

How to Create an Episode

The Manual for Show Hosts of Software Engineering Radio

TOC

[The Manual for Show Hosts of Software Engineering Radio](#)

[TOC](#)

[Introduction](#)

[Choose a Topic](#)

[Types of Topics](#)

[Use the Show Archives](#)

[Confirm the Topic](#)

[Guest](#)

[Finding the Guest](#)

[Can I have two \(or more\) Guests?](#)

[Show Policy on Conflict of Interest](#)

[Qualify the Guest](#)

[Media Kit/Cold Call Bullet Points](#)

[Set Guest Expectations](#)

[Booking the Guest](#)

[Working with Corporate Communications](#)

[Shows Get Blocked](#)

[Audio Quality](#)

[The Importance of Audio Quality](#)

[Recording Setup Best Practices](#)

[Audio Format](#)

[While Recording Best Practices](#)

[Remote/Internet Interviews](#)

[Ask Guest to Record their Own Audio Track](#)

[Alternative Recording Technologies](#)

[In-Person Recording](#)

[Preparing for the Interview](#)

[Researching the Subject Matter](#)

[Researching the Guest](#)

[Why Develop an Outline?](#)

[Creating the Outline for the Interview](#)

[Overview](#)

[Workflow](#)

[Goals](#)

[Structure of the Outline](#)

[Should you show your outline to the guest?](#)

[Questions that go into the Outline](#)

[Aim the Show at the Right Level](#)

[Ask, Don't Tell](#)

[Yes/No Questions](#)

[Start with a News Story](#)

[Start with the Lead](#)

[Handling Controversial Issues](#)

[Great Depth Questions](#)

[Condense Your Outline](#)

[Conducting the Interview](#)

[The Host is a Facilitator](#)

[Time Management](#)

[Keep the Show Moving Along from Topic to Topic](#)

[A Podcast is not a Normal Conversation](#)

[Use the Outline](#)

[Flow versus Planned](#)

[The Importance of Listening to the Guest](#)

[Transitions](#)

[Maintaining Balance Between Host and Guest](#)

[Meta-Interruptions to Give the Guest Out-of-Band Feedback](#)

[Paraphrase What the Guest Just Said](#)

[The Guest Asks you a Question](#)

[Ask the Guest to Define Terms](#)

[Ask for Clarification of Difficult or Confusing Points](#)

[Mix Abstraction with Examples](#)

[Asking Multiple Questions at Once](#)

[Interrupting with a Question](#)

[Asking Questions by Making a Statement](#)

[The Catch-All Question](#)

[Mention the Show Notes](#)

[Speaking During the Interview](#)

[Spoken English Best Practices](#)

[Filler Words](#)

[Your Pace of Speaking](#)
[Clean Breaks between Host and Guest](#)
[Preparing to Record](#)
[Last-Minute Preparations](#)
[Prepare the Guest](#)
[Compliance with Laws Regarding Recorded Conversations](#)
[Remain Calm](#)
[How to Divide up the Time](#)
[Record more than you need](#)
[Milestones in the Hour](#)
[Manage the Time](#)
[The Call to Action](#)
[The Nuclear Option: Fire the Guest](#)
[Editing the episode](#)
[Getting Feedback from the other Hosts](#)
[License](#)

Introduction

This document contains general instructions for hosting a Software Engineering Radio Show. This document is based on the experiences of multiple hosts over a period of several years. It will evolve over time from collaborative edits.

These guidelines are intended to serve as a starting point to reduce the burden of trial and error. Your personal style, and ways you might deviate from these guidelines will evolve with experience.

The steps in creating an episode are:

1. Come up with a subject
2. Find, confirm, and book the guest
3. Prepare an outline
4. Record the episode.
5. Prepare the episode and related assets for publication.

These steps are described in detail in the rest of the document.

Choose a Topic

Types of Topics

Choose a topic that you are interested in. A key to producing interesting content is that participants have a passion for the material. The listeners will pick up on when the host and guest care about the topic they will be more interested because of that.

Show topics should be of interest to a generalist software engineer. A niche area of specialization that is only comprehensible to a specialist in a sub-field is too detailed. The purpose of the episode is to introduce the listener to this area. The show is not intended to an expert-level discussion. The target audience ranges from advanced university students with some upper level courses to senior software engineers, architects, technical ops and technical managers.

Each episode should contain a mix of specialized information about the topic and tie in to fundamental software engineering concepts. Our shows have a useful life measured in years. Shows continue to be downloaded thousands of times even years after their date of publication. This is because the timeless computer science and engineering concepts are still relevant.

One source of good topics is the guest. If you start out with a guest, then ask the guest what he or she would like to do an episode about, propose some ideas of your own, discuss, and reach an agreement with the guest.

The general areas that we cover are:

- a programming language - either one of the newer ones, or a significant change in one of the more established ones
- a type of database
- a type of server like a proxy
- a programming or test framework
- a software design technique or philosophy (e.g. Domain-Driven Design)
- An issue that is often faced within software design or architecture and how to handle it
- design patterns and architecture patterns
- software testing techniques or frameworks
- an aspect of system performance
- a cross-cutting concern within systems - such as logging, authentication, monitoring
- a project that the guest did showcasing some very challenging issues
- a difficult problem that the guest solved requiring great skill or new techniques
- development tools
- tooling and skills related to one part of the software development lifecycle, such as testing, build automation, operations, run-time analysis
- bugs; debugging

- an aspect of computer security
- an aspect of computer system performance
- an open-source software project
- a commercial software product - Be careful not to turn the episode into an advertisement, however we do not totally rule out commercial software as a valid topic.
- how software engineers can their work better, including reading code, writing tests, paired programming, code reviews, test coverage
- software development processes, including any aspect of agile and lean and critiques of those processes
- an area of computer science research [but not too theoretical]
- the management of software projects and organizations
- software as a career
 - job interviews
 - career strategy
 - engineering culture
- software as a business
 - starting a company
 - venture finance basics
 - distributed work versus all in one office
 - failed company - what was learned?

If you are having trouble coming up with a topic, browse through our internal email list for emails relating to topics that have been proposed. A lot of great topics have been discussed but not yet used for a show because we have room for 36 shows per year and there are more than 36 things worth talking about than.

Use the Show Archives

Browse or search the SE Radio archives to get an idea of past topics. We do not repeat topics, so if your episode idea is too close to a past episode, and you still want to do an episode in that area, look for a more differentiated variation on the same topic.

It is acceptable to do an episode on the same area, if there have been significant updates. For example, although we have done many episodes on Java topics, an episode on Java 8 would be different enough if it focused on the new features in version 8. We have done many episodes on agile, but each one on either a different part of the agile process, or a different agile process.

