy/technology/332499-fcc-flooded-with-comments-on-net-neutrality-after-john-oliver-plea [https://perma.cc/9NVC-BXKY] ("Oliver called on viewers to visit gofccyourself.com, a website he and his staff created that sends users directly to the FCC page where they can file a comment.").

²⁴ See Grimaldi & Overberg, supra note 20 (explaining "Astroturf Lobbying" as "when an interest group gins up support from individuals and characterizes it as a grass-roots movement").

²⁵ See id

²⁶ See System, supra note 2 (illustrating mass-solicited comment campaigns by legitimate organizations of legitimate commenters used similar techniques to those used by bot campaigns and bad actors).

²⁷ See, e.g., Cynthia R. Farina et al., Rulemaking vs. Democracy: Judging and Nudging Public Participation That Counts, 2 MICH. J. ENVTL. & ADMIN. L. 123, 150 (2012) ("Agencies cannot refuse to docket and review the submissions produced by mass e-mail campaigns.").

²⁸ See, e.g., Perez v. Mortgage Bankers Ass'n, 135 S. Ct. 1199, 1203 (2015).

²⁹ See Thompson v. Clark, 741 F.2d 401, 408 (D.C. Cir. 1984) (citing Automotive Parts & Accessories Ass'n v. Boyd, 407 F.2d 330, 338 (D.C. Cir.1968)).

³⁰ *Id.* (quoting Citizens to Preserve Overton Park v. Volpe, 401 U.S. 402, 416 (1971)).

The recent debate over the repeal of the FCC's net neutrality rules, a particularly contentious issue,³¹ has yielded the most comments in the history of the FCC public comment process,³² but many of these comments likely originated from bots.³³ Agencies do not directly consider comments in the deliberative process that is rulemaking,³⁴ as rulemaking is not a process of direct democracy but of rational deliberation by rule writers.³⁵ Still, the opportunity to comment will become meaningless if agencies are unable to consider relevant information and distinguish real comments from those that are fake.³⁶

Agencies should act when the record contains fake and fraudulent comments.³⁷ Agencies can take affirmative steps to avoid allowing fake comments to get through their electronic comment filing systems, and when those comments do get through, agencies should take steps to remove these comments from the record.

C. The FCC and Net Neutrality Public Comments

The FCC received a large number of fake and fraudulent comments during the four-month notice-and-comment period prior to the December 2017 vote on net neutrality rules.³⁸ The FCC received around 22 million comments, the most ever on a single action.³⁹ This large number of comments

³¹ See, e.g., Larry Greenemeier, Net Neutrality Prevails in Contentious FCC Vote, SCIENTIFIC AM. (Feb. 26, 2015), https://www.scientificamerican.com/article/net-neutrality-prevails-in-contentious-fcc-vote/ [https://perma.cc/L5UV-9UQ7] (explaining "[t]he fundamental issue is whether the FCC should be putting itself in a position to regulate the Internet" and that it is a "very high-stakes matter") (internal quotation marks omitted).

³² See FCC docket on proceeding 17-108 "Restoring Internet Freedom" yielding 22,158,902 results as of 11/15/17; Jacob Kastrenakes, *The FCC Just Killed Net Neutrality*, THE VERGE (Dec. 14, 2017, 1:12 PM), https://www.theverge.com/2017/12/14/16776154/fcc-net-neutrality-vote-results-rules-repealed [https://perma.cc/G957-3VRJ] ("Even if they don't include the spam, the net neutrality proceeding was still the most commented ever at the [FCC]."); see also Klint Finley, FCC's Broken Comments System Could Help Doom Net Neutrality, WIRED (Sept. 2, 2017), https://www.wired.com/story/fccs-broken-comments-system-could-help-doom-net-neutrality/ [https://perma.cc/KWG8-VEH5] ("By the time the online comment submission period ended . . . the agency had collected 21.9 million comments, an astounding level of participation . . . Even Janet Jackson's wardrobe malfunction at the 2004 Super Bowl garnered only about 1.4 million comments.").

³³ See discussion infra.

³⁴ See Farina et al., supra note 27, at 139 ("To the extent rulemaking is a 'democratic' process, we expect it to be a process of *deliberative*, rather than electoral, democracy" (emphasis in original) (citation omitted)).

³⁵ See id.

³⁶ See Home Box Office, Inc. v. FCC, 567 F.2d 9, 35-36 (D.C. Cir. 1977) (recognizing "a dialogue is a two-way street: the opportunity to comment is meaningless unless the agency responds to significant points") (citing Portland Cement Ass'n v. Ruckelshaus, 486 F.2d 375, 393-94 (D.C. Cir. 1973)).

³⁷ See, e.g., FCC Sued for Ignoring FOIA Request Investigating Fraudulent Net Neutrality Comments, ABOVE THE LAW (Sept. 22, 2017), https://abovethelaw.com/2017/09/fcc-sued-for-ignoring-foia-request-investigating-fraudulent-net-neutrality-comments/?rf=1 [hereinafter FCC Sued] [https://perma.cc/53FY-4NHT]; Finley, supra note 32.

³⁸ See Hitlin et al., supra note 17 and discussion infra.

³⁹ See, e.g., Kastrenakes, *supra* note 32; Hitlin et al., *supra* note 17 (finding the FCC received a total of 21.7 million comments submitted electronically).

submitted signifies that this is a contentious issue about which the public is concerned.⁴⁰ But when many of the comments submitted on important policy issues arefake,⁴¹ relevant matter is diluted and the people's right to be heard is minimized.

