



INTERNET RADIO PODCASTING

FOR EDUCATORS AND INDIVIDUALS

TEXTBOOK

By: Kevin Vandebroek

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Foreword (by Larry Berger of SLBradio.org)

I can remember loving radio from the time I was a child as young as 4 or 5 years of age. At the age of 12, I stumbled on a re-broadcast of old-time radio shows on a new noncommercial radio station here in Pittsburgh. I telephoned the station to provide my address for a copy of its program guide. In those days, the early 1970's -- many noncommercial stations had "quilt" program schedules with different types of shows on different days and day parts. When it arrived in the mail, I studied the program guide to learn that there were shows devoted to Pittsburgh's Native American population, jazz, blues, Celtic folk music, Caribbean music, women's issues, bluegrass and more as well as bilingual programs in French and Spanish. It was fascinating to listen to.



The station also frequently asked for volunteers. One day when we were on an errand about 5 blocks away from its studios, I asked my mom if we could visit. She agreed and I was warmly welcomed. Days later, I became a volunteer at the station and remained one for the next 28 years.

At the beginning, I was mostly interested in technical work (soldering, troubleshooting, etc.), but as I got older, I fell in love with being the board operator for our bilingual hosts and others who had much to say, but little desire to learn the intricacies of operating the controls. I was in the opposite situation as someone who felt he had little to say, but had a strong desire. It was a perfect blending of skills and interests.

Over time, I started learning more about the virtues of noncommercial radio as well as the creativity radio itself allowed. At 18, a friend and I developed a concept for a Saturday morning radio program that would combine music, puzzles, interviews, performance, on-air phone calls and conversation. In 1978, these were very unusual elements for an FM radio program in the U.S., let alone a program on a public radio station. This was the beginning of The Saturday Light Brigade. The program fast became the station's highest rated in terms of audience size, loyalty and listener support. After winning twelve awards and a national distinction as the best local radio program in the country, we decided to form SLB Radio Productions, Inc., to grow our work. Thirty-five-plus years later, we're still going strong and are now a company of twelve people. While The Saturday Light Brigade is still a big part of our work and is today distributed to six terrestrial stations and multiple online services, we also work with thousands of children and youth annually as we use the tools and methods of radio to promote self-expression, teamwork, critical thinking, process-oriented learning and other 21st century skills in programs that include documentary creation, oral history collection, and live performance.

It's important to point out that I have had outstanding mentors throughout my radio life, especially in my teens. All of our staff at SLB similarly work to be mentors to the youth we apprentice, and we have been around long enough to see the results of our work. While a few students we work with have pursued journalism or broadcasting careers, our main objective is to support the broad learning objectives noted above.

In some cases, we are simply facilitators with the job of setting up a safe environment that will encourage authentic self-expression by children and youth. Examples here would include a classroom or field trip visit where we are primarily interested capturing thoughts and ideas. In other cases -- oral history collection, documentary creation, etc. -- we have developed lesson plans and curricula to guide the experience. Regardless, we focus most on the process of teaching and participation. While we're thrilled with the quality and amount of the audio work products emerging from our work, we generally regard them as "byproducts" of successful methods.

While youth may not be consuming as much **terrestrial radio** (or television for that matter) as prior generations, it is our experience that youth still holds radio and audio programming in high regard. **For one, it's a tremendous equalizer; all can participate regardless of physical capabilities or appearance. Radio also is cost-effective. Absent lighting, camera angles and other considerations associated with a video, radio gives students the opportunity to focus on their message, connect with an audience and sharpen their production skills in a relatively controlled environment.** Lack of a camera also allows privacy if students wish to present information that, while accurate, may be

more appropriate not to attribute. For example, a student roundtable on violence becomes possible on the radio, especially if first names are used and the conversation is appropriately edited.

Students also are engaged listeners when it comes to consuming audio media. I can remember a school assembly where a colleague was presenting a short student-produced film featuring ideas from student interviewees from throughout the school. The middle school audience could not contain itself and laughed at the appearances of the school, their classmates, and school staff members on the large auditorium screen. With slight concern about my prospects for success, I took the podium as the next presenter and explained that I would be sharing a vox pop production in which students collected opinions and ideas from throughout the school. As the audio began, the room became completely quiet with the occasional exception of students telling their peers to be quiet so they could hear better.



A successful program goes far beyond mastering the technology. SLB and others throughout the world have spent years developing methods and projects that work. Before jumping in, learn more about programs that have been successful and, if possible, contact people who can help you. SLB works with hundreds of educators annually in relationships ranging from providing professional development to teachers to telephone consultations to actually conducting the project as guest instructors.

When we're asked to conduct a project as part of a school-day class (as opposed to an extra-curricular club), we work hard to understand what the classroom instructor may want -- or not want -- the lesson plans to include. For example, as part of a social studies class, we helped 11th graders learn more about the Vietnam War through an oral history project where they interviewed veterans. While we touched on the technology used to record and edit the audio, the classroom teacher made it clear that the goal was develop interviewing and listening skills as well as learning through veteran first-hand accounts, and that curriculum constraints could not accommodate the project becoming a technical one. Rather than editing their captured audio, students listened and indexed their recordings with time stamps indicating what was most relevant to them, after which our staff did the heavy lifting with respect to editing. Had this been done in a media class or club setting, it would have been appropriate to have the students do all of the work.

I always tell students (and parents) that -- while some of our youth have gone on to become journalists; it is not our intention to train the next generation of reporters. Our methods sharpen 21st-century learning skills that include speaking, listening, reading, writing, research, teamwork, data evaluation, understanding of an audience, and deadline and process compliance as well as concepts important to STEM, media consumption, and ethics.

Students develop empathy as well as a sense that their voice matters as their confidence grows as they gain experience. This is why I believe it is so vital for educators and teachers to consider Internet radio and Podcasting to be such a wide-ranging tool to place in one's curriculum.

Preface

Dude, where's my radio?

Right now it's everywhere. All the time. On demand. Playing whatever you like. Wherever you like it. The difference with Internet radio is that it can be a more personal experience for your audience unlike the old days of broadcast radio.

There are now many, many choices rather than the few terrestrial stations of the past. By terrestrial radio we mean the brick and mortar places that employ dozens of people and broadcast music, talk, news and other content over the air.

Today, no matter what your taste, your audio experiences have gone through some serious changes.

Remember your first mp3 player? Get ready; audio entertainment is progressing at a pace capable of outrunning the speed of light. There are now many, many choices rather than the few terrestrial

stations of the past.

“Terrestrial radio recognizes that this is a rising form of distribution and will be an important one for their content. Most have a stake in digital distribution today,” according to Mark Ramsey. He’s a top Media Advisor, Research Analyst, and Radio/Digital Media Strategist.

“Internet radio continues to grow,” Ramsey continues. **“The issue there is just how big the opportunity is for how many companies? Pandora is clearly number one, but once you get past #2 or #3, how much space is left to grow and monetize?”** Clearly, however, younger audiences and audiences that value customization are warming to Internet radio by the millions.”

“My advice would be to keep your expectations in check. There's a very long tail of content out there and there needs to be an exceptionally good reason why anybody should sample yours,” Ramsey says.



Mark Ramsey

This game changer is not anything new, though. As a matter of record, the first Internet radio broadcast took place in 1993. We’ll talk more about that later. Internet radio is not such a new kid on the block.

Take a Breath

Before radio, there were stage dramas, paintings, the newly invented camera, public speaking, concerts by small groups of musicians or large orchestras. What you didn’t have before that was a box that relied entirely on your ears.

It all started when, in 1895, this young person named Guglielmo Marconi claimed to have invented a device he called “the wireless telegraph.” He was like so many young folks we hear about in the 21st century. He was living with his Mother and Father when he came up with this incredible gadget while experimenting in the attic of his parent’s house.

Turns out, there’s a little controversy about who actually invented this world-shattering machine.

On June 21, 1943, the Supreme Court stepped in and sided with a 1935 ruling of the United States Court of Claims. In that decision, it took a stand proclaiming that it wasn’t Marconi who created the gadget we know of as radio.

The debate is explained by Wikipedia:

“In the early 1890s Nikola Tesla began research into high-frequency electricity. During his visit to the Paris Exposition Universelle in 1889, Tesla learned of Hertz's experiments with electromagnetic waves using coils and spark gaps and proceeded to duplicate those experiments. Tesla came to the incorrect conclusion that Maxwell, Lodge, and Hertz were wrong in their findings that airborne electromagnetic waves (radio waves) were being transmitted and instead attributed it to what he called “electrostatic thrusts,” with the real signals being conducted by Earth currents.”

"In 1891, he developed various alternator apparatus that produced 15,000 cycles per second and developed his own very large air-gapped coil, known now as a Tesla coil. Tesla's primary interest in wireless phenomenon was as a power distribution system. By 1892, he was delivering lectures on high potential/high-frequency alternate currents" and went on to demonstrate "wireless lighting" in 1893 including lighting Geissler tubes wirelessly. Tesla proposed this wireless technology could be developed into a system for the telecommunication of information."

"Tesla also developed a wireless remote controlled boat with secure communication between transmitter and receiver that he demonstrated in 1898."

Care to peek even further into the past? Again, Wikipedia provides this information:

"In April 1872 William Henry Ward received U.S. Patent 126,356 for a wireless telegraphy system where he theorized that convection currents in the atmosphere could carry signals like a telegraph wire. A few months after Ward received his patent, Mahlon Loomis of West Virginia received U.S. Patent 129,971 for a "wireless telegraph" in July 1872."

Blame or credit that you wish, this much is a fact. A German scientist, Heinrich Hertz, in the 1880's went beyond the dreams of theories and actually proved the existence of radio waves.

Hertz. That name should be a little familiar. When you listen to terrestrial radio; let's say you're tuned to 101.9 on the FM band. The 101.9 MHz has a full name. It's 101.9 (Mega) Hertz.

It was a very groundbreaking idea when scientists like Hertz discovered that radio waves occur naturally in nature. Nonetheless, whether it was Guglielmo or Nikola or William or Mahlon or whoever, speculation was brought to the fore by creating a brand new form of human experience to life.

And it took dozens of scientists who can all take credit for the music and talk coming to a box, powered by electricity, to millions upon millions upon millions since the 19th century.

However, when it comes to Internet radio, there's one fellow we can thank for that as you will read about in just a few moments.

So, Where Are We About to Go on Our Journey?

Prepare to take a focused journey while reading this book. But **the first thing you will need is a business plan.** Follow this link to get the solid advice of how to proceed with that all-important business plan.

<https://www.sba.gov/writing-business-plan>

To show you how to turn onto that road that will help you communicate with your neighborhood, community, region, country, and the world.

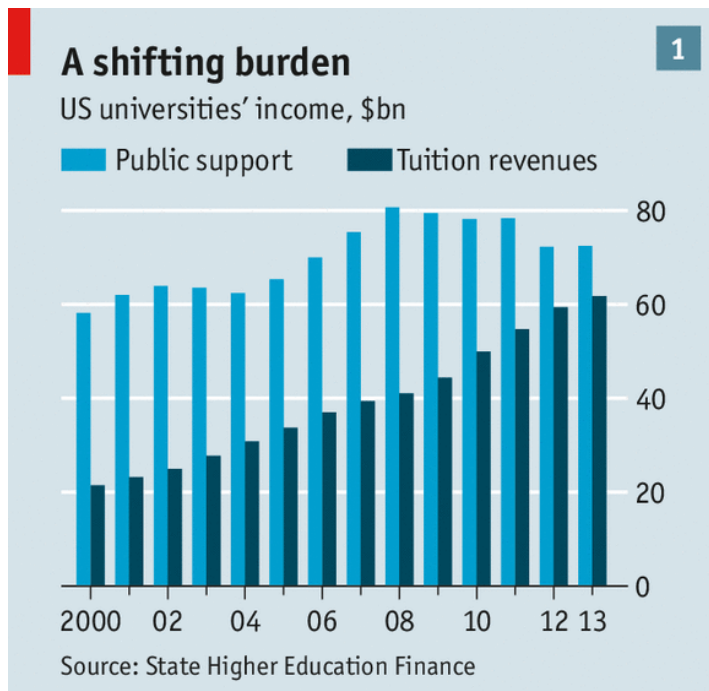
Internet radio. How it evolved, what it has become and where it's going. We'll give you some background. However, our true mission is how you can – from the ground floor – build your own Internet radio station.