If you do an episode on a related area to what we have already published, then mention the previous episode(s) near the beginning of your episode and link to them in the show notes.

Confirm the Topic

Propose your topic to the group on the mailing list with a couple of sentences of what you think will be covered. The editor must sign off on the proposed topic.

Guest

Sometimes the topic is first, the guest second; other times, the opposite. Either way, you need at least one guest to do an episode. Some episodes have more than one guest. That can happen when multiple authors of the same book are invited, or, experts on the same area. Multiple guests create some challenges for recording and editing but it is possible to get a good result.

Finding the Guest

Often the host will have your a preferred guest in mind. Locate the guest, then ask the guest to be on the show. This can be a difficult part of the process because the most well-known people in the industry get asked to do many things (for free) and cannot say yes to all of them.

Contact the guest, leading with your request that the guest appear on the show. Put your request clearly in the subject header of your email (or whatever format of message you are using) so that the recipient knows why you sent it even without reading. We have had success inviting guests via email, twitter, LinkedIn, and in person at conferences.

Some ways to locate the person you want are:

- Look around on the person's blog for a contact form or email.
- Direct message the person you want on Twitter.
- Request to connect with the person you want on LinkedIn.
- Try to contact the person you want on Google Plus
- Ask the other SE Radio Hosts if they know the person. Or if they know someone -- maybe a past show guest -- who knows the person
- Ask show alumni hosts. Some of the current show hosts know the former show hosts. Ask for help if you need it.
- Ask former guests that you personally spoke to.
- Ask the IEEE editor for the magazine.
- Walk up to the person you want at a conference and ask them in person.
- Open source projects have mailing list. Usually the committers all read the list. You can post to the mailing list asking for someone to appear on the show. The person you want might reply.
- Get introduced to the person you want through your personal network
- Contact the person through their book publisher. The publishers all have PR departments that handle requests for interviews.
- If the person will be speaking at an upcoming conference on the topic, then contact the conference organizers. They will often agree to set something up.

Can I have two (or more) Guests?

You may know more than one expert on your area and it might look appealing to have a wider discussion with more viewpoints.

Face to face this is not a problem, especially if each guest can speak into their own mic and you can record their own track. However, we have learned that episodes recorded over a two-channel Skype call with more than one guest recorded have had a combination of poor audio quality and/or difficult edits for reasons [explained later](#). The best example of this is the episode we did consisting of a [Gang of Four retrospective](#) (which in spite of audio quality problems was a historical opportunity and became a very popular episode).

If you can get each guest to record their own track on their end so you have one track per guest, that will overcome the Skype limitation.

There are ongoing changes in the technology for recording which may especially help with multi-person episodes. We tested a platform called PodClear, which recorded each participant on a call on their own computer through a web interface, and then merged the guests into a single multi-track .wav file. This platform no longer exists. A similar platform, Zencast, has been tested by some hosts and probably works ok. We don't have a lot of experience with it yet.

Show Policy on Conflict of Interest

[The show policy on conflict of interest](#) may impact your choice of guest. Please read the entire policy. You may choose a guest from your employer on a general software engineering topic. However, guests who also work for your current employer where the topic is a product that your employer sells are not allowed under the policy. Also, if the guest and host work at the same place, you must mention this in the episode.

Please disclose any other relationships that might appear to lead to a conflict of interest. We cannot have a rule to cover every conceivable case, so this is left up to the host. Please err on the side of caution. If, for example, you are interviewing your former manager who hired you at a job you had four years ago, or, someone at a vendor that your former employer had a business relationship with, then disclose that.

We live in a small world where everyone in our field is at most a few degrees of separation away from anyone else. Having a guest with whom you have, or had, a work connection of some kind does not show that you have poor ethics. If you disclose it up front, that demonstrates good ethics. If it comes out later and you had not disclosed it, that looks much worse.

Qualify the Guest

Ensure that the guest has sufficient English language skills. The podcast listener base is distributed over many countries on multiple continents where, in most cases, English is not the first language. Many of our guests and listeners speak English as a second language. The guest should have clear enough diction to be understood by a range of English language speakers. Some guests have declined to be on the show because they did not have strong enough spoken English skills. The host should also filter on this.

Media Kit/Cold Call Bullet Points

When emailing a guest that you do not know and who probably does not know the show, an intro letter describing the show may be helpful. Here are some points about the show that you can use in recruiting guests and [communicating with organizations](#). You may include these points in an introductory email describing the show:

The show is a great way for technology leaders to connect with the community:

- is in its 11th year with over 280 episodes;
- published three times monthly by [IEEE Software](#) magazine
- is downloaded in aggregate 190,000 times or more per month (including current and back catalog),
- each show reaching 30,000-40,000 within three months
- features thought leaders in the field (Eric Evans, David Heinemeier Hansson, Kent Beck, The Gang of Four, Rich Hickey, Michael Nygard, James Turnbull, Michael Stonebraker, Adrian Cockcroft, Martin Fowler, Martin Odersky, Eric Brewer,...)
- Recognition:
 - [named the #1 rated developer podcast](#) based on an aggregation of hacker news comments
 - #1 on [Developer Podcasts: Seven you should be Listening to](#)
 - The Simple Programmer has us on his [ultimate list of developer podcasts](#)
 - included in [11 podcasts that will make you a better software engineer](#)
 - was ranked #5 on the [Top 7 podcasts of 2016 for business minded programmers](#)
 - one of FreeCodeCamp's [5 Coding Podcasts to Enlighten your Commute](#)
 - among TechRepublic's [10 podcasts for programmers and budding developers](#)
 - #2 on FeedSpot's [Top 10 Software Engineering Blogs](#)
- a demographic survey we did a few years ago indicated that most of our listeners are software engineers with 5-10 years experience, architects, and technical managers.

Set Guest Expectations

Set the expectations of your guest so there are no surprises. You can cut and paste the following section into an email, or modify if you wish:

Dear <guest>,

In the podcast marketplace, audio quality has improved significantly over the last five years to the point where VOIP recordings are no longer competitive.

To ensure audio quality, plan to record your track on your computer – not a phone. Two channel recording on the source side is the single most important factor we can control that influences audio quality. Audio quality is a factor in the popularity of a show and one of the things that listeners care the most about.

On Windows, you can use Audacity, on a Mac – QuickTime. Try to approximate these settings:

- .wav or FLAC format
- 16-bit samples
- 44.1 kHz sampling rate
- 320 kbps bit rate

Please use a USB microphone plugged into the computer. Do not use a bluetooth device. If you don't have a mic or a headset with a mic, we request that you purchase one. They can be obtained for less than \$20

Other prep:

1. Send me a connection request on skype at <your-id>
2. Plan to locate yourself in a reasonably quiet area - though the occasional phone ringing or dog barking is not a problem.
3. The room should not be highly reflective. Carpets, rugs and furniture help soak up echo.

