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Science FM

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ScienceFM began as a small outreach project with a big goal—to create interesting science podcasts with a purpose. We hope to increase community awareness of ongoing research initiatives and present science in a manner that is conducive to learning. We strive to humanize research and display the ‘faces behind the projects’. In this way, we are working to create an interface for communication across disciplines in order to facilitate the spread of new ideas.

Our motto? “We are working on building sustainable, high-quality content for your enjoyment. Each and every podcast is crafted with a lot of love and hard work. We hope that you enjoy listening as much as we enjoy creating.”

How can a meaningful narrative be created? How it can be disseminated to the world and received warmly? How can we instill a passion in someone else without ever interacting with them face-to-face? These were our challenges. They were substantial challenges, but they were worthwhile.

Our rationale in creating ScienceFM was simple. There is a need for engaging scientific communication. As students at The University of Iowa, we have the advantage of being able to contact a multitude of researchers quickly and easily, which has allowed us to create engaging, meaningful scientific discussions in the form of podcasts. We knew that being able to present scientific news in an exciting way would set us apart from other podcasts and would give us a potential share of interested listeners. It was with this in mind that we set out to build and implement ScienceFM. (www.uiowa.edu/sciencefm)
The goal of ScienceFM began as an idea. We knew that a podcast was the way to go, as it combined all of our interests with the ability to reach a national audience *digitally*. A unique twist, which we elected to add to the site (eventually), was the coupling of disseminated primary research articles *with* the accompanied podcasts. The podcasts are the heart and soul of ScienceFM, but the article concept is new in that it offers supplemental information for the podcast – it invites listeners in to learn and, hopefully, understand. ScienceFM strives to ‘break’ in depth research or specialized experiences into accessible pieces that undergraduates and high schoolers can understand. We hope that this effort will reduce the perceived barrier to entering research, be it as a result of professional diction or common misconceptions about the trustworthiness of scientists. According to the Pew Research Center, around 25% of internet users actively download podcasts, making ScienceFM’s medium a very viable option in addressing the public on current scientific news. We think that this is an effective way to increase interest in STEM disciplines, raise awareness of the possibility of conducting research, and above all, produce interesting content.

Our target audience was undergraduates, mostly local, and high school students with a basic knowledge of science and scientific research (or a deep interest in it). We sought to broaden our target audience through the use of comedy and popular science (with some ‘improv’ comedy as well). Future posted interviews will also include an in-depth breakdown of a primary research article associated with the interviewee. This dissemination of difficult-to-understand scientific information should serve to enhance interest in the work and communicate ‘science jargon’ in a fun and engaging way.
To move from an idea to a living and breathing concept is an immense undertaking. ScienceFM began with the full understanding that we had a lot to learn. We began somewhat in the dark, but ultimately came to realize that all it takes to be successful is excitement and a willingness to ask for help. So that’s exactly what we did. This project started with a lot of head-scratching and muttering. It was implemented slowly...it was a seed of an idea with a trove of possibilities. Initially, all of our focus was really directed towards setting up the website. We did a lot of investigating, and ultimately settled on SiteNow as our content manager system. A lot of thought was also invested in choosing a meaningful name - we decided on ScienceFM because it was short and direct, with the title having a descriptive narrative of its own that informed the reader of our basic purpose with as few characters as possible. We wanted it to be catchy and easy to remember. Once the SiteNow was launched, we shared this information with other Latham Fellows so that they could launch their sites as well. Our focus then changed to roles - this took some getting used to, as there was a lot of initial confusion. There was so much to do that people tended to get ‘overwhelmed’. In the end, we settled on the following focused roles: Cara would coordinate all of the interviews. She would work with interviewees to find a time and location, while requesting a primary manuscript from them in the process. Cara also found a graphic designer to create the logo and attended all of the interviews, serving as a driving voice within the polished podcasts. George handled a lot of the technology - he worked with ITS to set up the initial SiteNow and teach everyone how to use it. He also looked into getting the podcasts published on iTunes so that they could be embedded in the website (more on this later). Perhaps most importantly, George edited all of the audio files and crafted the intro/outro for each of the podcasts. The task of high-quality audio editing ultimately lies at the heart of ScienceFM’s purpose. Without George, the possibility of a science-streaming
podcast would not have been possible. Niko served as an author and editor. He was responsible for selecting articles to simplify from each of the interviewees. He uploaded all of the podcasts, updated and polished the ScienceFM website (added widgets, video descriptions, layout), and did his best to reinvigorate his failed experiences with social media. Niko also pieced together the final IDEAL submission (with the combined expertise of both George and Cara). As more podcasts are populated on the website, Niko will simplify all of the selected primary research articles and publish them in the “Articles” section of the site. Since the first two episodes of ScienceFM were not conducted with current researchers, the idea of an article section will not work initially. This will be remedied in the near future.