1. Net Neutrality Comment Data Studies

A study conducted by the Pew Research Center analyzed 21.7 million comments electronically submitted to the FCC from April 27 to August 30, 2017.⁴² The study found that "[m]any submissions seemed to include false or misleading personal information," citing fifty-seven percent, or around eight million comments that used "duplicate email addresses or temporary email addresses created with the intention of being used for a short period of time and then discarded." The study also found that "there is clear evidence of organized campaigns to flood the comments with repeated messages," and that only six percent of the comments were unique, with some comments being submitted hundreds of thousands of times. Moreover, thousands of comments with the same or very similar wording were often submitted at the same second.

The Pew analysis found thousands of duplicate names in the top fifteen most common names under which comments were submitted, including words listed as names that are not really names at all. The most common name submitted with comments was "Net Neutrality," with 16,983 submissions, followed by "The Internet" with 7,470, "Pat M" with 5,910, and "net neutrality" with 5,153. John Oliver, the host of the television show Last Week Tonight on HBO and an outspoken proponent of net neutrality rules, appeared about 1,000 times.

To determine whether bots were at work, a notable consideration is often how many comments were submitted at the exact same second, often with the exact same text.⁵⁰ Pew found "at least five separate occasions when the exact same text was submitted more than 24,000 times at precisely the same moment," and 25,000 or more comments were submitted at the same second more than 100 times.⁵¹ Pew identifies "the fact that many comments

⁴⁰ See Greenmeier, supra note 31; Hitlin et al., supra note 17.

⁴¹ See Corey Thuen, Discovering Truth Through Lies on the Internet: FCC Comments Analyzed, GRAVWELL BLOG (Oct. 2, 2017), https://www.gravwell.io/blog/discovering-truth-through-lies-on-the-internet-fcc-comments-analyzed [https://perma.cc/SKR3-P9V8].

⁴² See Hitlin et al., supra note 17. To analyze the data, the Pew Research Center downloaded all comments via the FCC's publicly available Application Programming Interface. *Id.*

⁴³ *Id*.

⁴⁴ *Id*

⁴⁵ See id. ("On nine different occasions, more than 75,000 comments were submitted at the very same second – often including identical or highly similar comments.").

⁴⁶ See id.

⁴⁷ Hitlin et al., *supra* note 17.

⁴⁸ See Breland, supra note 23.

⁴⁹ See Hitlin et al., supra note 17.

⁵⁰ Id

⁵¹ *Id*.

were submitted at precisely the same instant" as support for other research that suggests "that some share of the FCC comments may have been submitted in bulk using automated processes, such as organized bot campaigns." Although Pew does state in the study that the same-second filing is likely the work of bots and not just a coincidence, it recognizes that there is nothing "inherently wrong or sinister about bulk filing of comments" but also that "digital tools" are playing a significant part in the notice-and-comment process. Bulk-filed comments could be the result of mass-solicited comment campaigns, but based on a further analysis of the language in the comments, it is highly likely that bots submitted a large percentage of the net neutrality comments.

Data scientist Jeff Kao conducted his own study of the language used in comments submitted to the FCC during the net neutrality debate. 56 After assessing the comments, Kao arrived at 2,955,182 unique comments, but after clustering categories and removing duplicates, he found that less than 800,000 comments could be considered "truly unique."57 He found that a large number of the almost three million comments that seemed to be unique were actually duplicates that only differed by a few words or characters or had a different signature. 58 By analyzing supposedly unique comments, Kao found more clusters that had essentially the same language, with differences in syntax and organization of sentences but similarities in language that appeared throughout.⁵⁹ Similarities in these submissions included the words "Americans, as opposed to Washington Bureaucrats, deserve to enjoy the services they desire" or "[i]ndividual citizens, as opposed to Washington Bureaucrats, should be able to select whichever services they desire."60 Kao concluded that there were 1.3 million comments with similar or the same syntax and language distributed in different places in each comment, making them hard to identify.⁶¹

⁵² Id

⁵³ Hitlin et al., *supra* note 17.

⁵⁴ See Thuen, supra note 41 ("Just because a comment was part of a batch submission does not mean it is less legitimate.").

⁵⁵ See Jeff Kao, More Than A Million Pro-Repeal Net Neutrality Comments Were Likely Faked, HACKERNOON (Nov. 23, 1017), https://hackernoon.com/more-than-a-million-pro-repeal-net-neutrality-comments-were-likely-faked-e9f0e3ed36a6 [https://perma.cc/7S4Y-VUDB]; see also Thuen, supra note 41.

⁵⁶ See Kao study, *supra* note 55 (Mr. Kao analyzed comments submitted through October 27, 2017. Although the official comment period ended on August 30, 2017, the FCC Electronic Comment Filing System continued to accept comments after that date.).

⁵⁷ Kao defines "truly unique" comments as "[n]ot clustered as part of a comment submission campaign, not a duplicate comment." *Id.*

⁵⁰ IU.

⁵⁹ See id.; see also Brian Fung, FCC Net Neutrality Process 'Corrupted' By Fake Comments and Vanishing Consumer Complaints, Officials Say, WASH. POST: THE SWITCH (Nov. 24, 2017), https://www.washingtonpost.com/news/the-switch/wp/2017/11/24/fcc-net-neutrality-process-corrupted-by-fake-comments-and-vanishing-consumer-complaints-officials-say/?utm term=.6c0bf1e5af17 [https://perma.cc/8T94-NQF4].

⁶⁰ See Kao, supra note 55 (explaining "[e]ach sentence in the faked comments looks like it was generated by a computer program . . . to generate unique-sounding comments" and "the combinations of comment configurations grows exponentially with each set of synonyms introduced"); see also Hitlin et al., supra note 17.

⁶¹ See Kao, supra note 55.