Sincerely,
<host>

Booking the Guest

After you have an agreement from a guest to do an episode, it can happen that the guest [does not respond to follow-up emails](#). To prevent one guest from blocking your progress on all of

your episodes, it is recommended to always have two or three ideas in development in parallel. While you are developing the episode, proceed with your research and your outlines assuming that the guest will eventually get back to you.

The reason for the guest not responding is usually overall workload at their job, work travel, family problems, a book publication deadline, or something like that. If you continue to follow up with the guest, in most cases they will eventually do the episode.

Working with Corporate Communications

Some organizations have an organizational layer to handle relations between their employees and the media. This would typically be called the Corporate Communications department, though it may have other names. In those situations, the guest will route you through the communications department to connect you with a gatekeeper. The gatekeeper's job is to ensure that everything that emanates from the guest is consistent with the organization's messaging strategy, to ensure that nothing happens that will reflect badly on the organization, and to prevent leakages of intellectual property and confidential information.

You will need to work with the corporate communications person to schedule the interview, and, they may require that someone from that department is present during recording of the interview as well.

Some other typical requests from corporate communications are:

- They want to know some general information about the show (send them the points in the [media kit](#)).
- They want to know in advance what topics you will cover.
- They ask to see the outline in advance.
- They ask you to agree in advance to avoid certain types of question or topics.
- To listen to the audio before it is published.
- To require that they sign off on the audio before we publish it.

We can work with this process. We have had episodes that have worked successfully with these departments. The host should consider whether you are willing to accept the additional overhead, and, it almost always takes longer to get these type of episodes scheduled and recorded than the ones where you are dealing directly with the guest.

Shows Get Blocked

About one out of every five episodes will get blocked. This usually happens when the guest stops responding. We do not always know why this is. In at least one case, it was because the host's emails were going to the spam folder in the guest's emails. If the guest stops responding, you can try to contact the guest through other channels such as LinkedIn messaging, Twitter

DM, or other social networks, or if you see the guest at a conference, or through your network if you know someone who knows the guest and whose emails are not going to spam.

We have learned from experience that it is not possible in all cases to unblock a blocked episode. In some cases we have heard through back channels that the guest was busy, had an illness or a family situation.

The host needs to decide how much effort to put into unblocking a blocked episode. There is a point where it is not worth it to try any more. At that point your options are:

- Try to find another guest on the same topic - if you have already developed the outline and like the topic.
- Re-use some of the outline in a different episode. This might require you to modify the topic slightly.
- Give up.
- Put the episode on hold and hope that you run into the guest at a conference.

For this reason I advise guests to always have two or three episodes in development. If one episode gets blocked, then you can work on the ones that are not blocked. I also advise guests to plan to do six episodes in a year because one will run into problems, so you still get five.

Audio Quality

The Importance of Audio Quality

Listeners care a lot about audio quality. Audio quality is an important factor in the popularity of an episode. Many of our listeners listen while exercising, on a bus, or in other environments with high background noise. They can only do this if the [noise floor](#) on the podcast is low enough that they can raise the volume on their device above the background noise.

Be sure and ask for help if you need it. For some general audio engineering guidelines, see the [audio quality document](#). For help with your specific set-up, ask the hosts to find out who is using a system similar to yours, and ask them to help you. Or ask the Computer Society's audio engineers for some help.

Recording Setup Best Practices

1. Hosts should ensure that both they and the guests record the interview from a quiet room with no fans, waterfalls, or air conditioner noises in the background.
2. Hosts should use a USB microphone plugged directly into their computer to record their own voices during the interview.
3. Both the host and guest should ensure that their computers are connected to the Internet via LAN lines not WiFi, as WiFi can cause distortion and digital artifacts to be added to the recording. Additionally, any microphones should be directly connected to

the computer instead of using WiFi for the same reason.

4. Adjust the recording levels as high as possible to do without clipping or distortion. This will produce the highest signal-to-noise ratio on the raw audio. Audio engineering generally cannot improve the signal-to-noise ratio and in some cases is prevented from doing otherwise useful edits because there is not enough headroom over the noise floor.

Audio Format

Hosts are free to use whatever combination of operating systems and audio gear they prefer, so long as it meets show standards. All episodes must be recorded in the following format (this is not a minimum - the audio engineering team has asked for this exactly).

- .wav or FLAC format
- 16-bit samples
- 44.1 kHz sampling rate
- 320 kbps bit rate
- one track per speaker (usually this means stereo with a host and a guest track, but if you have >1 guest, then you will have one track per guest)
- reasonably well-leveled between the two tracks (audio engineering will do a levelling pass at the end)
- host uses a minimum of a decent quality USB mic (not the computer's built-in mic)
- guest uses a decent quality mic, which they must purchase if they do not have one

If you do not know what this means, or you do not know how to configure your setup to this specification, then ask one of the other hosts or the Computer Society's audio engineers for help. Several of the hosts know a lot about audio.

While Recording Best Practices

While recording, these apply to the host and the guest. Please inform the guest of these best practices before you start.

1. Keep your face at the same distance from the mic - do not lean back and forward.
2. Speak at a constant volume. Some people have a habit of tailing off at the end of a sentence or otherwise varying the volume within their speech. This is difficult to correct for.
3. Both hosts and guests should refrain from typing, eating, shuffling or crinkling paper during the interview.
4. Do not both talk at once - this creates difficulties during the editing phase. Pause at least a fraction of a second after the guest has finished before asking a question.

Remote/Internet Interviews

Ask Guest to Record their Own Audio Track

A good quality audio source is a win-win for the show, the guest, and our listeners. Ask the guest if they are willing to record their own audio track. Tell the guest that this is the single factor under their control that will have the most impact on show quality and the number of listeners.

There are several ways to do this. They are listed here in decreasing order of ease and probability of success.

1. Software on the guest's computer.
 - a. Audacity works well on Windows (manual + settings: TBD)
 - b. QuickTime on MacOS (manual + settings: TBD)
2. Their mobile phone, if they have a high quality external mic with an adaptor
3. Stand-alone digital recording device, which most guests are not going to own.

When you each record your own track, you will submit two audio files to the media department. They will edit the episode and mix the two tracks into a single mono track. To help them synchronize the tracks, count together from one to five with the guest when you start recording.

Most episodes have one guest. We have found that episodes recorded over Skype with more than one guest tend to have poor audio quality because a) Skype quality degrades as more callers are added and b) Skype call recorders record two tracks, one for the caller and one for everyone else. This means that level or quality issues with each guest cannot be addressed individually during the audio engineering phase. For this reason, episodes with more than one guest are required to have each guest record their own track.