We'll reveal practical ways to start an Internet stream, the costs, equipment, royalties, marketing, social marketing and maybe make a little money (if you do it right, make more money).

You'll get advice from not merely the pioneers – we're going to talk to those who are successful and others who failed and the lessons they learned.

In other words, by the time you're finished reading this book, you'll have all the informational tools you need to get started and begin to have fun. **While geared toward educators, individuals will find this textbook a valuable source to begin streaming or podcasting.**

But first a reality check on how much it costs to teach one of those little, single boxes of education:



You're an educator. You're an administrator. You're a taxpayer. Do the math.

THE COST	Per teacher	Per student
High school	\$4,400	\$33
Middle school	\$2,300	\$8
Elementary school	\$150	\$1

Cross-pollination by using something as cost-effective as Internet radio and Podcasting is, frankly, a no-brainer. And it frees up money for salaries, creative thinking, and collaboration with other disciplines of study.

Here's the problem: Most educators are slow adopters of technology. By crawling at a turtle's pace and thinking that teaching is simply an assembly-line (like we're still living in the 1890's), quit your job and get a gig building cars in Detroit.

Soapbox: The musician Paul Simon once wrote, "When I think back at all the crap I learned in High School ..." ask yourself, do you want to be remembered as a terrific teacher or some dude who would be better-off as a Walmart greeter?

With the use of Internet radio and Podcasting, a variety of subjects can be learned, saving tax dollars. And the added benefit will be that the cross-over nature of this course of study will improve a student's skill set in many, many areas of traditional "small box" education.

It's your choice.

Think Outside the Proverbial Box

You may have heard the phrase that radio is the "theater of the imagination." It's audio only. No pictures. No smells. No taste. You feel it in your heart and through your ears.

You'll get advice from not merely the pioneers – we're going to talk to those who are successful and others who failed and the lessons they learned.

In other words, by the time you're finished reading this book, you'll have all the informational tools you need to get started and begin to have fun.

Warning!

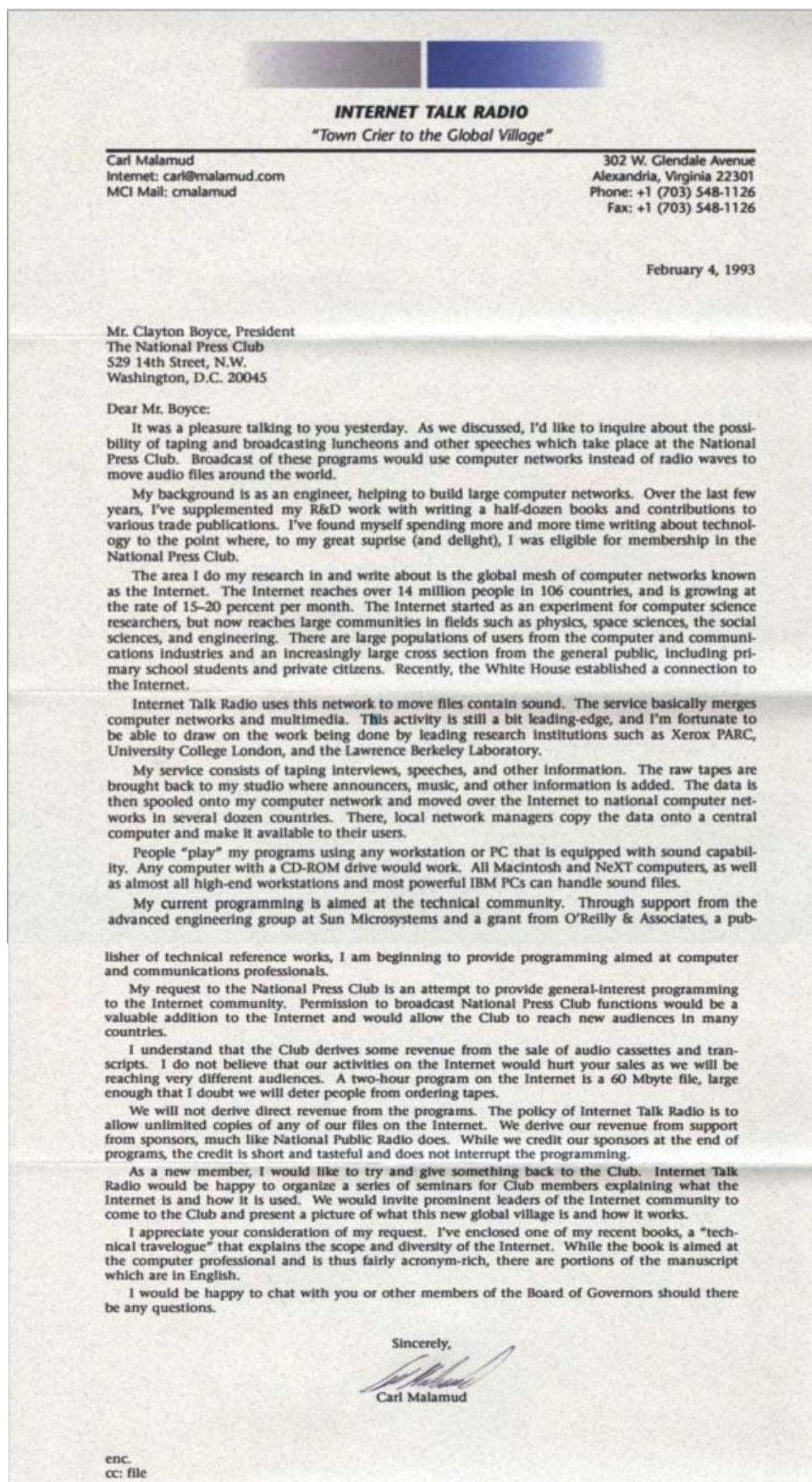
First though, we've got a warning. Fun?

Maybe we're being a little too optimistic by saying Internet broadcasting is 100% fun. **Internet radio doesn't run all by itself.** It requires a person with a driving desire to succeed. That can sometimes be hard work. Don't worry. We'll give you a few shortcuts that will help make the trip not as confusing and occasionally frustrating.

Anyway, we've kept this book brief and full of practical information so that your journey begins as soon as you turn the page.

Internet Radio is Not a New Thing

If you are between the ages of 2-to-30-years old as of 2015, Internet radio is old enough to be your father (or mother for that matter). You see, the first Internet radio broadcast took place in Spring of 1993. Our hero is a person; the brainchild of this whole new form of media. His name is Carl Malamud. It all launched with a letter sent on February 4, 1993, in a letter to The National Press Club in the United States.



Weeks later, on March 7 of the same year, he wrote an article in the St. Petersburg (Florida, U.S.A.) Times. It was called, "Lifting every voice."

He wasn't alone in his way of thinking. According to myth, a rather influential person must have read his declaration from the newspaper.

So, to be totally accurate, the first time audio was broadcast via the Web actually took place on May 21, 1993. Not by an individual, but by a nationally-supported media company called National Public Radio (NPR) in America. In May, he was interviewed by Ira Flatow from the terrestrial network.

Anyway, back to the "Lifting every voice" article. Copyright restrictions will not allow us to print the commentary he wrote. However, here's a little of what he had to say about what was to lie ahead.

"We call this radio, but it is a different kind of radio," Malamud explains. "Think of it as a radio station you can start or stop at will." In essence, he was talking about the first podcast. But he went on to say, "Radio is just the start. Internet Talk Radio (the name of his streamed broadcast program) has the ability to be a truly live, interactive medium."

Malamud predicted incredible things right from the very beginning. "Every one of our listeners could participate in an interactive game show. Or, an international town hall could allow people to talk to our guests, to conduct instantaneous polls, or to distribute background information to those listeners who want to get an in-depth view of the network." want to get an in-depth view of the network."



Carl Malamud in 1993

He even went as far to see a future where comes a day when "... ordinary citizens can walk up to their computer, see the president of the United States, and tell them what they think."

Remember, this is being written by the "father of Internet radio" well over 20-years ago.

From that point on, everything changed. Without going into too many details, according to Wikipedia, here are the highlights:

Malamud launched "Internet Talk Radio." This was the "first computer-radio talk show, each week interviewing a computer expert."

Music-wise, the first streaming broadcast of music took place June 24, 1993. The band was named "Severe Tire Damage."

The Rolling Stones jumped into the fray in November 1994. It marked the "first major cyberspace multicast concert." Mick Jagger had told the audience before the group began to play, "I want to say a special welcome to everyone that's, uh, climbed into the Internet tonight and, uh, has got into the M-bone. And I hope it doesn't all collapse." Follow this link to the video newscast of the Dallas, Texas, U.S.A. program:

<https://vimeo.com/105834909>

Terrestrial radio begins to climb aboard. On November 7, 1994, WXYC (in Chapel Hill, North Carolina in the U.S.) started to use the web to stream content.



On the same day, WREK (91.1 FM, Atlanta, Georgia in the States) also powered-up using their own custom software called CyberRadio1.

A major question was, how does the audience listen to Internet radio? A start-up company, in 1995 hit the ground running. Its Progressive Networks headquarters released a media player – RealAudio – as a free download.

Microsoft saw the writing on the wall. So did a group called Nullsoft. Both released streaming audio players also for free.

Now that there was a way to hear what Internet broadcasters were streaming, "many Web-based radio stations began springing up," according to Wikipedia.

In 1995, Scott Bourne founded NetRadio.com as the world's first Internet-only radio network to be licensed by ASCAP. This is critical. As you will read later on, a battle ensued that almost killed Internet Radio.

What is ASCAP? It's the American Society of Composers, Authors, and Publishers (ASCAP). The Association's website describes its mission as "a membership association of more than 525,000 US composers, songwriters, lyricists and music publishers of every kind of music. Through agreements with affiliated international societies, we also represent hundreds of thousands of music creators worldwide. We are the only US performing rights organization created and controlled by composers, songwriters, and music publishers, with a Board of Directors elected by and from our membership."

Sonicwave.com's Edward Lyman brought to life the first American Internet radio station that was legally licensed by both ASCAP and BMI. Sonicwave.com broadcasted live, 24 hours a day on the Web.

In March 1996, Virgin Radio started broadcasting from London, England. This marks the first European effort into Internet radio.

The financial industry took notice! In 1998 came the initial public stock offering for Broadcast.com. Records, not the ones that used to grace old school turntables, were shattered. The offering price; just \$18 U.S. However, when the stock went "live" on Wall Street in America, the Broadcast.com's shares opened at \$68 U.S. on the first day of trading.

Yahoo! Buys-out Broadcast.com on July 20, 1999, for 5.7-billion dollars.

Down-Under, in 1998, the oldest Internet radio show, "The Vinyl Lounge," inaugurated its stream from Sydney, Australia on NetFM.

But all was not well in Internet radio-land as you'll soon see. It's all packaged in little boxes. Educationally-speaking, in a school setting there's a box for English. A box for math. A box for science. A box for social skills. A box for interpersonal relationships.