Kao's study aligns with the Pew analysis and analyses performed by data analytics startup Gravwell⁶² and data and media company FiscalNote⁶³ that concluded that many comments were submitted by bots configured to be indistinguishable from real humans.⁶⁴ As the FiscalNote study explains, Natural Language Generation technology makes bot-submitted comments difficult to identify, as the language varies from comment to comment.⁶⁵ Because of the nature of the Natural Language Generation technology and the number of submissions to the FCC during the net neutrality public comment period, analysts have struggled to pinpoint exactly how many comments were submitted by bots and how many were submitted with fake or stolen information.⁶⁶ But from looking at a totality of the evidence of comments submitted at exactly the same second, comments submitted with language generation software, and comments submitted with stolen or fake personal information, one can begin to understand the gravity of the situation and the necessity for the FCC to act.⁶⁷

Action (and Inaction) In Response to Fake Comments

Then-New York Attorney General Eric Schneiderman released an open letter to the FCC a few weeks prior to the December 2017 vote to repeal net neutrality rules. The letter was largely concerned with fraudulent comments that used stolen names and personal information and "attacked what is supposed to be an open public process by attempting to drown out and negate the views of the real people, businesses, and others who honestly commented on this important issue." Schneiderman described the use of unwitting citizens' information in comments as "akin to identity theft," and he also wrote that his office contacted the FCC to request "logs and other records at least nine times over five months" without substantive response.

Furthering confusion and contention around the net neutrality debate, Democratic Commissioner Jessica Rosenworcel identified that "half a million

⁶² See Thuen, supra note 41.

⁶³ See Human-Like Bots, supra note 2.

⁶⁴ *Id.*; Thuen, *supra* note 41; Hitlin et al., *supra* note 17.

⁶⁵ Human-Like Bots, supra note 2.

⁶⁶ See Kao, supra note 55 (finding "at least 1.3 million fake pro-repeal comments, with suspicions about many more"); Human-Like Bots, supra note 2 (finding "hundreds of thousands" of comments that fit a "specific NLG pattern").

⁶⁷ See discussion supra; see Human-Like Bots, supra note 2 ("The net neutrality debate thus serves as a prominent warning that, soon enough, the distinction between human-and computer-generated language may be nearly impossible to draw.").

⁶⁸ Letter from Eric T. Schneiderman, N.Y. Attorney Gen. to Ajit Pai, FCC Comm'r (Nov. 21, 2017) (on file with author).

⁶⁹ Id.

⁷⁰ *Id.*; *see also supra* note 21 and accompanying text (Sebastian Jakubowski's experience – he only became aware that a comment had been submitted under his name that did not align with his views when he received an email from a Wall Street Journal journalist investigating the issue).

⁷¹ Schneiderman letter, *supra* note 68.

of the fake comments originated from Russian email addresses."⁷² She said that these comments "call[] into question" the entire notice-and-comment process, explaining that "[a]gencies open up their doors, in effect ask the American people to tell them what they think about proposed rules, how their lives might be changed by them . . . It is essential that we come up with ways to manage the integrity of that process in the digital age."⁷³ At a news conference where she urged her colleagues at the FCC to delay the December 2017 vote, she said "[i]t is clear that our process for serving the public interest is broken."⁷⁴ When an FCC spokesman announced the agency would hold the net neutrality vote as scheduled, Commissioner Rosenworcel responded that the decision showed the FCC's "sheer contempt" for public input and the comment process.⁷⁵

Meanwhile, at a November 2017 news conference, FCC Spokesman Brian Hart explained that the FCC does not have the resources to analyze every comment. He further stated that 7.5 million comments filed in favor of net neutrality regulations that seemed to come from over 40,000 distinct email addresses were, in reality "all generated by a single fake email generator website." Finally, Hart stated that 400,000 comments supporting net neutrality regulations originated from a Russian address.

FCC Chairman Ajit Pai has said the agency would not consider comments submitted under obviously fake names, but the agency has not acted to remove or discount other fake and fraudulent comments,⁷⁹ likely because they do not have the staff or time to search and analyze the comments submitted.⁸⁰ At a press conference in May 2017, Pai addressed the issue of comments submitted fraudulently with real citizens' names but not by those

⁷² Brian Naylor, *As FCC Prepares Net-Neutrality Vote, Study Finds Millions of Fake Comments*, NPR: POLITICS (Dec. 14, 2017), https://www.npr.org/2017/12/14/570262688/as-fcc-prepares-net-neutrality-vote-study-finds-millions-of-fake-comments [https://perma.cc/N3E5-6QCJ].

 $^{^{73}}$ Id.

⁷⁴ Hamza Shaban, FCC Commissioner, NY Attorney General Call for Delay of Net Neutrality Vote Over Fake Comments, WASH. POST: THE SWITCH (Dec. 3, 2017), https://www.washingtonpost.com/news/the-switch/wp/2017/12/04/fcc-commissioner-new-york-attorney-general-call-for-delay-of-net-neutrality-vote-over-fake-comments/?utm_term=.95ce390501f5 [https://perma.cc/ZGG5-3UXL].

⁷⁵ Naylor, *supra* note 72.

⁷⁶ Shaban, *supra* note 74.

⁷⁷ Id.

⁷⁸ Id.

⁷⁹ See, e.g., FCC Sued, supra note 37; Comments, supra note 22 ("The FCC has not been removing fraudulent comments from the record"); see also Victims Whose Stolen Names and Addresses Were Used to Submit Fake Anti-Net Neutrality Comments Send Letter to FCC Demanding Investigation, FIGHT FOR THE FUTURE (May 25, 2017), https://www.fightforthefuture.org/news/2017-05-25-victims-whose-stolen-names-and-addresses-were-used/ [https://perma.cc/5VWG-8S3H] ("Although much evidence of this identity theft has been documented by concerned citizens, experts, media outlets, and organizations like Fight for the Future, Chairman Pai and the FCC have taken no steps to remove them from the docket, risking the safety and privacy of potentially hundreds of thousands of people.").