Alternative Recording Technologies

There are some alternatives to the guest side recording but none of them are ideal.

1. [Zencastr](#), a paid web service that will record both sides of the interview in a browser. This service has recently emerged from beta. Some of the hosts have tried this and some have had issues. When it stabilizes, we will feel more comfortable in recommending it as the single capture for your audio. For now, it is better to use this as a backup.
2. We have evaluated [Feen's lossless VOIP technology](#). The quality was quite good, but the guest would have to download and install software, and then enter the host's IP address and port. The host has to create a port forward on the network where they are recording. Feen itself does not offer call recording, but if you are enough of an audio geek, you could probably figure out how to capture the audio track.
3. This [document](#) lists some other software alternatives that have been used in the past. It is out of date as of Jan 2017.

In-Person Recording

The best audio quality can be achieved by recording face to face with professional audio gear. If you are an audio expert who owns all the necessary gear and knows how to produce top-quality audio in person, then do it your way.

Modern smart phones offer audio recording capability but not stereo without add-ons. The built-in mic quality is not adequate either. If you are recording face to face, an add-on stereo microphone with a smart phone adaptor (such as the [RØDE i-XY](#) for the iPhone) produces adequate two-track audio files.

Preparing for the Interview

Researching the Subject Matter

The host should not assume that the listener already knows a lot about the subject. Nor should the show consist of an expert-level discussion between two experts. A survey done around 2010 found that most of our audience is concentrated among software engineers with five or more years of experience -- that is who you are targeting. Each episode should provide an introduction to a new subject at a level that would be understood by a generalist software engineer.

In any media format, interviews by an unprepared host tend to be unfocused. We do not want to be that show. The host needs to know enough to ask relevant questions.

- If the guest has written a book, then read the book and ask questions about material from the book
- If you are doing an episode about something you are not already knowledgeable about, then read a book or some articles, blog posts, watch some lectures, try it out yourself, or otherwise learn some basics.
- Please check the [Computer Society's search engine](#) for content on their site related to your topic. If you find some paid content that is relevant, ask Brian to make it public, and, put it in the show notes.

When preparing, try look at the topic from in the position of the listener. What do you need to include in the episode so that, by the end the listener will know the basics about the area.

It is not necessary for the host be an expert on the topic. The guest's job is to be the expert. Whatever your level of expertise is in the subject, think of yourself as the representative of a person at the beginner level of knowledge. Don't be afraid to ask a "stupid" question or a basic question. It is not the host's job to appear as well informed as the guest; the host's job is to showcase the guest's expertise.

Diomidis Spinellis, the editor of *IEEE Software* magazine, has requested that we do some low-key product placement for the Computer Society's content. While you are doing your research for an episode, use [this link](#) to check for any relevant content on the Computer Society. If you find an article that is relevant to your topic, then a) include the links in the show notes and b) mention it on air, the same way you would mention a previous episode of the episode.

The search engine will return free and paid content. Diomidis has some flexibility to move content from the paid side to the free side if there is some especially relevant paid content. I am working to get us all access to the paid site.

Research the show archives for any past appearances by your guest, and any episodes on very closely related topics. Listen to any archived episodes on the same or closely related topics. Do this to avoid covering the same material from past episodes. You will also need the past appearances by your guest both for the show notes and the intro segment. Make a note of the episode number and title in your interview notes.

Researching the Guest

You can usually find a guest biography on the internet. If I can, then I put together a short bio and email it to the guest asking for edits. Often there are no edits. This reduces the number of things that the guest has to do. If you cannot find a bio, then ask the guest for a short bio. You will use this to introduce the guest.

The guest may provide a bio. Guest bios are often whimsical, witty, and contain metaphors and other tropes, like “was the chief cat herder for a startup”. Other times, they contain aspirations and life goals and philosophies, such as “tries to make the world a better place”. Translate the guest-provided into concrete facts such as “Was the CTO of...”, “Founded the company...”, “Held a position as a researcher at ...”.

Why Develop an Outline?

There are several purposes served by creating the outline:

- You know that you have enough material to fill the hour. This protects you against fear of running out of material and gives you confidence to move on to new topics.
- For the host to understand enough about the domain to know what they want to cover. Even though interviews inevitably go off-script, your map of the domain will help you know where you are.
- To think about the structure of the interview. I place a lot of emphasis on a clear structure and organization to the content. I believe that the structure of how information is presented helps the listener understand the organization of the material itself.

- To have a set of good questions. Though you will not use all of them, if you have more than you need, then you will not run out. This also removes any fear or stress about not knowing what to say when the guest finishes.

But in reality, shows never go according to the outline, for many reasons.

- Guests always give longer answers than what you think when you are developing the outline. I believe that there are two cognitive biases that occurs with hosts: we all think that the answers will be short and that we think we can predict what the answers will be. Your outline in most cases will have two to three times more material than you can use.
- Guests always go in a different direction than what you think. Even if your questions are based on the guest's own books or articles, their responses always contain ideas that you were not expecting.
- The guest's response often suggests a great follow-up question that is different than your next planned question. For example, "After we built the XYZ we found it did not perform as expected". The follow-up would be "Why not?" which is probably not what you had planned.
- Asking follow-on questions gives the interview a more spontaneous flow than asking a series of planned questions. That does not mean that you should always go for the flow and never ask a planned question. That depends on what you have already covered, what you want to cover, and how much you like the guest's ideas compared to what you had planned. The best interviews have a good balance between flow and planned material.
- The guest's answer often suggests a follow on question that you planned to use, but later on in the show. It is often a good move to go for the follow on at the time that the guest presents it because that gives you the best of both - it incorporates your planned material, and, it flows from the guest's response. However, it breaks the sequencing of material. I have found it not uncommon that using this approach I end up using most of my best planned material, but out of the order that I had planned.

In spite of the difference between the outline and how the show goes, the outline will help you out in many ways:

- When you go off-script, you have some good options about when and where to get back on script.
- If the follow-on questions are not that interesting, or less interesting than what you have planned, then you can stick with your quality planned material.
- Your knowledge of the domain helps you understand the guest's answers and to have a decent idea before you ask a question of where it will go.

Creating the Outline for the Interview

Overview

The following sections describe how to create your outline.

Workflow

Here is the workflow for your outline:

1. Put your outline in a google doc and share with “can edit” authorization to seradio@googlegroups.com. In the message of the share window, indicate that you are requesting comments, your planned record date, and the date when you want comments. Ensure that you leave at least one week for comments and revisions.
2. The other hosts can go on the google doc and Insert > Comments.
3. Using feedback from the other hosts, revise your questions.

Goals

Create a section at the start of your outline called *Goals*. Why did you choose this topic and guest? What value will it bring to the listeners? List two or three bullet points or sentences explaining what you hope to bring to the listener by recording this particular topic and guest.