It doesn't need to be that way. What if I suggested to you, as a teacher, that you could integrate these disciplines into a one-stop shop that would have a dramatic effect on all of the other little boxes?

Internet Radio for Educators, Administrators, Teachers and those who are Shaping the Future for our Children

How would you tie multidiscipline courses together? It's called Internet radio and podcasting.

It's called Internet radio.

Camilla Byk, the founder of Podium.me, tells us that the symbiotic nature of this one discipline can lead to major educational changes as it pertains to other classes.

"One major advantage of using this form of media is that it does not require any former experience.

There is a steep learning curve, but it is accessible to all young people with any educational background,” Byk explains. “Some of our young journalists have social issues such as Asperger's, autism, blindness and other disabilities, but these do not get in the way of good journalism, and these young people are producing some of our best work.”

If an educator wants to start a podcast group in their college or school, **I suggest they start with a small group of students who have many broad interests.** A website is not essential at the start, as you can share audio on many audio sharing sites such as SoundCloud.”

See a video of “Training Day” at Podium.me:

<https://youtu.be/K8OICTzwaPg>

She continues, “If a student wants to learn how to edit, they will be using advanced computer skills and training their ear to create the best sound. Concerning social skills, the ability to have a conversation that is based on a particular topic area is essential for any career. It is particularly valuable to learn how to speak to people that you would not normally speak to. Many of the topics that we cover at Podium.me are out of peoples comfort zones! So the mere fact of having to have a conversation can be a challenge.”

Byk further explains, “One of our students was making his first recording, and he chose to interview a new girl at the school, she was a teenage refugee from Syria, this was two years ago. The interview was very relaxed but powerful, and the World Service decided to broadcast it so their voices were then heard on a truly global platform.”

“The anonymity of a podcast is a very powerful thing, it really makes a difference if you cannot be identified, there are many things that people would not be comfortable talking about if they were seen. I think that for teenagers the ability to express yourself is released when you record in audio form.”

“In terms of editing, we have a clear house style, which allows the interviews to be broadcast in full wherever possible. The fact that we are not a traditional radio station with timeslots means that every podcast can last the links it needs to last, rather than fitting into certain slots.”

Lastly, Byk concludes, “My experience is that our young journalists find this form of media very accessible.”

Same holds true with Larry Berger. He’s a host and Founder of The Saturday Light Brigade — Involved in public broadcasting since 1975 and active in the development and leadership of four noncommercial radio facilities in southwestern Pennsylvania. On slbradio.org’s website, it’s explained this way:

“We believe in radio and audio because these technologies enable a sense of intimacy, engagement and self-directed imagination that is often lacking in other media while also promoting opportunities for anticipation than other media). Imagination, creative expression.”

“Mr. Berger has served as the Executive Director of SLB Radio Productions, Inc., since its formation in April 2000 and has done so without compensation. Under his direction, The Saturday Light Brigade has been honored with ten local, state and national awards in the past ten years. With degrees in engineering and public policy from Carnegie Mellon University and 20 years of experience as a project engineer and manager for local industry, he also understands critical business principles and has been responsible for managing departments and projects with budgets on the order of \$500,000. He currently serves on the Board of Directors of the Pittsburgh International Children’s Theater and has been on the board of three other non-profit organizations.”

Further, on slbradio.org’s website, their mission is explained even further,

“SLB also develops and conducts off-air workshops for schools, scout and youth groups as well as after- school programs. Serving approximately 8,000 youth per year, SLB is committed to providing effective and engaging radio- and audio-based programming for children and youth ages 6-18.

SLB has developed and conducted hundreds of youth radio projects including:

- 1. technical and self- expression workshops;**

2. **reflective essay writing and recording workshops;**
3. **youth broadcast, podcast and CD projects;**
4. **career exploration;**
5. **oral history and**
6. **youth philanthropy.**

Today, with its expanded facilities, field equipment, and new technologies SLB serves more than 2,000 children and youth annually. Many of the youth media projects produced by SLB workshop participants have been broadcast as well as archived at www.neighborhoodvoices.org, an SLB website designed for rapid on- demand playback and download of community-based audio.

We believe in collaborating with others and maintain www.youthmediaresources.org as an educational tool for the community. Designed to catalog programs and tools, encourage youth expression and explore the impact of media and technology on youth, the new site has emerged as a resource for practitioners, funders, and educators committed to supporting a community around empowering and educating youth audiences.”

Larry and I spoke about his mission at SLB.

Listen here: <https://www.youtube.com/watch?v=44KnvMAHdJE>

Internet Radio for Individuals

Next, we set our sights (and ears) on an interview with the head of Sylvain Bureau, which is his real name:

<http://www.sylvainbureau.com/>

I conducted an email conversation with him which is very enlightening for those who are interested in creating their own, individual. But first a little background on Sylvain:

He writes on his website, “Regarding this website, I build it all by myself (graphics, CSS, database, etc.). I do not use free web templates or free CMS like Joomla, Typo3, Spip or Wordpress. However, I often check the source code of other websites to learn how some cool things are done and find some new ideas. I test my site on Internet Explorer, Firefox, Chrome, and Opera.

As for the Sylvain Bureau Web Radio section, the different pages are generated by the SAM Broadcaster software using the source code provided by Spacial Audio, code that I tweaked to suit the website's needs. « Sylvain Bureau Web » helps me expand my knowledge in what I call « Intravenous TV » by building myself a new media from A to Z.

Now, on with the interview!

Q: What is the history of your entry into the Internet radio business? What inspired you to begin?

A: I'm in the radio business since 1986, in the Internet business for at least 15 years (but an Internet junkie since 1996) and, as far as I can remember, I always was a techno geek and had a great desire to entertain the people around me. When I was a teen, I was fascinated with audio and musical equipment.

I wanted to be a rock star. When I was in high school, I discovered radio as a better way for me to connect with people by combining my passions for audio equipment, music, and entertainment. As radio DJ, I played songs on tape, on vinyl, and in digital format. I worked in different musical format and in all day parts (morning, mid-morning, mid-afternoon, drive, evenings and, yes, even nights). I learned to adapt myself to those different types of programming and types of listeners. When I discovered the Internet, I found another way to connect with people. I wanted to know everything it could do and how to do it myself (then became the webmaster for the stations I work for). The same thing happened when Internet radio appeared.

At first, Internet radio was the process of putting an existing radio station's sound on the web. So, I

managed to install a Shoutcast server on my 233mhz Pentium computer and plugged a radio in the computer's soundcard. It worked! I then learned how to incorporate the mp3 feed to a website so that people could listen to us (us being CIBM 107.1) while making a request, learn more about the DJs, etc... But it was only a new way to listen to an "old" type of radio. For me, it stayed that way for a lot of years.

Then, strange things happened.

First, I bought myself a microphone. For years, I worked with mics but didn't have my own. I absolutely didn't know what I would do with it but saw its purchase as a sign of changes to come. I always wanted to do my own things, be my own man. Maybe having that microphone would motivate me to start recording voice-tracks at home. I didn't have a clue. Then I received a Facebook message from my first high school crush asking for my help preparing our high school reunion. Since I was working as a radio DJ, she asked if I could make a couple of music CDs for the evening. Having also worked as a party DJ for some time, there was no way I was going to let such an important event have music on a couple of CDs. So I bought myself a mixer, made a list of all the songs from 1978-1983 (our high school years) that would mean something to those present, classified those songs in three categories (cocktail, meal, party), used Winamp and the "Advanced Crossfading Output" plug-in so that the music would never stop. The night of the reunion, I realized I had made my first fully automated mp3 radio station. It was small but it worked, and the people for which it was made seemed to like it. And I already knew how to broadcast on the web. So it began.

Q. As you started the process, what were some of the issues (both good and bad) you encountered?

A: When I decided to use my little "party radio" as an "internet radio," it was easier said than done. I had a new computer, so I needed to reinstall the Shoutcast server and re-learn how it worked. Having the server directly on my computer took a lot of its resources and also took a lot of bandwidth. I couldn't expect to broadcast for more than three people at a time.

But what a feeling when I did!

One of my first listeners was an old friend who, as a teenager, was in my parent's basement looking at me making plans to take over the world as a rock star. I opened the mic and said, "You know what?

We're thirty years older and 300 hundred miles apart and you're still a witness to my basement experiments." In 25 years in the radio business, I rarely felt this kind of energy. Internet radio was definitely something I wanted to explore more. And building a radio station was something I wanted to do for a very long time.

By the end of August 2014, after a lot of experimentation and equipment and software upgrade (more on that later), I decided to broadcast 24/7. For now, my station essentially broadcasts music and offers a way for listeners to browse through my music library and request a song that will play in the next 15 minutes. It's also a way for me to try new things, things I wouldn't (or can't) do at my regular job. I like to call my Internet radio a "radio laboratory."

One bad issue is that, still being a "terrestrial radio DJ", my employers don't always see my internet radio as a way to try new things. They sometimes see it as a way to make people listen to something else. So my internet radio needs to be low profile and selling advertisement is out of the question.

For now...

Q. From an equipment standpoint, what type of equipment do you use?

A: For the software part, I use SAM Broadcaster. It doesn't need a very powerful PC to perform well. I also use Adobe Audition (Audacity is a very similar software, and it's free) for recording jingles and voice- tracks. In order to have all my mp3s at the same volume, I use mp3 gain.

For the hardware part, I use a Blue Yeti USB microphone that is great for recording, and it's integrated sound card is great for playback. SAM and the Blue Yeti microphone worked well together on Windows XP, but I'm having conflicting issues since upgrading to Windows 8. I also use an XK-24 keypad in which I programmed all the keyboards shortcuts for SAM so I don't have to use my mouse, and it's quicker that way. My headsets model is RP-HTX7 from Panasonic. The way my station works

right now doesn't require a mixer, but my dream would be to buy an Arrakis console. The ARC-8 is more than enough for internet broadcasters and, best of all, looks cool.

For the broadcasting part, unlimited internet access is a must. Broadcasting 24/7 at 96kps takes about 1GB per day of bandwidth. As a free stream hosting service, I use Listen2MyRadio. The downside of using a free service is that you can't incorporate your stream in your website. People have to go to the free service's site to listen to your stream. But Listen2MyRadio.com is easy to use, and the sound is good. Paid services are quite expensive.

Q. Has the equipment you are currently using changed over the years? In what regard? How did you go about beta-testing new technologies?

A: As I mentioned, I started with Winamp, a Behringer USB mixer and my first mic. It worked well, but it was only "sound on the web". Listeners had no info on what was playing, what played and what was coming up. I was OK with that since I didn't know then what Internet radio could be. Since I didn't have unlimited Internet access, I didn't often broadcast so my setup was more than a "personal radio" rather than an Internet radio. Thanks to the cross fading plug-in, I liked that my songs were cross fading as on a real radio instead of playing a CD.

When I learned that the "Advanced Crossfading Output" Winamp plug-in wasn't compatible with Windows 7 (I wanted to upgrade from Windows XP), I began looking for an alternative software for my "personal radio" and found out that SAM Broadcaster had very similar capabilities. It also looked a lot like the software I used at work (Dalet Workstation). I downloaded the trial version, was impressed by it but didn't, at first, have the money to buy it. I finally bought it on my 45th birthday. As I started using it, I discovered its abilities to make different song categories, song rotation rules and even schedule rotations for different parts of the day. Using that, my "personal radio" was now acting like a "real" radio. It was now not only automated, but it was also almost thinking by itself and was playing by itself.

And there was more...

I found out that the software could create snippets of HTML code that could be inserted in web pages. People visiting my website could now learn everything there is to know about the songs played (title, artist bio, album details, lyrics, etc...), browse the music library and request songs.

I saw the light...