⁸⁰ See Harold Furchtgott-Roth, How to Reduce Frivolous Comments in Federal Proceedings, Forbes: Opinion – #BigData (July 21, 2017), https://www.forbes.com/sites/haroldfurchtgottroth/2017/07/21/how-to-reduce-frivolous-comments-in-federal-proceedings/#7b40aff33e70 [https://perma.cc/6UTT-RMRP].

citizens and said, "This is an issue that's impacted me personally . . . Now there's obviously a tension between having an open process where it's easy to comment and preventing questionable comments from being filed, and, generally speaking, this agency has erred on the side of openness."81

Chairman Pai makes an important point about encouraging people to participate in the public comment process. But including fake comments in the record, especially those submitted under names like "Net Neutrality" and "the Internet" and comments submitted with stolen information⁸² impacts the process's legitimacy, with illegitimate comments overwhelming those that are legitimate.

If the FCC and other agencies allow fake and fraudulent comments to remain in the record, they will be discouraging the public from commenting, rather than encouraging openness. Inaction will lead the public to believe that legitimate, individual comments do not matter. By ignoring the problem of fake and fraudulent comments submitted throughout the net neutrality notice-and-comment period, the FCC has created a dangerous precedent for future proceedings.

3. Chairman Pai's Proposal to Change the Comment System

In a July 6, 2018 letter to Senators Pat Tomey and Jeff Merkley, Chairman Pai said he would propose to "rebuild and reengineer" the FCC's Electronic Comment Filing System. ⁸³ This letter was in response to a May 2018 letter from the senators that stated that both of their names had been used in fake comments posted through the FCC's Electronic Comment Filing System during the public comment period on the repeal of net neutrality rules. ⁸⁴ Pai's response to the senators came seven months after the publication of a *Wall Street Journal* article asserting that the *Journal* had found thousands of fake comments submitted to agencies, including the FCC, through their electronic filing systems. ⁸⁵ In his letter, Pai said he had asked Congress for permission to reallocate funds necessary to change the comment system "to institute appropriate safeguards against abusive conduct." ⁸⁶ Mr. Pai also stated in his letter that those whose names were improperly used in fake comments could send the FCC a statement about the fake comment that would

⁸¹ Brodkin, supra note 19.

⁸² See, e.g., id. (citing a letter sent by people claiming they were impersonated to Chairman Pai that stated, "We are disturbed by reports that indicate you have no plans to remove these fraudulent comments from the public docket. Whoever is behind this stole our names and addresses, publicly exposed our private information without our permission, and used our identities to file a political statement we did not sign onto.").

⁸³ See James V. Grimaldi, FCC Proposes Changing Comment System After WSJ Found Thousands of Fakes, Wall St. J. (July 11, 2018, 9:28 AM), https://www.wsj.com/articles/fcc-proposes-rebuilding-comment-system-after-thousands-revealed-as-fake-

^{1531315654?}ns=prod/accounts-wsj [https://perma.cc/6VMR-8V6R].

⁸⁴ Id.

⁸⁵ Id.; see also Grimaldi & Overberg, supra note 20.

⁸⁶ Grimaldi, supra note 83.

be made available in the public record.⁸⁷ The Chairman did not, however, propose to remove any demonstrably fake comments from the record, and he did not respond to Senator Merkley's request that the improper use of his name be referred for investigation to the Justice Department.⁸⁸

III. THE ADMINISTRATIVE PROCEDURE ACT AND PUBLIC COMMENT

The FCC has an obligation under the Administrative Procedure Act ("APA") to encourage public participation in the rulemaking process and consider and respond to significant comments.⁸⁹ Under the APA, the FCC and other agencies do not have an obligation to consider all comments submitted, but they have an obligation to consider relevant matter⁹⁰ and act in a reasoned manner⁹¹ subject to judicial review.⁹² Fraudulent comments distorting the record could impede a court's ability to review agency decisions.

A. The APA

In notice-and-comment rulemaking⁹³ as applied to legislative rules,⁹⁴ agencies must provide the public with a "notice of proposed rulemaking" published in the Federal Register,⁹⁵ and provide "*interested persons* opportunity to participate in the rule making through submission of written data, views, or arguments." Congress passed the APA to keep agencies accountable to the public.⁹⁷ One of the ways agencies remain accountable is that they must justify their decisions, as it "is the duty of agencies to find and formulate policies that can be justified by neutral principles and a reasoned explanation." In judicial review, courts consider agency decisions to determine whether agencies contravened the APA's proscription on action

⁸⁷ Id.

⁸⁸ *Id*.

⁸⁹ See 5 U.S.C. § 553(c) (2012); FBME Bank Ltd. v. Mnuchin, 249 F.Supp.3d 215, 222 (D.C. Cir. 2007); Perez v. Mortgage Bankers Ass'n, 135 S. Ct. 1199, 1203 (2015).

⁹⁰ See FBME Bank, 249 F.Supp.3d 215 at 222 (quoting City of Portland v. EPA, 507 F.3d 706, 713 (D.C. Cir. 2007) (internal quotation marks omitted)).

⁹¹ See FCC v. Fox TV Stations, 556 U.S. 502, 537 (2009).

^{92 5} U.S.C. § 706 (2012).

⁹³ See Perez, 135 S. Ct. at 1203 (citing 5 U.S.C. §§ 551(4), (5) (2012) (defining rulemaking as "formulating, amending, or repealing a rule" and rules as "statement[s] of general or particular applicability and future effect")).

⁹⁴ See Crystler Corp. v. Brown, 441 U.S. 281, 302-03 (1979) (quoting Batterton v. Francis, 432 U.S. 416, 425, n.9 (1977) (explaining "legislative, or substantive regulations . . . have the force and effect of law")).

^{95 5} U.S.C § 553(b) (2012).