You will not read this section live. This is to help you understand how to prioritize your material when you have to make choices about what to leave in and what to omit. You may come back and write this section after you have done some outlining where the value of the different material is more clear in your mind.

Before you conduct the interview, review your goals. Prioritize the main points you want to cover. Assign lower priorities to the things you will get to if you have time. You may want to annotate your outline to remind you of your priorities, or print out a copy and write on it.

Structure of the Outline

The rest of your outline will look something like this.

1. Introduce guest and bio [2-3 minutes]
2. Big picture about the topic.
3. Four to six sub-topics with drill down into depth. You can have more topics in the outline and then decide later which ones to focus on during the interview.
4. Wrap up.

Should you show your outline to the guest?

If the guest requests to see the outline, then yes. If the communications or PR department at the guest's employer asks to see the outline, then yes. Otherwise, we do not generally share the questions mainly because guests are very busy and this creates more steps in the process, and because the guest is on the show because of being an expert on their subject area, so they should not have to prepare or think about the questions a lot in advance. We are usually asking them about topics that they are very practiced in speaking about.

Some guests ask to see the questions in advance but most do not. If the guest requests your questions in advance, please accommodate the guest's request.

If you do share the outline, then make it clear that the outline is more of an estimation of where the episode will go than a script.

To share the outline, do not add external users to the Google doc. Use the File > Email as Attachment > PDF function in Google docs.

Questions that go into the Outline

Aim the Show at the Right Level

We aim the show at a listening audience of an experienced well-rounded generalist software engineer with several years of work experience, who happens to know very little about the specific subject of your show. I have had people tell me that they started listening during college and found the show too advanced -- and that is about right. You can assume that the listener not only knows how to program but has been exposed to the basic concepts of computer science.

If you are an expert on the area of your show, do not assume that the listener knows as much. Assuming too much on the part of the listener can take any of the following forms:

- Referring to specialized concepts within the subject matter that only those in the field understand
- Overuse of terminology and acronyms from the niche area.
- Asking a question where the question cannot be understood without specialized background in the field.
- Asking questions that two experts would care about but the listener who is new to the subject would not.

Some techniques for bringing the listener up to speed are:

1. Start out with basic questions and progress to more advanced questions.
2. Build up to complex questions with building block questions that introduced the concepts before you combine them into a single question. For "What is the impact of the ABC library on the development of XYZ modules to address the PQR problem" with a series building block questions about ABC, XYZ, and PQR.
3. If the guest mentions a concept or term that you have not set up, then interrupt, or wait for the guest to complete, and ask the guest to define the term.
4. If you know what the term or acronym means, and it is short, then explain it briefly before moving on to the next thing. (Keep in mind that some terms or concepts that seem very simple and quick to define are often more complex and giving the guest the chance to explain can surface some subtleties).

Ask, Don't Tell

Some questions require a level-set of knowledge in order to understand the question. As host do not start out with a paragraph of information that you expect the guest to know to set up your question. Instead, try to get the guest to supply you with the background through a series of building block questions that introduce the material.

Yes/No Questions

These can work. Sometimes they don't. Often if you ask the question in a yes/no format the guest will understand the point and say something more general.

When you are preparing the outline, think about what you really want to know from the guest. Stepping back a bit in your thinking to a slightly higher level of overview, and making the question more general will help. For example, rather than, "It looks like the system was designed for ease of use, is that right?", "What were the design goals of the system is more general."

Start with a News Story

For some topics we have had good results leading with a news headline. You won't do this every time but it can work where it fits. This technique can work for infrastructure topics - where high profile outages occur, security (hacks) and other areas where a seemingly small failure can lead to large economic consequences. The example motivates the importance of the technical issues that you cover in the show. For example the show about tail latency opened with a new story about how large web services were losing over [one billion dollars](#) due to excessive tail latency.

Start with the Lead

Someone once described to me the way that newspaper writers are trained to write a story. The first paragraph should tell the entire story at a very high level. Then the next few paragraphs should tell the story again, but at a more detailed level. Then the following one to two pages should tell the story in detail. This might better be called a fractal.

Start out at a high level. Try to cover the basic "what is" and "why" in the first five minutes. The listener should get a rough idea of where the episode is going within five minutes. Then circle back around and drill down in more detail.

Handling Controversial Issues

It is ok to ask some difficult questions about controversial topics. Pose the question. Let the guest respond. Do not debate the guest. Let the guest have the last word - they are the expert. Your job is to ask the question. Maybe the guest adequately addressed the question, maybe, not. Let the listeners decide.

The best way to approach a controversial area is do not challenge the guest directly. Do not ask the question in such a way that it sounds like the host is expecting a specific response. Acknowledge the controversy, but distance yourself from the issue. For example, "There has been a lot of controversy about the paired programming. Some have charged that the it is too costly and does provide benefits. What is your view on that?"

It is ok to push back on the guest if they say something that is likely to be controversial. If you find yourself thinking, "How could <guest> have said that ... I can think of five reasons why that is wrong" then probably some of your listeners are thinking the same thing.

Some techniques for framing controversial issues to distance yourself a bit make them sound less like you are challenging the guest are:

1. Would it be fair to say <X>?
2. Some <famous person> has taken a contrary view on this issue <explain the view>. What are your thoughts about that?
3. [Give very simple and naive explanation of the issue in your own words], then, "Why is it not so simple as that?"

Great Depth Questions

Some questions that you can draw from as appropriate that often provide an insight into the material are listed below:

1. What problem does <X> solve?
2. You have described <X> as <summary>. Can you explain that in more detail?
3. You described <X> as having three parts. Can you explain what each part does?
4. Why is <X> becoming important right now?
 - a. How did people accomplish <what X does> before <X>?
 - b. How do people accomplish <what X does> right now (this one assumes they don't use <X>)
 - c. Are there other (software/hardware/the world) made <X> more relevant?
 - d. Has <X> become increasingly relevant because it has been adopted by other technologies?
5. What are the performance characteristics of <X>? Focussing on whatever is important about <X> which might be:
 - a. Low latency
 - b. High throughput
 - c. Large at-rest data size
6. Security issues around <X>: authentication, authorization, privacy, provenance, etc.
7. History
 - a. What other systems/languages influenced the design of <X>?
 - b. How did <X> come about?

8. Evaluations

- a. What did you learn from the experience?
- b. What do you wish you knew when you started?
- c. What is one thing that you would you do differently now?
- d. What is the most successful aspect of <X>?
- e. What was the least successful aspect of <X>?

9. Future

- a. If <X> becomes widely adopted, what could be different in five years?
- b. How do you see <X> developing over the next five years?