That's what I thought internet radio should be. Internet radio can be a lot more than "sound on the web". My Internet radio should give listeners a way to connect directly to the content whenever they want, whatever content the radio delivers and, being on the Internet, wherever they want it.

What I will beta-test soon is prerecorded voice-tracks with links to learn more on what has been talked about. Each song has a link to the artist's website so it should be (I repeat "should be") easy to treat each voice-tracks the same way but instead putting the link to its source. It should also be easy to create on my website a "Latest topics" section that works like the "Recently Played" section. If that works, why not try it with commercials with links to the advertisers' websites? I know, I don't sell advertisement, but my website would be ready for it and, as I said, I want to try new things.

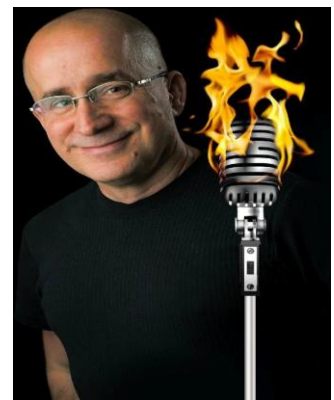
Q. Marketing Internet radio is, as you know, no simple task. How did you tackle promotions and building a community of listeners?

A. Share those articles on social media (with the hope that they will be shared by others).

Q. Marketing Internet radio is, as you know, no simple task. How did you tackle promotions and building a community of listeners?

A: For me, it's a very slow process since I can't publicly say "Hey! I've got my own radio! Come listen to it". For now, my listeners (or beta- testers) are mostly family members and friends.

Here's what I intend to do after the beta testing of the "voice tracks with links":



- Write articles on my website about topics that I also talk about on my radio.
- Share those articles on social media (with the hope that they will be shared by others). That way, I'm not saying, "Come listen to my radio" but my website will. The articles could even end with a "Listen to more great topics" link.
- Even if I could publicly and loudly talk about my radio, I still would put a blog on my site and share its content on social media. I think it's a great way to position yourself as a "go-to guy" on a given subject. What subject? More on that with the next question.

Q. Being that "content is King," how does an Internet broadcaster (such as yourself) go about programming your station?

A: It's presently quite easy. My software does what I programmed it to do by itself. Now, it's only a matter of adding new songs and beta testing new tricks.

But at the beginning, the hardest (or the longest) parts for me were creating song categories, deciding the song rotation rules, categorizing each song (the first 800 actually), creating different clock wheels and deciding at which time of the day (or the week) those clock wheels would be used. I think this applies to most Internet broadcasters.

But before doing this, you must ask yourself some very important questions (a little psychology here):

- **What do you want to offer?**
- **Why should I listen to you instead of anyone else?**
- **You want me to know you? So who are you? (Yeah that's deep)**
- **The important word is "you". You are the content. So work on yourself.**
- **What do you stand for?**
- **What are your passions?**

All those questions will help you define your content and your "tribe" (a term I learned reading Seth Godin's blog).

The songs, the news, the topics are accessible to every broadcaster on the planet. What you choose and how you deliver it depends on YOU.

Q. Are there any royalty issues and how do you handle them?

A: That's a part of the Internet broadcasting world that I don't really understand (at least for now). When you broadcast music, you must pay royalties. That, I completely understand. But do you pay them to the organization representing the artists in the country where your station is based or in the countries where your station is heard? If it's the second option, you need a lot of cash, or you need to find a way to limit access to your Internet radio to the people living in your country and you can't do that with a free hosting service. Some professional hosting services include the payment of royalties in their monthly fee.

Since my radio doesn't make money, I pay the minimum fee of \$100 U.S. a year to SOCAN (The Society of Composers, Authors and Music Publishers of Canada). By definition, SOCAN is:

(<http://www.socan.ca/about>)

... "distributes royalties to its members and peer organizations around the world" (source) so I think that represents all artists that are heard on my radio.

I think...

I hope...

Q. Do you have a staff and if so what are the various tasks they perform? If not, the next question will explain how you handle the day-to-day processes.

A: I don't have staff members. But If my "radio laboratory" gets bigger, I will. Here are the kind of staff members I would need:

Someone who gets all the information about each song (or other audio elements) and puts them in the database. Most of the time, mp3s already have some in their id3 tags (song's title, artist's name,

album's name) but not necessarily the ones I want to work with. For example, the year of the song in the id3 tag is the year the CD came out which may not be the year the song originally came out. If I don't check that out, I can end up with Led Zeppelin in my 2014 list of songs because the remastered versions of some of their albums came out last year. SAM Broadcaster also gives me the possibility to add the song's lyrics, the song's mood, the album artwork and I have to decide in which of my playlists the song will go. All of this is done by hand and is very time-consuming. But worth it.

"Audio personalities." I don't call them "DJ's" since they would not be playing music. I always referred to radio as "intravenous TV" and the same should apply to my Internet radio. So I want to work with people capable of making me "see what they say". And, thanks to the Internet, they could work from their own home studio.

Someone for the "money side" of the business. If my Internet radio becomes something more than a laboratory and starts selling advertisements, someone will have to write down the contracts and pay the bills. And that certainly won't be me.

Q. So, what's a "day in the life" which you experience as an Internet broadcaster?

A: I don't work every day on my Internet radio, but I do listen to it every day. Doing so, I sometimes make slight adjustments like adding or removing songs, making new station IDs or modifying some format clock-wheel rotations. If I were working full-time on it, my daily schedule would probably look like this:

- 1 or 2 hours of research for the latest news and topics for my voice-tracks.
- 1 or 2 hours of voice-tracks recordings. My goal is to record 24 voice-tracks per day (3 per programming hours playing three times each). 24 voice-track a day may seem a lot, but I've been doing it at my regular job for the last ten years.
- 2 hours of adding new songs in the software database, adding new artists in the website database and making website adjustments.

Q. You have many talents besides being an Internet broadcaster. How do you balance your work output?

A: Beside my regular terrestrial radio job, I'm a member of my regional school board, a communication coach for the CFCQ (Quebec's Communication Training Center) and the webmaster for the stations I work for (CIBM and CIEL). So yes, that's a lot to balance. The best tools for me are a tablet that has a web browser with a "share" button, cloud storage, a remote-desktop application and lots of Google gadgets. Whenever I have some free time and wherever I am, I can look for cool topics to talk about and, with the "share" button, send the links to my Gmail account that only has this purpose. So when I need to record voice tracks, I open my Gmail account, and all my topics are there. I also use Google Keep to keep notes about everything (ideas, lists of things to do, etc...). With cloud storage, I have access to my important files anytime, anywhere and with the remote desktop application, I can access my home computer and my Internet radio. With all this, I can treat everything as a whole instead of separate activities. There's only one thing that I separate from the rest, and it's a thing called "sleeping."

Q. Without giving away any secrets, tell me how you fund your passion? How do you, in other words, make money?

A: At the moment, my passion doesn't cost me much, and as I already said, I can't sell advertisement without my bosses blessings. My Internet radio is working on the computer I already have. Being the father of two "YouTube-hungry" teens, unlimited Internet access at home is a necessity. Since the beginning of my Internet radio quest, I may have invested about a thousand dollars for software and equipment. I invested a lot more time than money.

But here's what I intend to do when the time comes to make money.

At first, I will "trade to build my tribe." As a comic book geek, I might go to a comic book store and make the owner aware of what I'm doing. "Talk about me. I'll talk about you". That way, my Internet radio might become a place for other comic book geeks. A measurable amount of people sharing

common interests should be easy to sell to advertisers.

Q. What advice would you give to a person who is thinking of becoming an Internet broadcaster?

A: Do it for fun and start with the free stuff. By free stuff, I mean everything that's already at hand like:

- The computer you already have
- Your personal internet access (be sure to have enough bandwidth)
- Your old headphones
- Your CDs (those that aren't already extracted in your computer)
- Your webcam's microphone (the sound won't be very good, but it will be a start)
- Your teen has a gamer headset (mic + headphones) that he doesn't use anymore? Grab it!
- Free software like Winamp, Virtual DJ, Nicecast or MIXXX
- Free hosting services like Listen2Myradio, Caster.fm or MyRadioStream

All those things can be upgraded (sky's the limit) when you have the money to do so.

As I said earlier, work on yourself. What do you have to say? How will you deliver it? Why should I listen? Your Internet radio is a new way to express yourself.

Experiment.

Have fun (yeah I know, I already said that. But it's the most important part).

Q. If you have any "war stories" (stories of a memorable personal experience typically involving an element of danger, hardship, or adventure that you can share -- especially humorous ones), I'd love to read about them!

A: One of the most memorable experience I had was seeing the word "connected" for the first time, knowing that what I was broadcasting could now be heard by someone else on the web.

Another very important event in my young internet broadcasting career was getting my SOCAN license number. Finding how to get it and getting in touch with the right person wasn't an easy task. Receiving the license information and the proof of payment gave me a great feeling of power and independence. I finally had my own radio station and could broadcast legally.

On the funny side, one of my first listeners (a girl I met when I was a member of a Toastmasters club about ten years ago) liked a lot being able to make requests on my radio and suggested that I expand my radio's music library. I said "Sure! Do you have any suggestions?" She sent me a list of about 300 songs and, at this day, I'm still trying to put them all in the SAM broadcaster's database.

And there's "Sylvain's quest for a microphone button." Since I began working with SAM Broadcaster and my Blue Yeti microphone, I wanted a mechanical On/Off button for the mic. On my previous computer (Windows XP), I had no problem putting the mic-On with the software's On/Off button or its keyboard shortcut. But I didn't want to open the mic with a mouse click or by using CTRL+F11. I wanted a mechanical On/Off button. I knew I could achieve this by using an X-keys keypad. When I bought a new computer (Windows 8.1), I also bought an X-key keypad. After configuring all the SAM broadcaster's keyboard shortcuts in the keypad, I tried the mic button. My computer crashed big time. Tried the keyboard shortcut. Same thing. Tried the software's On/Off button. Another crash. There seems to be a compatibility problem between SAM broadcaster and Windows 8.1's USB device driver. So all my mechanical buttons are working except the microphone's one. Damn!

Q. Anything I may have missed in my questions that you believe are important, please pass them along.

A: Well, I could talk about what pushes me to continue to learn what can be done with Internet radio.

Mobile broadcasting!

Cell phones are the pocket radios of the future but are not at the moment because of limited Internet access.

Unlimited Internet access plans for cell phones exist but aren't common here in Quebec (I don't know if they are elsewhere) but the day will come where it will be. **People will be able to listen to anything they want, anywhere they want and even in their cars using Bluetooth. Unlike satellite radio, they will be able to listen to Internet radios for free.** And they will have direct access to its content in real-time.

I want to be ready for that day.

And I will.

The Good, the bad and the hack: Royalties

In this chapter we'll detail the "war." More importantly, we'll specify how to keep you out of trouble as an Internet broadcaster.

The chief thing to remember is this: **Artists deserve to get paid for what they create. No debate.** It's not merely fair; it's the right thing to do. We plan to talk a little about the early struggle. However, our main job in this part of the book is to tell you exactly what you need to know, give you credible resources and offer what are known as "best practices."

The problem is, according to The January/February 2016 issue of Smithsonian Magazine, **"Artists fight over digital music too. Many say it impoverishes them, as the relatively fat royalties of radio and CD give way to laughably tiny micropayments from streaming companies, where a band might get mere thousandths of a penny from their label when a fan streams its song. Other artists disagree, arguing that giving away your music for free online makes it easier to build a global fan base avid for actually giving you money."**

So, while you think the creative end is getting rich, it's not. It is Big Records and Big Radio

First we talked with the foremost attorney on royalty laws. His name is David Oxenford. We spoke a while back, but since then, things have changed as he notes on his blog:

<http://www.broadcastlawblog.com/2015/12/articles/crb-announces-webcasting-royalty-rates-for-2016-2020-lower-rates-for-broadcasters-who-stream-minimal-change-for-pureplay-webcasters/>



David is a partner at the law firm of Wilkinson Barker Knauer LLP and is located in Washington, DC office. Representing broadcasters for over 30-years, he boasts a wide array of matters from the negotiation and structuring of station purchase and sale agreements to regulatory matters.