This IDEAL project features a number of artifacts from meaningful experiences. Two of the selected images come from post-interview meetings - the first is a photo of Cara Larson, George Murray and Elaine Stewart after an interview with Lori Adams and Brinda Shetty of the Latham Science Engagement Initiative. The second is a post-interview photo of the ScienceFM team with Dr. Scott-Conner. A third image is a snapshot of the Google Drive workspace for ScienceFM. We did a lot of work together “from a distance”. An interview outline was written before each interview, proposals for new interviews were stored here, and we even coordinated our reflections from the project and schedules so that we could figure out some meeting times! The last image is the ScienceFM logo, which was generously created by Elsie How (Graphic Design and Journalism Major). Perhaps the most important piece of this IDEAL page is the Episode 1 Podcast, with Lori and Brinda. This video is the culmination of many hours of work, and represents the first attempt at creating a meaningful podcast by the ScienceFM team (and first year Latham Fellows as a whole!). The audio mixing was done by George Murray. Photo was taken by Nicholas McCarty.
The following people were interviewed:

- **Lori Adams, PhD** and **Brinda Shetty**, Latham Science Engagement Initiative and the Iowa Biosciences Academy.
- **David Etler**, Carver College of Medicine, Creator of The Short Coat Podcast.
- **Carol Scott-Conner, MD** of the Carver College of Medicine, nationally-renowned breast surgeon, scientist, and writer.

There was a learning curve in how to best conduct and implement a multimodal form of media in an effective and meaningful manner. A significant amount of insight was gained from both the IDEAL team and David Etler of the Short Coat Podcast, who has a considerable amount of experience in working with podcasts and audio-related media. Other than brief discussions, however, most of the work seemed to be inherently ‘carried’ by certain members. For example - George already had an astounding ability to produce original music and mix audio. Thus, he was deemed the “Audio Mixologist”. Cara has a phenomenal charisma when being recorded - she made for a strong, stand-out voice throughout the interview processes. She served as the “face” of ScienceFM, in that she was contacting the interviewees and then asking some of the questions (with George and Elaine, as well). Niko already had experience in writing and simplifying articles (as he was already working on Science Speaks and writing for The Key Reporter). It was with this in mind that he was chosen to manage all of the text related to the website and project.

ScienceFM began as a somewhat lofty goal, but we quickly learned that interviews take longer than expected. Some interviewees did not respond for quite some time and there was group miscommunication along the way. A meeting was held, and a subsequent change of priorities with a ‘cleaner, narrower focus’ led
to high-quality results with a strong framework. Connections were crafted and built so that future sessions of Latham Fellows can utilize uiowa.edu/sciencefm for their projects. We have gathered a significant amount of materials and conducted the initial ‘leg work’, so future ScienceFM developers can move pretty much straight into content development. One of the greatest lessons learned? Audio editing takes a lot of time - as does coordinating everything.

SiteNow initially looked like a practical approach to the development of our ideas, but we ran into problems here as well. Once the first batch of podcasts were complete, we began to attempt the uploading process. George was working on getting an RSS feed so that we could embed the audio files directly on the website. Niko contacted ITS and ultimately learned that this was impossible – SoundCloud, iTunes, and nearly all other audio embedding-variants were not allowed. So Niko worked on a new method...uploading these HUGE audio files, with an accompanying photo, to YouTube. He created a new Gmail account, added a YouTube account, and began uploading and then linking to them from the ScienceFM site. In the end, we think that it looks pretty good – in the future, the goal is to create a completely independent website, thus allowing for total control of the interface and code, with a better-looking final product.

What did our work flow look like for creating each podcast and then publishing it? Something like this...

1. Cara would contact the researcher and set up a space and time for the interviews to take place for the podcast. She would also request a primary article to be discussed during the podcast and that article would be forwarded to Niko. Cara and George would then go about constructing an outline for the researcher’s interview. The interview team of researchers and
comedians would meet up with the professionals and conduct a brief pre-interview. This pre-interview served to set expectations and establish rapport. It was found that the podcast interviews went much more smoothly as a result of these.

2. Niko began distilling the primary research article. George and Cara would record the podcast with the researcher and George would take the raw audio home for editing and sound mixing. George edited to remove noise and balance voice volumes. George also created musical intros and outros for the podcasts. After editing, George would upload the audio files to SoundCloud and then pass the mp3 files to Niko.

3. Niko would listen to the edited audio files and take notes/write an overview of the interviews for the website. Niko would then upload the mp3 files to YouTube and promote them through the ScienceFM Facebook and Twitter account. He tailored the distillations of the primary research articles based upon the podcast interviews.

4. The final product is a digital copy of a high-quality audio file with an accompanying, distilled scientific research paper (once the next podcasts are posted). The podcasts themselves are hosted digitally. This semester, our most profound impact will be in the production process we’ve created. In the future, ScienceFM creators will have an established hosting platform and a blueprint for the creation process.

Throughout the course of the semester, we reached a total of 320 people (see 'heat map' of US in Images).

Our data indicates that the majority of our impressions are from users in the Midwest. Considering that we are targeting students who are, or may be, enrolled at the University of Iowa, our promotion has been relatively effective.
Future Latham Fellows will be able to leverage the distribution platform we’ve created this semester and push multiple podcasts through. More frequent podcast production will dramatically boost the number of digital engagements, which is why we chose to focus on the crafted methodology as our most important measure of impact.

No project is complete without learning a few lessons along the way. Primarily, we learned that absolutely everyone is busy. Many of the professionals we interviewed had difficulty finding even an hour when they were able to talk. As students, we were also busy! It was hard to get together and coordinate things, so we had to resort to creative solutions (lots of Google Drive work!). Most importantly, however, we learned that persistence in the face of difficulty leads to amazing outcomes with tangible impacts. 320 people may not sound like a lot of people, but that is the size of some entire high schools in the state of Iowa. This project was entirely worthwhile if we can get even one kid interested in science – that truly would make all of this meaningful.

This project was an immense undertaking. We would like to thank the following people and programs for their generous support:

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