10. Management

- a. What is involved in managing <X>?
- b. Does <X> require specific domain expertise to use or manage?

11. Adoption

- a. When is using <X> not appropriate?
- b. Are there trade-offs to <X> that we should be aware of?
- c. What is a common stumbling block people experience when adopting <X>?
- d. Is there a community around <X> where people can get help?

12. Team

- a. How does <X> affect the structure of the team?
- b. How does using <X> impact a team's development process?

Condense Your Outline

In order to understand the domain, you will do a lot of research. The outline may run one to two pages and have 20+ questions. That is more than you can cover in an hour but it is ok to have more material in the outline than what there is room for in the episode. That is where this next phase comes into effect: condensing the out.

In a typical episode, you can cover about four to six main points. After you have finished your outline, then think about what are the five most important areas you want to be sure to cover in the interview. Make a separate list or add some notes on your outline. You will use this list of five topics to guide the time management during the interview. If you cover all of those things and still have more time, then you have your longer outline to fall back on. Usually this does not happen.

Conducting the Interview

The Host is a Facilitator

The episode is about the guest -- not about the host. The host's job includes the following:

- The host's job is to put the guest in a position to share his or her expertise on the topic with the listeners.

- The host manages the time budget of the interview so that everything that is necessary happens within 60 minutes. There are about 15 things that have to happen within the hour. More on this below.

The host should sound more like an attentive and curious student. The host should not come across as trying to demonstrate that they know as much or more than the guest about the topic. I encourage the host to feel no embarrassment over not knowing something that the guest knows. It is ok for the host to not know something. It is the guest's job to know everything. You can also fall back on the time-tested, "The listeners might like you to explain what X is," which provides plausible deniability to you as the host that you do know what X is.

The Host is an Advocate for the Listeners

The represents the viewpoint of the listening audience. The host has more knowledge than the listener and has access to the guest, which the listener does not. The host directs the guest toward material that the audience will find interesting and away from material that the audience will not care about.

A lot of this happens during the preparation period. That is where the goals and prioritization before the show comes in.

During the show the host represents the listeners in various ways:

- Asking for clarification of things that were not explained well, or, are complicated.
- Asking the guest for verification that the host understood the point correctly.
- Prompting for, or providing examples in cases where the host did not provide an example.

Time Management

The format is a one-hour episode but it can run over. If it goes at least 45 minutes that is enough, and there is no need to cut material if you go 1:05 or 1:10.

You can record up to about 70 minutes if there are do-overs or out-of-band meta discussions that will be cut. It is hard to know while you are recording how much material you will have to cut. If you record 75 minutes and have to cut the 10 least interesting minutes, that is better than recording 60 and ending up with 45 usable minutes.

Time management is very important in getting the episode to come out the way that you want it. There is an art to this, and you will get better at it as you do more. The art is to balance out your material over the time you have so that you cover a range of things without spending too much or too little time on any one topic.

Management of your time requires making choices about what are the most important things to cover, fitting those things into the time that you have and deciding what can be left out. Some of

the best films cut significant scenes during editing in order to improve the story flow. Think, for example, about the film director Peter Jackson's [over-long](#) epic movies. Two hours may be worse than one hour because it requires twice the investment of time for the listener, and they may in the end get the same amount of information.

The episode has about 10 minutes of structure at the start and 5 minutes at the end. That's the easy, and less creative, part. The part where you, the host, have the most impact in shaping the result that you want is in the middle 45 minutes.

Keep the Show Moving Along from Topic to Topic

You have prepared your outline and [condensed it](#) to the five most important areas. This section discusses how you will ensure that you cover those areas in the time you have.

Guests tend to follow [Newton's First Law of Motion](#). They will continue to talk about the same thing until the host changes the topic. If the guest is providing good material, let them keep going for a while. You can encourage them by asking follow-up questions and drilling down into more detail.

But there will come a point when, if you are going to cover three to five topics in 45 minutes, you as the host might need to change the subject. Sometimes this is not true: the guest will arrive at what is clearly a full stop. If that happens, then that is a good time to change topics and it sounds very natural, but if that does not happen, then it is up to the host to stop one topic and introduce a new one.

If you want to move on to a new sub-topic, then let the guest finish what they are saying, and go to a different topic. You can use a bridge such as,

- That is very interesting, but now I want to ask you about ...
- In the interest of time, I want to move on to ...
- If the guest had mentioned a topic that you planned to ask about, then "Earlier in the show ago, you mentioned <X>. I would like ask you something about that"
- We have been talking about <X> for a while, now, and I would like to move on to <Y>.

When you switch topics, you can go in the order that you had in your outline, or go out of order if something seems more relevant to what the guest just said, or maybe go to a topic that came up during the interview that was not part of your plan but seems more interesting than what you had in your outline. Do not feel that you must stick to your plan if the interview flows in an interesting direction. The flow from one topic to the next can be more seamless if it sounds like you are going from one related thing to another related thing rather than totally changing the subject -- which can be ok as well.

A Podcast is not a Normal Conversation

The best podcasts achieve a balance between structure and sounding spontaneous. Even the podcasts that find the best balance do this with a lot of art and technique to create the sense of flow and spontaneity. The following techniques have been developed to get the best content and to help the listener take in the content. Adopt these as you think best during the interview. At some point you will have mastered these techniques and you will be in a flow and not have to think about it as much.

The planning process ensures that we pack sixty minutes of material into a sixty-minute show and to make that material accessible. It also ensures that the host gets the content as he or she wants in the final cut. Without the preparation you have done, and the use of these techniques, interviews will have less content and sound too unstructured, or if you don't use enough of the repetition techniques, then too complex.

Use the Outline

The outline is there to give you something to fall back on, and to help you focus on your best ideas for the episode. You may have an idea of how to sequence the topics in what seems to you a logical order. Do not expect that the episode will follow the outline. The recording will never go according to the outline for many reasons:

- The guest will answer what you had planned as multiple questions in one response
- The guest answers in such a way that it leads into another question you had planned for later on but you choose to go ahead to that question because you have a nice transition
- The guest says something interesting that leads to some unscripted follow-up questions.

This is natural. You may choose to ask questions that were not on the outline if you come up with something better while doing the interview. This often happens if the guest says something interesting that you had not thought of. If you devote a chunk of time to unscripted material, you will probably have to give up some scripted material, but you will have a better end result if you like the unscripted idea better than what you had planned. It is also true, though, that if you deviate from planned material for a few minutes, you may want to cut that off and come back to the outline.

Keep the outline open near you in print or whatever format you prefer so you can cross off items as they are covered. Because the interview does not always go in the order that was planned, you will be crossing off items from the middle and later in the outline. By doing this you can see at all times the non-crossed items are the unused questions.