His regulatory expertise includes all areas of broadcast law including the FCC's multiple ownership limitations, the political broadcasting rules, EEO policy, advertising issues, and other programming matters and FCC technical rules.

His clients range from family-owned broadcasters to active mid-market venture-backed companies to one of the largest noncommercial radio licensees in the country. In addition to representing station groups, David represents a number of state broadcast associations, the trade association for media brokers, program and service providers to the broadcast and digital media industry and banks and others providing financing to media companies.

The most important part, as David will tell you in our recorded interview, he also represents webcasters and other digital media companies, including serving as counsel to a webcast trade association. He represents these companies on copyright, music licensing and other business and regulatory issues. He was counsel to the small webcasters group that negotiated the first Small Webcasters Agreement with the recording industry in 2002, represented webcasters who negotiated the Pureplay Webcasters Agreement in 2008, and represented webcasters in litigating sound

recording performance royalties in both of the webcasting rate setting proceedings held by the Copyright Royalty Board.

David is a regular speaker at broadcasting and digital media conferences, conventions and trade shows across the country, and regularly conducts webinars for many trade associations. He has also served as an expert witness on broadcasting and music licensing issues.

He has been active internationally in counseling developing countries on the development of media laws embodying democratic principles.

If you'd like to follow his sage wisdom, he has a blog that is quite informative and regularly updated. (<http://www.broadcastlawblog.com/>)

Simply click here to hear our wide-ranging discussion on the subject of royalties. You will be especially surprised at how David notes that royalties are NOT just about paying artists. It's stammering!

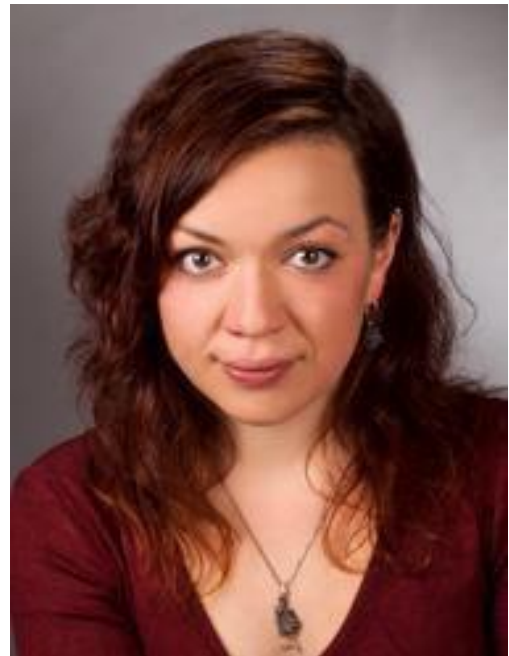
<https://youtu.be/ZAll1MXwuj0>

From another part of the world, I posed a series of open-ended questions to Ilona Pfeffer. She's based in Kyrgyzstan and is a Media Expert, Humanitarian Journalism Trainer and Journalist. She works for a company called Kloop Radio (<http://ilona-pfeffer.de/>). Her hack around the issue of royalties is brilliant.

She acquires wholly original content from contributors.

Ilona writes: "One simple truth I learned about working in a developing country: don't take anything for granted!

"When I first came to Kyrgyzstan in January 2014, I did not really know what to expect. I was sent here by the German Center for International Migration (CIM). I had applied for the position of a media expert with a focus on radio journalism at Kloop Media - one of the biggest news portals in the Kyrgyz Republic. On behalf of the CIM I should provide my expertise and help Kloop develop its radio sector. On my very first day at Kloop I was given the responsibility to teach the new radio class. There was no curriculum, no guidelines, nothing to start from, so I had to come up with an educational program myself.



How to write for radio

"When recording radio news issues, the students simply read out the news from Kloops website. The sentences were often long and complicated and therefore not really suitable for radio. Also, when they read out quotes, they did not bother to give the names of the persons prior to the quotes, so it sounded like actual facts rather than opinions of particular persons. So, obviously, I had to explain first, which difference there is between these two types of text and how this connects with our particular medium and auditory.

"Different types of audio materials. Before I came to Kloop, the radio students recorded daily news issues and, occasionally, interviews. They had no idea that there were other formats like reports, feature stories, commentaries, and polls. They never experimented with sounds, atmosphere, stand ups. They did not know how to tell a story and build a material around different sounds.

"In the beginning, the kids were a bit shy, and it took some effort to light their fire for alternative formats, but soon they discovered how much fun it is! They went to concerts, sports events, demonstrations.

"They experimented with sounds; they learned how to record a nice stand up in the middle of an event, they started to tell stories.

"Easy editing. The students who already recorded and edited news issues worked with software by

SONY (Sony Soundforge for recording and cutting and Sony Vegas for editing). That was o.k. for me, but I decided to teach both the old and the new students to use Audacity. The reasons are obvious: if you have zero budgets, you would want to stick with open source solutions. Audacity offers the tools for recording, cutting and editing in one program, is simple and user-friendly, and you can easily install it on any computer. Plus, there is a version with Russian layout and detailed instruction in Russian.

“After this first test version, I continued to develop and enrich my educational program by including additional information and many examples. My sources were educational articles from various websites - most useful I found those by BBC and Deutsche Welle. The rest was my own experience as a radio journalist and my imagination. With my third group, I decided to try something new that I felt would help them: I included a session of voice training. I tried to touch upon all important aspects such as breathing techniques, exercises for deepening and enriching the sound of the voice, articulation, expression. This part of the education turned out to be everybody’s favorite and the kids had a lot of fun discovering and analyzing the potential of their voices and working to improve them. So, voice training became an integral part of the education.

“Although we had made some progress and our auditory grew steadily (we published all our materials on our Soundcloud channel, as well as on our website and via Facebook), I felt like I had to do more - I decided to try and create real radio, our own internet radio!”

Crowd Funding

Ilona Pfeffer continues, “In order to reach as many people as possible I decided to pick one of the **major crowdfunding platforms, but it turned out that the big ones like the American “Kickstarter” or the German “Startnext” do accept campaigns only from a handful of Western countries and Kyrgyzstan is certainly not on this list. Finally, I found a big platform that is open to almost all countries of the world - “Indiegogo.”** So, we created our campaign with a text and a pitch video in English, some photographs and a list of things we would like to buy with the \$ 2500 USD we hoped to raise. Our list looked like this:

1. Radio broadcast mixer: Allen&Heath XB-14 (\$1527)
2. Headphone amplifier: Behringer HA8000 Powerplay Pro-8 (\$162)
3. Expander/Gate/Compressor/Peak-Limiter: Behringer MDX4600 Multicom Pro-XL (\$162)
4. 19“ Rack: Thon Studio Rack 6U 38 (\$53)
5. As well as small pieces of studio equipment like cables, bar stools for the DJs, sound proofing.

“The campaign lasted 60 days and although in the end we managed to raise the money, we learned that running a campaign is really hard work and might not always be the best option. During the two months of your campaign you dedicate all of your time and energy to the project. On a daily basis, you post the link on social media, send emails to potential supporters, do everything to convince people to contribute to your campaign. It is, in the first place, your friends, and family who give you money and not some generous strangers. At some point, you “run out of friends”. Second problem was that in order to contribute to the campaign on Indiegogo you had to 1) understand English (on an international platform like Indiegogo everything is in English, and although it is taught in Kyrgyz schools, the general level of knowledge of the language would not allow most of the people here to understand a simple text). 2) If you wanted to give money, you would have to use a credit card. In a country where most people do not even have a bank account, this might be actually a big problem for crowdfunders. Some locals and expats living here chose to come in person and give me their contribution in cash, but I think that there might have been more contributions from Kyrgyzstan if there would have been an easier way.”

“When the campaign finished successfully, and Indiegogo sent us the money there was another “shock” - from the \$2500 USD raised Indiegogo kept \$ 200 USD. Ok, on their website there is some information about these fees, but we did not expect them to be so high. Nevertheless, we could buy the equipment needed and make sure that our radio could survive and grow.”

Finding a low-cost, user-friendly and efficient solution

“Filling the library with zero budget. As we wanted a 24/7 rotation, we needed music. A lot of music. The problem was: we had no budget at all, so we could not afford royalties. In order to get some music, I had to try other options. First of all, I asked the musicians and labels I am friends with to give me their music for free, and they agreed. Next, I tried the same with national and international artists and labels.

To my surprise, most of them, even big ones like Respect Production readily agreed! To be on the safe side, I asked them to give me written rotation permissions. On our website, we also made a post encouraging young and little-known artists to send us their music. The reaction to this post was great; we got a lot of mails with songs not only from Kyrgyzstan but also from Russia, Lithuania, and even Israel. Additionally, we searched for music with creative commons license. The result was a cool, big playlist with music from all over the world and a nice mix of genres.”

Hardware issues

“In order to go on air you obviously will need something like a studio. On my arrival, Kloops “studio” consisted of a small room with a desk, a computer, a microphone and one pair of headphones. I was able to get a small budget and buy a couple of microphones, microphone arms, headphones, pop filters, some cables and an audio interface. Most of these products cost more in Kyrgyzstan than they do in Europe or the U.S. and some products are not available at all. But this starters kit along with the old items and an old mixer (Behringer Xenix) were enough to start broadcasting. Our setup was experimental. The mixer was not meant for broadcasting and its channels failed regularly due to its age. We had not the right soundcard and could use only one channel for music and one for panel. Every show was an adventure!”

“Although we were able to broadcast with this setup I soon realized that we would have to get a new mixer, for not only did the channels fail, we regularly got electric shocks from this old mixer. Also, we would need a better soundcard and some devices to improve our sound. Such things are expensive, so I decided to start a crowdfunding campaign in order to raise the funds needed.”

Soul Searching -- for Individuals and educators -- do we really want to do this?

Your feelings may be saying one thing. Yes! I want to start an Internet radio station for myself or a class of students at my school.

Starting an Internet radio station is not very difficult. We'll tell you how actually create one in later chapters; first though let's discuss the pros and cons of taking on a very ambitious project.

However, let's engage your brain by asking some questions. **Soul searching to see if you have the right stuff – the drive, courage, means to fund, ability to make a long-term commitment or (As we say in America, “A fire in your belly” or a powerful sense of ambition or determination).**

Where do you live in the world?

Every country has a different way of doing things when it comes to broadcasting. What is legal in China, Africa, the United Kingdom, France, America or the country where you reside will, most likely, have different laws, regulations, and rules.

With that in mind, before you get your hopes up, consult a lawyer in your country who specializes in Internet radio law. Don't know of anyone who can offer you legal advice?

There are costly ways and a not-so-costly ways to access the information you'll need. The last thing you want to do is get in trouble because you failed to perform your research at the outset.

Do you have a lot of money to spend? Probably not. But if you do, perhaps the best way to find out more is to subscribe online (for a short period of time) to the “Martindale-Hubbell International Law Directory 2015: Europe, Asia, Australasia (USA) Professional Biographies.”

Find out more by following this link:

<http://www.martindale-hubbell.ca/Global-Legal-Marketing/Online-International-Law-Directory>

The law firm does have an online version. To gain access, as a subscriber, it will cost you. A lot.

No reason to be afraid. We have a link to a free method to find out more concerning the legal aspect of laws in the U.S. and the world.

The cost-effective way comes to us from the Law Library at the University of California in Irvine (a city) in the U.S.