⁹⁶ *Id.* at § 553(c) (2012) (emphasis added).

⁹⁷ See, e.g., FCC v. Fox TV Stations, 556 U.S. 502, 537 (2009) ("Congress passed the Administrative Procedure Act (APA) to ensure that agencies follow constraints even as they exercise their powers.").

 $^{^{98}}$ *Id.* at $5\bar{3}7$.

that is "arbitrary, capricious, [or] an abuse of discretion, or otherwise not in accordance with law." Courts often defer to agency judgment. 100

For over 20 years, the federal government has "expressed a commitment to electronic rulemaking as a way to cut costs, enhance the deliberative process, and democratize the regulatory process with increased citizen participation." Electronically-based rulemaking now predominates, and it is apparent that the process is flawed. The net neutrality public comment period exemplified these flaws.

B. Public Comment

During the period for public comment, "[a]n agency must consider and respond to significant comments received." After consideration, in the final rule, the agency must include "a concise general statement of [the rule's] basis and purpose." ¹⁰³

Agency action must not be "arbitrary" and "capricious," 104 and this requirement "includes a requirement that the agency . . . respond to relevant" comments. 105 To properly respond, agencies must address these comments "in a reasoned manner." 106 Agency response to comments "must show that its 'decision was . . . based on a consideration of the relevant factors." 107 Agencies must respond to comments in a way "that allows a court 'to see what major issues of policy were ventilated . . . and why the agency reacted to them as it did." 108 Because of the deliberative nature of the rulemaking process, significant comments that an agency actually considers are often submitted by those who have informed and fact-based preferences. 109 While bot-submitted comments are often short and not fact-based, 110 having bot-submitted comments on the record makes it harder for agencies to find comments that contain informed and relevant preferences.

APA notice-and-comment provisions are meant "to serve the need for public participation in agency decision-making and to ensure the agency has

^{99 5} U.S.C. § 706(2)(A) (2012).

¹⁰⁰ See, e.g., Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co., 463 U.S. 29, 43 (1983) (citing Burlington Truck Lines v. United States, 371 U.S. 156, 168 (1962) ("The scope of review under 'arbitrary and capricious' is narrow and a court is not to substitute its judgement for that of the agency. Nevertheless, the agency must examine the data and articulate a satisfactory explanation for its action including a 'rational connection between the facts found and the choice made."")).

¹⁰¹ de Figueiredo, *supra* note 1 at 971.

¹⁰² Perez v. Mortgage Bankers Ass'n, 135 S. Ct. 1199, 1203 (2015).

¹⁰³ 5 U.S.C. § 553(c) (2012).

¹⁰⁴ Id. at § 706(2)(A).

¹⁰⁵ FBME Bank Ltd. v. Mnuchin, 249 F.Supp.3d 215, 222 (D.C. Cir. 2007) (quoting City of Portland v. EPA, 507 F.3d 706, 713 (D.C. Cir. 2007) (internal quotation marks omitted)).

¹⁰⁶ *Id.* (quoting Reytblatt v. Nuclear Regulatory Comm'n, 103 F.3d 715, 722 (D.C. Cir. 1997)).

¹⁰⁷ Id. (quoting Thompson v. Clark, 741 F.2d 401, 409 (D.C. Cir. 1984)).

¹⁰⁸ *Id.* (citing Pub. Citizen, Inc. v. FAA, 988 F.2d 186, 197 (D.C. Cir. 1993)).

¹⁰⁹ See generally Farina et al., supra note 27, at 136 (explaining "[t]hose holding informed and adaptive preferences are able to participate meaningfully" in the rulemaking process).

¹¹⁰ See Kao study and discussion supra note 55.

all pertinent information before it when making a decision."¹¹¹ The APA is not clear on what it means for an agency to consider comments, ¹¹² but various courts have contemplated the issue. ¹¹³ Notice-and-comment rulemaking and public comments collected through the process provide a record of general public sentiment, which is useful for a court assessing whether an agency acted arbitrarily and capriciously in making a rule. ¹¹⁴ As the D.C. Circuit has asserted, agencies must consider all relevant comments because "the opportunity to comment is meaningless unless the agency responds to significant points raised by the public." ¹¹⁵

When there is false information on the record, this information overshadows real public comments that reflect public sentiment and contravenes the APA's procedures meant to properly inform agencies of public opinion in decision-making processes. ¹¹⁶ Comments submitted with fake and/or stolen information skew the record and make it difficult for agencies and courts to properly assess the record. ¹¹⁷ Without a demarcation between comments that were submitted by real citizens and those that are fake, illegitimate comments minimize the impact of those that are legitimate.

Some parties may argue that as long as the FCC is aware of general public sentiment, its decision-making will not be affected and fake comments can remain in the record without affecting agency decisions. Others may argue that the FCC need not consider the majority of comments in the record and instead need only consider significant comments such as those with a legal argument or those from experts in the field. These arguments are faulty. First, the FCC will not be able to properly gauge public sentiment without a record that actually reflects public sentiment. Second, while the APA is not clear on what exactly constitutes "relevant matter," general public sentiment could and should be relevant, especially in a decision with a

¹¹¹ Time Warner Cable v. FCC, 729 F.3d 137, 168 (3d Cir. 2013) (quoting Electronic Privacy Info. Ctr. v. U.S. Dep't of Homeland Sec., 653 F.3d at 5–6).

¹¹² See 5 U.S.C. 553(c) (2012) (stating the necessity of "consideration of the relevant matter presented" before releasing rules).