Flow versus Planned

You go into the recording with a plan based on your outline. But shows never go as planned, which I discussed [above](#). During the show you will have many chances to make the decision of

going with the direction the guest is going with a follow-up, sticking to your planned material, or a mix of the two. You often end up using your planned material but not in the same order that you planned.

Do not think that you must stick with your planned material. The outline helps you prepare to do a good show, but when you are recording the show, do not stick to the outline if something better comes along. Sticking to the outline no matter what the guest says results in a lot of great opportunities for follow-up questions being dropped. The interview ends up sounding robotic and gives the impression that the host is not listening to the guest.

You need not always follow the guest, either. The guest may continue down a particular direction that would end up taking too much time out of the show. There are points where the best move is cut off a series of follow-on questions with [a transition](#) back to a planned topic.

Start Strong

The listener should get an idea within the first minute or two what the episode is going to be about. Start out with a basic question that introduces the topic. Don't spend time on anecdotes or side stories.

This point is based on Malcolm Gladwell's book Blink and my personal experience. I believe that people make a go/no-go decision within the first few minutes of piece of content. I have found that if I am bored in the first one minute of a movie that I tend to be bored by the entire movie.

The Importance of Listening to the Guest

It is important to listen to the guest very carefully. This is important for several reasons.

1. If you don't understand something, you should interrupt (or wait) and ask a clarifying question. If you are listening carefully and you did not understand, then probably many of your listeners will not understand either and will have thought of the same question.
2. So that you can track which questions in your outline the host has answered without you asking, so you won't ask those questions.
3. To get ideas for follow-up questions.

If the host is not tracking the guest it will be evident to listeners.

Transitions

Sometimes one topic naturally flows into the next topic. But not all transitions have to be natural. It is ok to move to an unrelated topic with a bridge like:

- This has been a great discussion about X, but now I want to talk about Y.
- In the interest of time, I want to move on to some questions about X.
- We only have a few minutes left so I want to get your views on X.

Or, you can move on without a bridge by asking the next question. If you do all of your transitions without bridges it can sound a bit like a robotic host who is reading a pre-planned list of questions. But a mix of bridges and non-bridges works.

Maintaining Balance Between Host and Guest

Our final content is mostly the guest talking. This does not mean that the host's content is not important. The host is in charge of the structure of the show and the rhythm. It is important to maintain the back-and-forth pattern of the conversation. If the host likes where the guest is going, the host can always ask a follow-up question that keeps the guest going in the same direction.

What, exactly, is "too long" is largely a matter of feel; some lengthy responses do not come across as over-long. You can always give additional feedback during the interview if you want more, or less, from the guest. If the guest finishes answering the original question, implicitly asks himself, another question, and then starts to answer that, then that is good time to interrupt and ask another question. It might be the same thing that the guest was about to talk about, or something on your agenda.

Advise the guest up front that, even though the guest will be doing most of the talking, the show is intended to be a two-way conversation. Tell the guest not to let his responses go on for "too long" without stopping. The guest might not have the same idea as you do about what is too long, so if that is the case, then you need to communicate this to the guest. Either tell the guest after they finish that the response was too long and keep going. It is ok to have a mix of longer and shorter responses in the show. One long response will not ruin the show. If this happens more than once, then do not let it go on. In that case, interrupt the guest and give them feedback for what felt about right and where the response became too long.

Meta-Interruptions to Give the Guest Out-of-Band Feedback

You will encounter situations where the interview is not going exactly the way you want. Examples of this are:

- the guest provides responses that you perceive as too long, without giving you the chance to ask another question or to break up the flow
- The guest is not listening carefully to your questions and starts responding before you have finished asking the question
- The guest answers your question and then starts on another topic.
- The guest is not answering your questions and seems to have his or her own agenda for where the show should go.

If you allow any of these things to happen more than once or twice, then you risk losing control of the interview. You will never be totally in control of the interview, nor should you aspire to that because a conversation with another person is a spontaneous thing which cannot be totally

planned. If everything could be planned there would be no need to do a show like this. Often you get a final result that is better than what you set out to do because of the unplanned elements.

However, you need to be sufficiently in control to shape the structure of the show, to get the result you were aiming for, or, something at least as good as what you started out thinking. If you do not make this happen, then you may end up with a recorded free-form show on whatever the guest felt like talking about.

If you sense that the show is going off track, you may have to interrupt the guest for any of the above reasons, in order to get the show back on track the way you want. This type of feedback is not a natural part of a conversation for some hosts, because, in some contexts it is considered rude to interrupt. It is not normal in a conversation for one party to pause the conversation to tell the other one that to participate in the conversation differently. If it helps, [remember that a podcast is not a normal conversation](#).

Stop the guest, explain what is happening that is different than what you want, and restart. Ask the same question again where it didn't work and try to get a different result. These requirements have been developed and honed over years of podcast publishing. We have a good idea what works for our show and how to produce it. This process is not a criticism or a judgement of the guest. It is the host and guest communicating about what the host wants to help get the best result for the podcast. Once in a great while (or maybe never) you will have a guest who does not want to participate in this process or whose communication style does not fit our format. In the worst case, if you are not able to fix it, then you will [not be able to publish the show](#).

Paraphrase What the Guest Just Said

We have learned from experience that, after the guest explains something (especially if it is very complex and deeply technical) that it improves the listener experience if the host summarizes what the guest said before going on to the next thing.

There are three parts to this:

1. Set up what you are going to do:
 - a. "If I understood you correctly, then what you are saying is..."
 - b. "I think that I got that. Let me explain and tell me if I got it right"
 - c. "Your main point here is that..."
 - d. "What I hear you saying is ..."
2. A condensed summary of the guest's core points.
3. A follow up request for confirmation or correction:
 - a. "Did I understand correctly?"
 - b. "Did I get that right?"
 - c. "Is that what you meant?"

These request at the end invites the guest to correct you if you did not exactly get it right. Even if you missed a point or get something wrong, that is very instructive because it gives the guest the opportunity to correct you. If the host did not get the point exactly right, then probably many listeners did not either. Going through the process of clarification will help the listeners understand what might have been a subtle point. However, the final request for clarification may not be necessary because the guest will hear the summary as an implied question.

It is not necessary to do this with every statement the guest makes. Some things are easy enough to understand, and sometimes you just need to go with what the guest said in order to move on. If you have covered all of the basics and are getting into advanced points near the end of the time period, that might not be a good time to do this because it does take time.

We have a range of listeners, and some points may only be accessible to the more advanced listeners. It is a matter of judgement where this technique is best applied, but you probably will use it at least four or five times within a one hour episode.