What you will find by clicking on the link are updated “Free Legal Resources on the Internet: Foreign & International Law.”

<http://libguides.law.uci.edu/c.php?g=5237&p=20681>

Of special note on that page is an organization called EISIL (Electronic Information System for International Law). You might want to start there for legal matters concerning your Internet radio station. If you’re like 99.9% of us who know nothing about how complicated the law can be, do your best to find what may apply to you. Then hire a local attorney or legal expert to “decode” the complex information you’ve discovered.

As discussed earlier, artists need to be paid for the wonderful things they produce. Royalties, right? This matter is the one that’s going to cost you every month as you legally broadcast content you have not created. And it’s not the same everywhere on Earth.

For example, in America there are companies that handle the tedious work of keeping up with everything you play and pay royalties for a fee that comes from your wallet, purse or bank account. To

add an extra twist to the equation is whether your Internet radio stream is making money, or it’s not for profit. One thing we want to make abundantly clear: We do not guarantee or endorse any of these companies.

<http://www.soundexchange.com/>

<http://www.corbisentertainment.com/>

Again, we’d like you to do the right thing. And royalties will be a major drain of your funds.

The Time Element – How Much Work Do You Plan To Invest In Your Internet Radio Station?

Your Internet radio station is not a perpetual motion machine. Sure, you can automate it. You can employ other “hosts” who can log-on to your software from a remote location.

These self-programmers can perform a show from anywhere in the world (as long as they have a great broadband connection and play by the rules of royalties).

Just bear in mind that your new venture will be labor intensive.

From a personal standpoint, I discovered that to be successful, (if you do it yourself as I did); expect to spend long hours and many days before launching your first broadcast. Once your station goes “live” you should look forward to (without outside help or a staff) to expend at least 8-hours a day maintaining your venture at first.

Not All Internet Radio Stations are the same

The list of formats is nearly endless. Consider an unfilled niche or some distinct segment of the market you wish to appeal.

Outside of the format you choose, take a look at some of the various categories of Internet radio:

- **Non-interactive** - The listener hears what you want them to hear. You don’t take requests. It’s

a one-way street.

- **Interactive** - Your audience has a say in what you broadcast. It could best be compared to on-demand streaming. Pandora comes to mind in this example.
- **Educational**- This market is mostly filled with content you create or purchase to provide knowledge to your listeners.
- **Hybrid**- Use your imagination on this one. It could be a combination of the three above examples.

Of particular note: Each unique category has different licensing costs, exceptions and things you may not be able to predict until you are operating.

Money Making Versus Non-Commercial Broadcasting

Having 100 listeners is not going to make you rich. When you reach the 10,000 listener level, you may have a money machine on your hand. But **the bad news is that the larger your audience, the more you will spend on royalties.**

For others, as we'll discuss soon; promoting your station to your potential audience is like climbing a mountain. Advertising can be inexpensive or costly. The concern you will face is how to make it happen and what you can afford. That's where social media comes in as an important way to "get the word out."

It's a balancing act. **Later on, we'll talk about how to make money in a non-commercial setting.** This will be especially helpful for educators who want to teach Internet radio at their school without eating into the institution's budget.

Don't panic. We'll give you some tried-and-true tips as to how to get the word out that you have an Internet radio station soon.

Educators have a special moment in time. Internet radio in schools for students (in a classroom setting) has greater implications beyond becoming a disc jockey or broadcasting host. Kids become exposed to not merely communications, math and social skills. They also discover workplace etiquette, logistics, marketing and a whole host of other life skills as they grow in an institutional environment.



The Saturday Light Brigade. Kids learning by using Internet radio.

You Might Turn Into Someone Who Will Have to Deal with What Happens Politically In Your Country

No matter where you live, politics plays a role in what you are about to embark upon. Laws are

constantly changing. Governments are playing a game of “catch-up” because of the rapid pace of evolving technologies.

You will have to stay aware of this stuff. Terrestrial radio has trade organizations that keep an eye on changes to your new station.

Internet broadcasters also have such an association. It’s called The International Association of Internet Broadcasters (IAIB). This group represents the interests of Internet broadcast professionals throughout the world.

Visit the group here:

<http://www.ibroadcastnetwork.org>

The sweet part of being a member in the IAIB is that it is free!

You should join. Really. You MUST join! This will keep you from having to deal with politics, allowing you to concentrate on programming. The fun part.

Believe In Yourself, Your Audience and the Future

Thank the gods we do not live in a static world.

This man who lived about 500-years before the birth of Jesus Christ came up with this quote that applies to you (and will for the rest of your life). His name was Heraclitus, and he wrote, “The only thing that is constant is change.”

By adopting that attitude, you will find the path you are about to take will be much less stressful.

Hopefully, we haven’t talked you out of creating your own Internet radio station in this chapter. We only want to let you know some of the things to expect. It’s only fair that we are honest with one another.

Starting an Internet radio station as an educator or individual is no small task. But if you’re willing to be flexible, creative, work hard for a while – truly want to make an impact on the world.

Tools You Will Need to Start an Internet Radio Station

Before 1993, it was pretty hard to own a radio station.

You would have needed to find a broadcast outlet that was looking for a buyer. That bank account under your name would need to be bulging with money (like in the \$20-to-\$500-million dollar [U.S.] range).

Petition the appropriate agency in your country to allow the sale, etc.

You get the idea. A lot of cash, luck and patience to own a terrestrial radio station would be involved. But as we mentioned much earlier in the book, Carl Malamud changed everything in 1993.

Now you, as an educator or individual, can become a broadcaster easily. We’ll go through the steps.

Your Checklist

Before we get into details, let’s take a look at a typical Internet radio station. It’s an extremely compact and the set-up is tremendously easy. And frankly, about 50% of what you see are devices that you may not even need.



Typical Internet radio station for an individual

What will you do when you're broadcasting? It all comes down to what are your intentions.

Regardless, if you are already someone who likes technology and broadcasting, there's a good chance you have most of what you'll need to begin transmitting to the community, region and the world. The top 11 are:

1. A website where listeners can find your stream (and, obviously, an Internet address (URL) which reflects what you call your station).
2. Quite a few providers offer a "two-fer." That is to say they will not only host your site, but purchase the URL you choose. One such company that comes to mind is Big Daddy. But there are many others that offer the same such package.
3. The aspiring broadcaster will need a computer that serves one purpose. To broadcast your format.
4. A good, reliable broadband connection.
5. Software that will allow you to play music, interview people, broadcast live events (with the appropriate permission). Or whatever you can imagine your future needs from an audio content delivery standpoint.
6. An off-site server that will take your stream and make your broadcast available to your growing audience. This is different than the company that hosts your website.
7. A service that will (if you are broadcasting content created by others) handle the royalty issues.
8. An audio mixer.
9. A nice quiet spot where you teach or live.
10. A good set of headphones.
11. And a microphone.

There are other devices you might want to add-on to your studio, but the above are the basics.

Why You Need These Things?

Now, allow us to explain our top eleven "must have" items to start your Internet radio station:

We began with "A website where listeners can find your stream (and, obviously, an Internet address (URL) which reflects what you call your station)."

It's pretty self-explanatory. Think of it as home base for your listeners. It's where they can listen to your station, find out the latest news, track the last few tunes (if you're broadcasting music or other content that has a label), get to know you through your blog.

A blog is strongly suggested!

Why? **With the use of a blog that's updated 2-to-3-times a week, using Search Engine Optimization [SEO] and meta-tagging techniques, the search engines will help you promote your station.**

Second on the list is "The aspiring broadcaster will need a computer that serves one purpose. To broadcast your format." By sharing your computer and running other software while you are broadcasting, you risk the possibility of a momentary crash on that computer.

An example might be: You can see that you have about one-thousand listeners tuned into your broadcast. Suddenly the computer crashes because you had another program open. You will need to reboot the device.

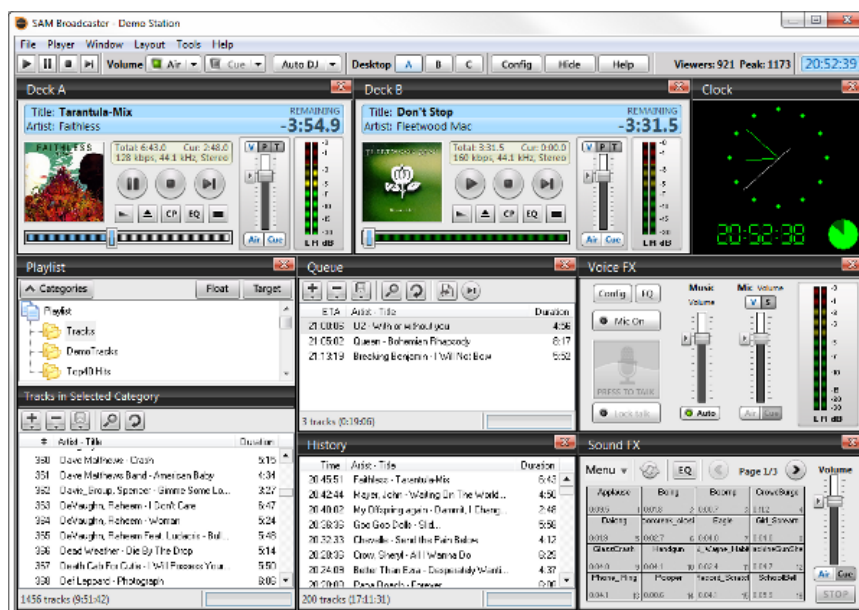
The consequence: You've just lost 1,000 listeners for a moment. And it's been my experience, when you are back online, most of those in the audience have moved on.

It doesn't have to be a desktop computer. A tablet, notebook or even a smart phone will work. Just make sure you never use that machine for anything else.

Then there's "A good, reliable broadband connection." If your marriage to the Internet is always going down, it's the same thing as having to reboot a non-dedicated computer. Listeners are fickle. You don't want to build a reputation of being an unreliable stream. A troublesome broadband connection can destroy your station's credibility.

"Software that will allow you to play music, interview people, broadcast live events (with the appropriate permission). Or whatever you can imagine from an audio content standpoint."

Personally, I have used software from a company called Spacial.com. You may find other programs. But, speaking from experience (and I've done this for over a decade), I always return to this product. Here's a picture of the interface:



Spacial.com SAM Broadcaster

Usually, I stay away from recommendations. This is just my opinion.

Go ahead and experiment with other software. See which one works best for you. I just wanted to let you know where I put my money when it came to a reliable piece of software.

This one is critical. "An off-site server that will take your stream and make your broadcast available to your growing audience." This is a monthly cost. While you can get it for free using services such as Shoutcast and Icecast, well, nothing is truly "free."

Services that don't charge need to make revenue. How they accomplish that goal is by placing ads on your stream rather than billing you directly. For your convenience, we list five stream hosting services. To repeat ourselves: We do not guarantee or endorse any of these companies.

- Cheapest Stream Companies - <http://cheapeststream.com/>
- Spacialnet - <http://spacialnet.com/>
- Shoutcheap - <http://www.shoutcheap.com/>
- Caster.fm - <http://www.caster.fm>
- Serverroom - <http://www.serverroom.net/>

We went into great detail on royalties. But we want to reemphasize you will need “A service that will (if you are broadcasting content created by others) handle the royalty issues.” In Chapter Nine: The Good, The Bad and the Hacks: Royalties; most of your questions on this major matter are addressed.

Educators and individuals alike; “A good set of headphones” will let you hear what’s being broadcast. With some of the software you can purchase for your stream, a super feature that comes with the interface will automatically mute the external speakers. Not the headphones, just the speakers.

You can purchase headphones that are plugged into the mixer or your computer. There’s another option: Wireless headphones.