¹¹³ See, e.g., FBME Bank Ltd. v. Mnuchin, 249 F.Supp.3d 215, 222 (D.C. Cir. 2007) (holding agencies need not respond in ways that satisfy commenters); Reytblatt v. Nuclear Regulatory Comm'n, 103 F.3d 715, 722 (D.C. Cir. 1997) (stating "[a]n agency need not address every comment, but it must respond in a reasoned manner to those that raise significant problems") (citing Action on Smoking and Health v. CAB, 699 F.2d 1209, 1216 (D.C. Cir. 1983)).

¹¹⁴ See, e.g., FCC v. Fox TV Stations, 556 U.S. 502, 561 (2009).

¹¹⁵ Am. Civil Liberties Union v. FCC, 823 F.2d 1554, 1581 (D.C. Cir. 1987) (quoting Alabama Power Co. v. Costle, 636 F.2d 323, 384 (D.C. Cir. 1979)).

¹¹⁶ See Human-Like Bots, supra note 2 (positing that when fake comments overwhelm the record, agencies are more likely to completely ignore comments that do not contain legal arguments or analysis).

¹¹⁷ See id.

¹¹⁸ See, e.g., Comments, supra note 22 (quoting Chairman Pai as saying "the raw number is not as important as the substantive comments that are in the record").

¹¹⁹ See id.; see also Human-Like Bots, supra note 2 (explaining an analysis of decades of comments that found "often, only comments that include a serious legal argument or are affiliated with some known entity like a big business or academic institution make their way in [to the final rule]").

¹²⁰ 5 U.S.C. § 553(c) (2012).

wide-ranging effect such as the repeal of net neutrality regulations. This is especially pertinent for judicial review of agency action.

C. Judicial Review

Under the APA, "final agency action for which there is no other adequate remedy in a court [is] subject to judicial review." Reviewing courts may set aside agency action they find to be "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." Under the arbitrary and capricious standard, courts usually defer to agency judgment. Where a court finds an agency decision was not based on reasonable consideration of the relevant factors or the record does not support the decision, the court may set aside the agency's decision.

In *Petroleum Communications, Inc. v. FCC*, the D.C. Circuit held the FCC "arbitrarily and capriciously failed to justify its decision" regarding radio licensees. The court partially based its decision on its view that the record did not support the agency's decision. The court held that the FCC "utterly distort[ed] the record" and that the FCC did not give sufficient weight to relevant factors in making its conclusion. Therefore, the court reasoned, it was obligated to vacate the agency's decision.

An individual or individuals affected by the FCC's repeal of net neutrality regulations could seek judicial review of the agency's decision, alleging that the agency acted arbitrarily and capriciously by disregarding a majority of comments in the record and/or by allowing fake comments to remain in the record. The FCC would likely allege that the agency did come to a reasoned decision based on relevant factors, such as its consideration of comments with legal or more advanced reasoning. But a petitioner could allege that the FCC did not and could not have based its decision on relevant factors because the record is a relevant factor, and the record has been distorted by fake comments. A petitioner may be able to win with this argument, if a court were to find that the record did not support the FCC's decision.

¹²¹ Id. at § 704 (2012).

¹²² *Id.* at § 706(2)(A) (2012).

¹²³ See Petroleum Comm'ns, Inc. v. FCC, 22 F.3d 1164, 1172 (D.C. Cir. 1994) (holding scope of arbitrary and capricious review "is narrow and a court is not to substitute its judgment for that of the agency) (quoting Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co., 463 U.S. 29, 43 (1983)).

¹²⁴ See, e.g., id.

¹²⁵ Id. at 1173.

¹²⁶ *Id*.

¹²⁷ *Id*.

¹²⁸ Id.

¹²⁹ *Id*.

IV. PROBLEMS WITH FINDING AND REMOVING FAKE AND FRAUDULENT COMMENTS

The majority of FCC rulemaking proceedings generate fewer than one hundred comments. ¹³⁰ In the normal course of proceedings, when a notice-and-comment period results in a few dozen comments, each comment can be reviewed and considered by agency staff in a short period of time. ¹³¹ But with the recent net neutrality proceedings as the most extreme example, when agencies receive thousands or millions of comments on a single proceeding, it is impossible for staff to review all of the comments or even sort through them to determine which are real, which are fake, and which are significant enough to merit consideration. ¹³²

Agencies would face significant hurdles if, in instances when they receive thousands or millions of comments on a single proceeding, they were to try to sort through comments to determine which are real and which are fake or fraudulent. Just having a real address attached to a comment does not mean it is real, as some comments submitted to the FCC on net neutrality were attached to real information not submitted by the people to whom the information belongs. Further, just because a comment has a fake email or address attached to it or has no email or address attached to it does not mean the comment is necessarily fake. 134

Agencies do not have the resources to hire more staff to sort through comments and determine if they should be considered, left in the record but not considered, or removed from the record. Computer algorithms designed to sort through comments would likely be flawed, possibly flagging as fake or fraudulent comments that are real. Designing and implementing a system meant to sort through comments would be costly, and the public may have concerns with computer programs sorting through comments submitted to agency sites.

As government agencies and other entities use computer algorithms to perform increasingly more tasks, the public and artificial intelligence experts alike have pronounced concerns about the use of algorithms by government

¹³⁰ See Furchtgott-Roth, supra note 80.

¹³¹ See id.

¹³² See id. ("The FCC has approximately 1,600 staff working on literally thousands of different matters. Fewer than 50 will likely be assigned to review comments in the 'Restoring Internet Freedom' proceeding. A careful reading and filing of a comment might take an hour. Fifty staff members each working 2,000 hours per year full-time on reviewing comments would take more than 100 years to review all 10.5 million comments.").

¹³³ See Finley, supra note 32 (arguing "just because someone didn't enter a valid address into the comment form doesn't mean their comment is illegitimate . . . just because a comment has a valid address doesn't mean it's a legitimate comment . . . ").

¹³⁴ See id.

¹³⁵ See, e.g., Furchtgott-Roth, supra note 80.