Individual broadcasters and for educators; this tool is a must. “An audio mixer.”

Having control of your various input sources demands that you make an investment in a mixer.

You might have multiple microphones, various types of content, a telephone hook-up, etc. The mixer is the master switch for all these different sources



The Alesis MultiMix 8 USB 2.0 mixer provides USB 2.0 technology for ultra-fast, low-latency, 24-bit/44.1–96kHz (with high-end A/D and D/A conversion) multi-channel audio recording straight to your computer.

If a teacher is in a classroom setting, many students will be behind the microphone. One of those kids will be the child who turns on the mic, monitors the volume level and, for all practical purposes, controls the broadcast.

A suggestion for educators: Make sure that everyone in your class knows how to use an audio mixer. This should be the first lesson for your pupils as it is the heart of a broadcast when multiple people are part of the Internet radio class.

When I was in the terrestrial radio business, I once worked at a station that was about 20-feet or 12-meters from a train track. Occasionally, I'd turn on my microphone just as a train whistle was blowing to signal its approach. That's why “A nice quiet spot where you teach or live,” is a good plan.

In the classroom, invest in two light fixtures. One with a red light installed. The other should have a green bulb in the socket. Red means “STOP, WE'RE BROADCASTING!” When the green light is on, it signals others that no microphone is open, and it's safe to enter.

Educators and individuals alike; “A good set of headphones” will let you hear what’s being broadcast. With some of the software, you can purchase for your stream, a super feature that comes with the interface will automatically mute the external speakers. Not the headphones, just the speakers.

You can purchase headphones that are plugged into the mixer or your computer. There's another option: Wireless headphones.

According to the website bestreviews.guide, here's their view on the subject.

Remember, we're only making a suggestion where you can check without endorsing the website or their reviews:

<http://goo.gl/zrTqpn>

I know it sounds kind of dumb but "And a microphone" is vital. And while you are ordering a couple of good microphones, look at the statistics.

You have a choice beyond the brand. There are two types of microphones used for Internet or terrestrial radio stations: Binaural and Omni-directional.

Binaural are more focused as they don't pick up noises from all over your studio.

Omni-directional microphones capture sound from every direction. There are some mics that have a feature that will allow you to switch between Binaural and Omni-directional. My recommendation would be to think seriously about one that has such flexibility.

Below is a brief rundown of possible candidates. We make no recommendations, as usual. However, these top the list:

- Blue Microphone Snowball USB Microphone
<http://www.bluemic.com/snowball/>



The Snowball microphone from Blue Microphones

- Also made by the company Blue is the Blue Yeti Microphone
<http://www.bluemic.com/yeti/>
- Behringer C-1 Studio Condenser Microphone
<http://www.behringer.com/EN/Products/C-1.aspx>
- Audio-Technica AT2035
http://www.audio-technica.com/cms/wired_mics/cebb57a269d232ee/
- Rode NTK
<http://www.rote.com/microphones/ntk>

Some are inexpensive, some are costly. It really depends on your needs, but at least you have some leads above which complete your broadcast chain.

If you are having trouble visualizing what we've just talked about, take a look at a few videos. The first one is for educators. A little inspiration for you:

<https://www.youtube.com/embed/GXshY1d08Ss>

This video shows you how to set up your Internet radio station:

https://www.youtube.com/embed/BrWWF_-31lc

That's the basic rundown. To give you a guess, you can start an Internet radio station for well under \$500 U.S. Beyond that, consider the recurring costs for the website, the stream, cloud software and the royalties.

That's the basic rundown. **To give you a guess, you can start an Internet radio station for well under \$500 U.S.** Beyond that, consider the recurring costs for the website, the stream, cloud software and the royalties. But as we have shown, talking to the planet is well-within your budget.

Why You Need a Well-Maintained Website to Complement Your Stream

Your Internet radio station has to have a home. It's located on a media server; this is where the content is streamed.

But, you will also need an actual website. The reason being, it will be vital to help you build an audience for your web-based station.

Fear not. It's relatively easy to create a website. We'll tell you how in a few moments.

But first this message:

There's another reason for you to invest in a website. **It's called Search Engine Optimization (SEO). Let's break down the benefits of good SEO:**

Search engines are fairly unintelligent.

By this I mean, unless you have certain elements embedded into the code of your website no one won't find you. Search Engines use algorithms (a fancy word for a mathematical language all search engines use to find your placeholder on the Internet).

At least, most of them do. It's not like the old days when you'd submit your website address to a "directory." Currently, all major search engines "spider" the web using this mathematical (and proprietary) formula.

As we'll talk about later, it's a fairly simple process to construct a website (Especially if you use a Content Management System (CMS)-based platform such as WordPress or Joomla!).

What's a CMS? It's a way to add content to your Internet site without having to know too much about, like in the old days, building a web presence from scratch.

See the links below to find out more. Here's the good news, both CMS platforms are free and offer many other free plug-ins and modules to make you site "rich" with interactivity. Stay tuned. We'll explore CMS platforms again in a couple of minutes.

- <https://wordpress.org/>
- <http://www.joomla.org/>

This is definitely the way to proceed. Just make sure that when you purchase your Internet address and rent space on another server, check to see if the provider you choose supports whichever CMS you choose. Most do, but double check by reading the fine print.

Becoming well ranked on search engines requires knowing a little about SEO. Make a list of words or short, one-or-two-word descriptions of your station. You'll be able to plug those triggers into the

code with a CMS platform. Rankings mean a little, but they are little more than letting new listeners find your stream out of the thousands that are already broadcasting.

Rankings, as we mentioned above, bring seekers to your website (and ultimately your Internet radio station). But it's what lies "under the hood" that tells the search engine spiders that you exist. That is why picking the perfect keywords for this stuff called metadata is so essential. Confused? Click on the links below for a more detailed explanation of keywords:

- <https://yoast.com/focus-keyword/>
- <http://www.verticalresponse.com/blog/picking-the-best-keywords-and-the-tools-to-do-it/>
- <http://positionly.com/blog/post/45831542164/keyword-research-how-to-select-top-keywords-for-seo>

This should be at the top of the list. However, we needed to define some terms as we did above. But what should be at the pinnacle of your SEO is this thing called "conversions."

SEO is much more than shouting to the world that there's a new Internet radio station. Conversions are flexible and can be whatever you wish them to be. The bottom line is that it's a way for you to tell if people are visiting your website.

If they aren't, perhaps you may need to adjust your keywords to get better results. Think of conversions as one would focus on ratings in the traditional broadcast world.

Creating Your Website

First of all, this is not really all that tough. We're assuming you're not some big-time geek. So, you want a simple way to build a site that will be the house for your Internet radio station.

Follow these simple steps and within a few hours, you'll be finished. Mind you, the site may not "go live" for a while. The web is a big place and it sometimes takes time for the code to filter through the thousands of servers that make up the Internet.

What are you going to call your radio station and which company will host it?

Once you have decided on a name, you'll need purchase the Internet address. Don't be surprised if it's not available. Simply pick another one and do a check to see if the URL is available. Usually, when you decide on a host, for a small cost, that company will purchase the Internet address for you and host your website.

Here's the catch. According to Orbit Media Studios, a company that is "focused on one service: web design and development," the business correctly writes:

Domain Name – You Don't Own This Either. Surprised?

The Domain Name appears in the address bar of the browser. It is the humanly memorable, identifiable part of the website URL that is indexed by search engines, displayed in most marketing, and remembered as part of the brand.

- You do not actually own a domain name even though you are a registered domain owner.
- You have a contract with the domain registrar giving you "ownership" of the domain much like a contract with a telephone company for a phone number.
- From **Wikipedia**: "...domain name registration with a registrar does not confer any legal ownership of the domain name, only an exclusive right of use."

(For more information on what you do and do not own when you create a website, look at this link:

<https://www.orbitmedia.com/blog/website-terminology/>)

Anyway, after you have selected an appropriate hosting service and purchased your Internet address, you will be well on your way!

We do not endorse any of the information on the link below. We're only providing the information as a way to get you started.

<http://goo.gl/jl4Ex1>

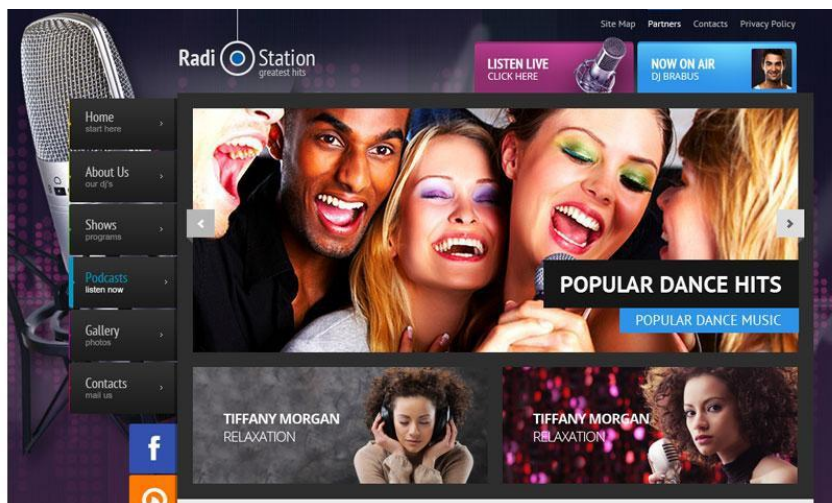
Earlier we discussed a CMS. What is this platform? It's a way to add content to your Internet site without having to know too much about, like in the old days, building a web presence from scratch.

See the links below to find out more. Here's the good news, both CMS platforms are free and offer many other free plug-ins and modules to make you site "rich" with interactivity.

- <https://wordpress.org/>
- <http://www.joomla.org/>

This is definitely the way to proceed. Just make sure that when you purchase your Internet address and rent space on another server, check to see if the provider you choose supports whichever CMS you choose. Most do, but double check by reading the fine print.

Perhaps pick a free template from either WordPress or Joomla or from the company that's hosting your website. Or you can get one designed by a design company or you can buy one from a company that designs a "look" specifically for you.



Website design using custom-made WordPress template <http://www.bootstrap-template.com/>)

This one will cost a little money. However, quite a few are free.

The point is: You have a choice of the "look" for your website with these two CMS platforms. Another important matter is to test your website for bugs.

Once it's "live," download browser software (if you don't already have them installed on your desktop, mobile, tablet and laptop) to check how your new Internet home looks on the major browsers which are Internet Explorer, Firefox, Opera, Safari and Chrome. Additionally, register your site with Google Analytics. This will give you valuable information as to who is listening, when they are listening, how long they are listening, etc.

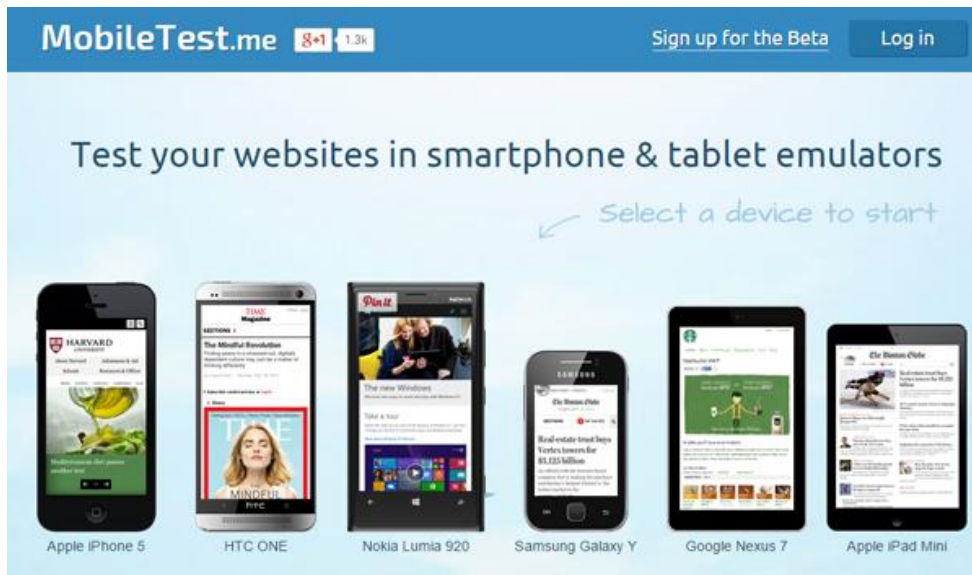
Finally, ensure that you have a variety of social media links embedded on every page. This simple procedure can be done by setting-up accounts on Facebook, Twitter, Instagram and all major social media outlets, linking them to your website.

More importantly than how your website appears on a tablet, laptop or desktop computer. You want your website to perform as expected. Remember, the planet is going mobile.

What we're saying is: Most people will probably be listening to your station on a Smartphone.

More good news is coming your way. You do not have to purchase a bunch of mobile devices to “see” your website on a Smartphone. Check this out!

- <https://www.google.com/webmasters/tools/mobile-friendly/>
- <http://mobiletest.me/>



Told you it was kind of simple to create a website.

Concluding this chapter, let’s go back to something we mentioned earlier. We cannot repeat this enough:

“A blog is strongly suggested!”

“Why? With the use of a blog that’s updated 2-to-3-times a week, using Search Engine Optimization [SEO] and meta-tagging techniques, the search engines will help you promote your station).”

Briefly speaking, SEO is like a hungry beast. The more it finds new content coming from your website, the happier it will be. It will reward you by moving your website up the ladder of rankings.

Make sure that for every blog post you keep a few of the basic keywords, but add some specificity to the content you’ve added. Your search engines will thank you for that!

Internet Radio and Podcasts as a Local or Regional Source for Audio Content

We all think of the Web as a world-wide means of communication. That is not necessarily so. Some of the more successful Internet radio stations and Podcasts take a local or regional approach.

Why is this an important consideration? Funding. It’s as simple as that. If you’re dealing with a regional audience, selling radio ads can be quite a lucrative form of business.

And unlike terrestrial radio, when you go to work or play in a mobile environment, you have a captive audience. Rarely do listeners “button push” when a commercial appears on an Internet radio station or Podcast. They stick with you all day long.

Another important source of revenue is selling merchandise. It shows loyalty and alerts others to your efforts. Be creative. But also be visible. Key chains sit in your pocket. Coffee mugs, T-shirts, hats ... it’s free advertising.

Think of the Nike footwear and clothing “swish.” You are building a brand.

While we don’t endorse any of the websites below, it will give you a starting-point for selling merchandise to your local or regional (or even International) listeners.

- <http://www.cafepress.com/+radio-station+gifts>
- <http://www.zazzle.com/radio+station+gifts>

A famous politician once said, "All politics is local." So can your Internet radio station or Podcast.

As was mentioned by Sylvain Bureau, **mobility is the future**. I cannot emphasize this enough. The days of bulky desktops and even notebook computers are on the wane. Smart phones and tablets are the foreseeable future. What's next on the horizon? I'm not someone who has a crystal ball. But I can assure you, build your brand now and be prepared to change at a moment's notice.

So, buckle-up and let's go forward to a media world which is still in its Golden Age!

I leave you with a short story from my kiddy days.

My mother had a bad cavity in one of her back molars in the 1940's. Dentistry, back then, was a little behind the times.

They filled the bad tooth. Oh, and by the way, my grandparents lived near a radio tower (WJR, Detroit, Michigan) at the time.



As the dust settled on mom's tooth, she began to hear the signal from the radio station, emanating from the fixed molar.

Turns out, through some strange coincidence, she was picking-up the broadcast on the recently filled tooth.

Ultimately, it became obvious, but for days she lived without sleep because of the noise from WJR's blow-torch, 50,000 watt transmitter and tower.

You just don't want your brand controlling your life (and others) as if it were a poorly-filled back molar.

So, in forecasting the future of Internet radio and Podcasting, all I can say is "Back to the Future" as we cannot predict what wonders lie ahead.

That is why educators, teachers, school administrators MUST embrace this Golden Age of Internet radio and Podcasting. It's time to build YOUR brand. Like, now! Wearable technology is already here, right? What's next? Implantables? Microminiaturized, cyber-like devices that will access your brain directly? Spliced right into your DNA to make you know everything, forever, all the time.

As they say in the Real Estate business, "location, location, location."

In the Golden Age of Internet radio and Podcasting, change that bromide to "brand, brand, brand."
Next step: Where's my damned Jet Pack?

Conclusion

Multitasking. It's a word that has its roots back in 1966 (multi-tasking). But that was delegated to computers. The Online Etymology Dictionary states, "multi-tasking, 1966, originally in computing, from multi- + tasking (see task). Of humans, by 1998. Related: Multitask (v.). As an adjective, multi-task is recorded from 1954 in a non-computer mechanical context."

The reason I mention this for educators, you will be teaching a practical use for multitasking. Not just texting and driving in your car (bad, bad robot), you'll be teaching more than one discipline at a time through Internet radio and podcasting.

Mathematics begets science. Communication skills beget writing and composition. Electronics beget creative problem solving.

Think of this song:

Written by Malvina Reynolds in 1962, it sums up (in a way), the conveyor belt of education, which has been practiced for well over a century has dictated our method of learning. One classroom -- one

subject:

Little boxes on the hillside,
Little boxes made of ticky tacky,
Little boxes on the hillside,
Little boxes all the same.
There's a green one and a pink one
And a blue one and a yellow one,
And they're all made out of ticky tacky
And they all look just the same.

And the people in the houses
All went to the university,
Where they were put in boxes
And they came out all the same,
And there's doctors and lawyers,
And business executives,
And they're all made out of ticky tacky
And they all look just the same.

With the power on Internet radio and podcasting, **the merger of multiple disciplines, not only the student but also the individual broadcaster has at their command a rainbow that is symbiotic. Those involved cross-pollinate and break the chains of "ticky tackiness."**

Suddenly, the meaning of the abstract is brought into focus. Educational relationships show why we do what we do.

So, in closing, tear down the walls. Add a strong dose of practicality to the overall equation and voilà, there's now meaning to why we need to learn what seems to be unrelatable subjects.

That's the efficient, cost-effective key to linking subjects that seem theoretical to practical, mind-altering concepts.

After all, you can't be a brain surgeon if all you know is the shape of the patient's head.

Reference Guide

Associations - Music

- American Society of Composers, Authors, and Publishers (ASCA) <http://www.ascap.com>
- The International Association of Internet Broadcasters (IAIB) <http://www.ibroadcastnetwork.org/>
- The Society of Composers, Authors and Music Publishers of Canada (SOCAN) <http://www.socan.ca>

Book Interviews

Larry Berger

Executive Director of SLB Radio Productions

- Interview - <https://www.youtube.com/watch?v=44KnvMAHdJE>
- Website - SLB Radio Productions - <http://slbradio.org>

Sylvain Bureau

Head of Sylvain Bureau

- Website- <http://www.sylvainbureau.com>

David Oxenford

Attorney on Royalty Law & Partner at Wilkinson Barker Knauer LLP Law Firm USA

- Interview - <https://youtu.be/ZAll1MXwujo>
- Website <http://www.broadcastlawblog.com/2015/12/articles/crb-announces-webcasting-royalty-rates-for-2016-2020-lower-rates-for-broadcasters-who-stream-minimal-change-for-pureplay-webcasters/>

Ilona Pfeffer

Media Expert, Humanitarian Journalism Trainer and Journalist, Kloop Radio Kyrgyzstan

- Website - Kloop Radio - <http://ilona-pfeffer.de/>

Camilla Byk

Founder of Podium.me

- Website - <http://podium.me>
- Training day at Podium - <https://youtu.be/K8OICTzwaPg>

Broadcasting Software

- Spacial Audio – <http://spacial.com>
- SAM Broadcaster Pro Software – www.spacial.com/sam-broadcaster-pro

Broadcasting Hardware Guide

- How to setup hardware for your internet radio station https://www.youtube.com/embed/BrWWF_-31lc
- Wireless headphones - <http://goo.gl/zrTqpn>
- Blue Microphone Snowball USB Microphone - <http://www.bluemic.com/snowball/>
- Blue Yeti Microphone - <http://www.bluemic.com/yeti/>
- Behringer C-1 Studio Condenser Microphone - <http://www.behringer.com/EN/Products/C-1.aspx>
- Audio-Technica AT2035 http://www.audio-technica.com/cms/wired_mics/cebb57a269d232ee/
- Rode NTK - <http://www.rote.com/microphones/ntk>

Foreign & International Law Guide

- Martindale-Hubbell International Law Directory 2015 <http://www.martindale-hubbell.ca/Global-Legal-Marketing/Online-International-Law-Directory>
- Foreign & International Law Free Legal Resources <http://libguides.law.uci.edu/c.php?g=5237&p=20681>
- Electronic Information System for International Law (EISIL) - www.eisil.org

Royalty Fees & Payments References

- Sound Exchange - <http://www.soundexchange.com/>

- <http://www.corbisentertainment.com/>

Streaming Companies

- Cheapest Stream - <http://cheapeststream.com/>
- Spacialnet - <http://spacialnet.com/>
- Shoutcheap - <http://www.shoutcheap.com/>
- Caster.fm - <http://www.caster.fm/>
- Serverroom- <http://www.serverroom.net/>

Websites – Content Management Systems

- Wordpress - <https://wordpress.org/>
- Joomla - <http://www.joomla.org/>

Websites - Hosting Services

- <http://goo.gl/jl4Ex1>

Websites - Keywords Tools

- <https://yoast.com/focus-keyword/>
- <http://www.verticalresponse.com/blog/picking-the-best-keywords-and-the-tools-to-do-it/>
- <http://positionly.com/blog/post/45831542164/keyword-research-how-to-select-top-keywords-for-seo>

Websites- Analysis & Testing Tools

- Webmasters - <https://www.google.com/webmasters/tools/mobile-friendly/>
- Mobile Testing - <http://mobiletest.me/>

Radio Station Merchandise - Buy/ Sell

- <http://www.cafepress.com/+radio-station+gifts>
- <http://www.zazzle.com/radio+station+gifts>

Additional References

- Invention of the wireless telegraph – https://en.wikipedia.org/wiki/Wireless_telegraphy
- How to prepare a business plan - <https://www.sba.gov/writing-business-plan>
- Video Newscast of the Dallas, Texas, U.S.A. program - <https://vimeo.com/105834909>
- Inspiration for educators - <https://www.youtube.com/embed/GXshY1d08Ss>

Disclaimer

This reference guide is a list of resources referenced throughout this book however, the author does not guarantee, endorse or recommend any of the products, services of companies which are provided as an indicator of the type or product, service or company available.

Author's Biography

Kevin Vandenbroek

Kevin Vandenbroek has been involved in communications throughout his professional life, holding positions in politics as a Communications Director, Press Secretary and Event/Media Manager and Marketer.

As a copywriter, he won a pair of awards in the early 80's from the Mississippi Broadcasters Association for Best Writing and Best Produced radio spots. As a journalist in Mississippi, he received 4 Associated Press awards and two RTNDA's Edward R. Murrow honors. In 2005, he won another Edward R. Murrow award while News Director at South Dakota Public Broadcasting. As a graphic designer, he has created and maintained a variety of websites that span news, entertainment, education and e-commerce. Currently, he is a published writer accepting freelance work.