¹³⁶ See supra notes 137 & 138 infra.

entities and possible biases and errors that could arise from their use.¹³⁷ While artificial intelligence in the form of comment-submitting bots harms the notice-and-comment process by drowning out legitimate comments, an attempt to control the issue by using more artificial intelligence could result in an exasperated problem.¹³⁸

In response to requests to remove fake comments, the FCC has responded that the agency need not consider all comments submitted and instead can just focus on comments that contain legal arguments. FCC spokesperson Hart has said, "[t]he purpose of a rulemaking proceeding is not to see who can dump the most form letters into a docket. Rather, it is to gather facts and legal arguments so that the FCC can reach a well-supported decision." While courts generally defer to agency rulemaking decisions, and the Supreme Court has held that courts cannot impose on agencies their notions of what they think is "best," agencies have an obligation to the public under the APA to remain accountable for their decisions. When fake, bot-submitted comments remain in the record, the public and courts cannot clearly assess the record, and the reasonableness of agency decisions becomes difficult to assess.

The problem of how to recognize and deal with fake and fraudulent comments submitted during rulemaking proceedings is a complicated one, but agencies must consider their options and act to avoid allowing fake comments to silence legitimate ones.

technology in New Orleans).

¹³⁷ See, e.g., Dave Gershgorn, AI Experts Want Government Algorithmms to be Studied Like Environmental Hazards, QUARTZ (Apr. 9, 2018), https://qz.com/1247033/ai-experts-want-government-algorithms-to-be-studied-like-environmental-hazards/

[[]https://perma.cc/FG7H-BLJH] (citing concerns that if government entities use algorithms without a focus on accountability, errors and biases in the systems would be difficult to find and correct); see also Ali Winston, Palantir Has Secretly Been Using New Orleans to Test Its Predictive Policing Technology, The Verge (Feb. 27, 2018), https://www.theverge.com/2018/2/27/17054740/palantir-predictive-policing-tool-new-orleans-nopd [https://perma.cc/7A6M-JJ72] (outlining problems with predictive policing

¹³⁸ See generally Dillon Reisman et al., Algorithmic Impact Assessments: A Practical Framework for Public Agency Accountability, AI Now (Apr. 2018), https://ainowinstitute.org/aiareport2018.pdf [https://perma.cc/CH8W-FE8B] ("Public agencies urgently need a practical framework to assess automated decision systems and to ensure public accountability.").

¹³⁹ See, e.g., Issie Lapowsky, *It's Super Hard to Find Humans in the FCC's Net Neutrality Comments*, WIRED (Dec. 13, 2017), https://www.wired.com/story/bots-form-letters-humans-fcc-net-neutrality-comments/ [https://perma.cc/LG9R-MZZG].

¹⁴¹ See, e.g., Am. Radio Relay League, Inc. v. FCC, 524 F.3d 227, 233 (D.C. Cir. 2008);Perez v. Mortgage Bankers Ass'n, 135 S. Ct. 1199, 1207 (2015).

¹⁴² *Perez*, 135 S. Ct. at 1207 (quoting Vermont Yankee Nuclear Power Corp. v. Nat. Res. Def. Council, Inc., 435 U.S. 519, 549 (1978).

¹⁴³ See, e.g., FCC v. Fox TV Stations, 556 U.S. 502, 537 (2009).

V. SUGGESTED REMEDIES FOR ADDRESSING FAKE AND FRAUDULENT COMMENTS

After receiving various comments likely submitted by bots throughout the net neutrality public comment period, the FCC and other government agencies should update public comment filing systems to better protect against bots. 5 U.S.C. §553 establishes the minimum requirements to be imposed on agencies in rulemaking procedures. Agencies have the leeway to allow other procedural rights if they think it necessary, but courts cannot impose on agencies any requirements other than those outlined in the statute. Some possible remedies are outlined below.

A. CAPTCHAs

Adding CAPTCHAs,¹⁴⁶ which are tests commonly used to separate humans from bots online is one way agencies could address fake and fraudulent comments. But as technology rapidly changes and improves,¹⁴⁷ it will become increasingly difficult for agencies to keep up with the technology to properly protect against fake and fraudulent comments. Additionally, there are problems with traditional, text-based CAPTCHAs, as they are hard to read and disproportionately disadvantage people with disabilities.¹⁴⁸ Google has begun to move away from a text-based CAPTCHA model and instead uses a new "No CAPTCHA reCAPTCHA experience" where users only have to check a single box.¹⁴⁹

Citizens could allege that CAPTCHAs make it more difficult to comment and participate in the rulemaking process, but a non-text-based CAPTCHA could be an effective and inexpensive first step in preventing bot-submitted comments. A CAPTCHA system would not place a large burden on agencies or citizens and could prevent some bot action preliminarily, but it would likely not be effective for stopping the majority of malicious comment activity. Chairman Pai has recently accepted a proposal to require

 $^{^{144}}$ 5 U.S.C. \S 553 (2012); see also Vermont Yankee Nuclear Power Corp, 435 U.S. at 520. 145 See id.

¹⁴⁶ A CAPTCHA, or Completely Automated Public Turing Test To Tell Computers and Humans Apart traditionally asks a computer user to type difficult to read text into a box or complete another task to prove the user is not a robot nor computer before continuing to a page. Merrit Kennedy, *AI Model Fundamentally Cracks CAPTCHAs, Scientists Say*, NPR: The Two-WAY (Oct. 26, 2017), https://www.npr.org/sections/thetwo-way/2017/10/26/560082659/aimodel-fundamentally-cracks-captchas-scientists-say [https://perma.cc/5Y6F-LPME].

¹⁴⁷ See id. (explaining that in the course of recent research aimed at giving robots the ability to visually reason like humans, new Artificial Intelligence models were capable of cracking a majority of CAPTCHAs).

ACCESSIBLE (Dec, 4, 2014), https://simplyaccessible.com/article/googles-no-captcha/ [https://perma.cc/5D3Q-HPDN] ("Whether you are blind, deaf or hard of hearing, whether you have low-vision, some type of mobility or dexterity impairment, or even some type of cognitive difficulty, CAPTCHAs have been a thorn in the side of people with disabilities since the use of these techniques was popularized on the web.").

¹⁴⁹ See Google reCAPTCHA, https://www.google.com/recaptcha/intro/[https://perma.cc/5W9H-N2E2] (last visited Oct. 21, 2018, 1:35 PM).

commenters to fill out CAPTCHAs before commenting, but Alex Howard, an advocate for stronger protections in electronic comment systems, has said "[a]dding a Captcha to try to prevent spam, unfortunately, sounds like a solution from the last millennium to a decidedly 21st century set of problems."

B. Authentication

Another possibility would be for the FCC and other agencies to implement an authentication process. They could work to use technology that confirms comments are submitted by real people by requiring real email addresses to be submitted with each comment. Agencies could also require that each email address only be submitted one time during each public comment period. Another option would be that a confirmation email could be sent to each email address submitted with a comment to alert people if their email address has been used without their permission. Agencies could also create a multi-step authentication process to confirm submitters are real people. 152

However, there are legitimate reasons for citizens to not want their email addresses attached to comments, since all comments submitted to the FCC website are searchable in the public record. Creating and/or implementing new authentication systems would be costly and take extra staff power, and agency staff are already overworked. Agencies could require a valid email for submission but not include email addresses in public searches to encourage people to use real emails in their comment submissions. However, requiring a valid email address for submission could discourage some commenters from participating because they would not want their emails to be searchable on the electronic comment filing systems, or they may not have an email address, and this could contravene the goals of the APA by discouraging interested parties from participating.

¹⁵⁰ Grimaldi, *supra* note 83.

¹⁵¹ See Hitlin et al., supra note 17 for more on FCC valid email address requirement for comment submissions ("In theory, the process for submitting a comment to the FCC included a validation technique to ensure the email address submitted with each comment came from a legitimate account... However, the Center's analysis shows that the FCC site does not appear to have utilized this email verification process on a consistent basis... In the vast majority of cases, it is unclear whether any attempt was made to validate the email address provided.").

¹⁵² See Human-Like Bots, supra note 2 (suggesting the FCC could implement "some kind of two-step authentication system").

¹⁵³ See Finley, supra note 32; but see Tiernoc, comment to FCC Makes Net Neutrality Commenters' E-mail Addresses Public Through API, ARS TECHNICA (June 15, 2017, 12:49 PM), https://arstechnica.com/information-technology/2017/06/psa-commenting-on-fcc-net-neutrality-plan-could-make-your-e-mail-public/ ("I am not thrilled that my email is easily accessible in an API viewable format, but . . . it's not like it's kept as some sort of secret.").

¹⁵⁴ See Furchtgott-Roth, supra note 80.

C. Administrative Fee

One commenter has suggested that agencies charge a 49-cent administrative fee for electronic submission of comments. 155 Harold Furchtgott-Roth, a senior fellow at the Hudson Institute and founder of the Center on the Economics of the Internet, argues that receipt of millions of comments on a single proceeding hinders agencies' abilities to consider and respond to significant comments because agencies cannot find significant comments amid so many mass-solicited, one-line, fake, and fraudulent comments. 156 He believes that while some believe mass commenting is a sign of a well-functioning democracy, "[m]ore accurately, millions of frivolous comments are an indication of anarchy," and agencies do not have the staff or resources to sort through and consider millions upon millions of comments on a single proceeding.¹⁵⁷ Mr. Furchtgott-Roth suggests that a 49-cent administrative fee, the same as the cost of sending a comment via the U.S. Postal Service would reduce frivolous comments, helping agencies function more smoothly because they would be able to more easily identify significant and meaningful comments and consider these comments as required under the APA.158

Adding a fee, even a 49-cent fee to submit a comment online, where people cherish their freedom, would put a price on what is now free. Although 49 cents is the price of a postage stamp, the need to pay a fee online could discourage some citizens from submitting comments, skewing the comment process away from encouraging broad public participation. All interested parties should be able to comment and participate in notice-and-comment rulemaking, but when fake comments dominate, legitimate comments may be overlooked.

VI. CONCLUSION

The significance of a public comment period is reduced when bots and illegitimate actors are able to easily submit comments to agencies on rulemaking proceedings. As Senator Jeff Merkley has recently said, "[t]he system of public comment is completely broken and manipulated to the point that it has basically lost any integrity or value." Agencies cannot let bad actors control the conversation. While the APA does not clearly outline agency obligation to the public in the notice-and-comment process, the public should be able to comment on issues that they think are important, and the record must be accurate for judicial review. The public should be empowered to feel as though their comments on agency rulemaking proceedings matter in the United States, where we emphasize freedom of expression and the importance of democracy. Widespread awareness that fake and fraudulent comments remain in the record could lead the public to lose faith in the government and the rulemaking process, undermining the legitimacy of

¹⁵⁵ *Id*.

¹⁵⁶ *Id*.

¹⁵⁷ *Id*.

¹⁵⁸ *Id*.

¹⁵⁹ Grimaldi, supra note 83.

federal agencies and the Administrative branch of our government. By not acting to remove fake comments submitted on net neutrality rules from the record, the FCC is inviting those with bad intentions to act again, and further, the agency is discouraging broad, legitimate public participation in the rulemaking process. The FCC must set a precedent of accountability and transparency, investigate the comments it received during the net neutrality notice-and-comment process, and, in the interest of preserving the public comment system, remove fake comments from the record.