We have had guests who end their questions with a question for the host like “Did that make sense”. If the host says “yes” that becomes not very interesting content. The host can use those questions as an invitation to summarize what the guest said and condense it. We can also cut those out during editing if they become repetitive.

The Guest Asks you a Question

Sometimes the guest will ask you a question, usually something like “Did what I said just make sense?”, or “Was that clear?”. If you say “Yes” it becomes a private conversation between you and the guest. The more important question is whether the listener understood.

If the guest asks you this kind of question, follow up with “Yes, I think I got it” and use one of the paraphrase techniques, like “If I understood what you said ...” and ask the guest to confirm, or correct you. Or in some cases the answer might be “I’m not sure, did you mean...”, if you did not entirely understand what the guest said. This is a response to the guest’s question that gives the listener the benefit of your interpretation of what the guest said.

Ask the Guest to Define Terms

If the guest uses terms that have not been defined, acronyms or other points that assume a more expert level familiarity with the domain than what you are expecting of the listener, then ask the guest to define those points. In some cases it is worth interrupting the guest to get a definition so that the rest of what the guest says will make sense.

As the host you have prepared on this topic, read about it, thought about it, and will know more about it than the listeners. The listener is listening to learn something new. Often when the guest refers to a term or concept that you did not define, you can figure out what the guest

meant from context. Keep in mind that you probably know more about the topic than the listener. Your job is to help the host communicate with the listener at the level you are aiming for. Often something that you know, the listener does not know.

Ask for Clarification of Difficult or Confusing Points

If you did not understand something, then probably some of the listeners will not understand it either. If the guest's answer was unclear, relied on unstated assumptions or undefined terms, or you are dealing with a complex issue that is difficult to understand, then don't hesitate to say that something was not clear and ask for clarification.

It works very well to combine this with the [summarization technique](#) to explain the parts that you did understand while highlighting the points that you are having difficulty getting. You can frame it with one of the frames described above, like:

- "What I understand from your explanation is" ...
- "however, I am getting stuck on the part about " ...
- "can you explain why/how/what <the particular point"

Getting the Level Right

We aim the show at a generalist software engineer with about five years work experience who doesn't know much if anything about the topic of your show. In some cases the guest is aiming at a higher level of domain knowledge or assumes more background on the part of the listener.

- Before you start, tell the guest what level to aim the response at.

There are several other ways to get the level you want in the recording:

- This may indicate that you are coming into a question without enough stepping stones and building blocks. Try backing up and asking some building block questions, then try the same question again. If you do this let the guest know that this is a form of re-do because you will get to the same question again.
- If the answers to the first one or two questions are aimed too high, then tell the guest that their answers are at too advanced level. One way to phrase this is (using the US system), "That answer came in around an 8th-grade level of background, can you aim at about 6th grade level of background?"
- Note down the terms or concepts the guest assumed to be familiar to the listener, and ask follow-up questions to clarify each one.

Mix Abstraction with Examples

Different people have different learning styles. Some proceed from abstraction to the concrete cases, while others synthesize the the examples to get to the abstraction. Most of us probably do a combination of both at different times.

An episode will always contain some conceptual material. This is part of what makes the content valuable for years after an episode is recorded. But beware the danger of all concept/no examples. We have had some episodes in which the entire discussion was at a very abstract level. At the end it is hard for many listeners to understand what that episode was about.

Examples bring the concepts alive. If the conversation covers the abstraction of a conceptual view, then either ask the guest for an example, or provide an example and ask the guest to comment.

You can introduce examples with a question like:

- “Can you give a situation where that would be used in practice?”
- “What are some of the main use cases for that in practice?”
- “Is that feature similar to the X feature in the Y language? “

You can also come up with your own example and try that out. Ask the guest if the example is a valid example of the point:

- “Would an example of this be when I am making copies of a foobar and I want to improve the alignment of the framiss without introducing an additional bogon? “

Another source of examples is your own experience. If you have used the technology, or

Asking Multiple Questions at Once

If you ask multiple questions at once, usually you will only get an answer to one of them, unless you keep asking the other ones until you have the answer to all of them. Some hosts use this as a technique. They are in effect offering the guest multiple questions and letting the guest choose which one to offer (without saying as much). This can work as a technique, if you are happy with getting the answer to any one of them.

The author did an episode about logging in which he asked four questions at once:

1. Who are the producers of logs?
2. Who are the consumers of logs?
3. What is the content of log records?
4. For what purpose are logs created?

I thought that these questions were so closely related that I needed to ask them all at once and get an answer to all of them at once. The way I handled this was to say in the interview, “I am going to ask you four questions at once”, and then I kept track of which ones the guest had answered until he had covered all four of them.

Interrupting with a Question

Some hosts interrupt the guest during a response to comment or ask a different question. I have not had good results with this. Usually the guest is not expecting it so they don't stop talking. This creates a situation where two people are talking at once, which is usually ok for in-person conversations but does not work well for a podcast. Also the guest often does not hear the question because they were talking so it takes the guest out of their flow. Often the conversation falls flat at that point, and I have to restart it by asking another question.

However, I have heard this work for some combinations of hosts and guests. If this works for you, then go ahead. It does create a more spontaneous flow to the conversation. You might have better success with this in face-to-face interviews where the guest can see by your body language that you are about to say something.

Asking Questions by Making a Statement

I often make a statement, or [statement-with-a-rising-inflection](#) which is intended to be understood as a question, or a talking point in which I express my opinion, expecting the guest to respond. Sometimes this works. The guest continues by incorporating my point into the next round of the conversation. Other times, the guest does not understand what I said was meant to be a question or invite a response. If that happens, then I ask a question and cut my statement from the final. As with interrupting the guest to ask a question, if this works for you then go ahead and use it. If you try it and it doesn't work, then ask a more explicit question and go on.

The same principle applies to yes/no questions. If all you get back is a "yes" or a "no" that is not great content but often the guest understands it as an invitation to speak more broadly about the topic.

The Catch-All Question

If you have time near the end, or you may leave time, ask the guest "Is there anything else I should have asked you?". This often leads to a short discussion that will surface usually one more question. Then ask that question. Cut the side discussion from the final version of the episode so the question sounds like you thought of it.

Mention the Show Notes

When the guest refers to any form of content (a book, research paper, talk that is online), at the next point where the host has an opening to speak, the host should say "We will link to that in the show notes". Make a note of this, or make a note later when you are doing the edits.

When you are putting together the show notes, include all of the things that you promised to have in the show notes. Try to find the reference on your own, but in some cases, you will have

to ask the guest for the link if the guest has many publications. Even if the content is not linkable (e.g. a book that is not free online) then link to the publisher's page or a page on Amazon.

Speaking During the Interview

Spoken English Best Practices

The show's listener base is international. A significant fraction of our listeners and hosts are not native English speakers and are not necessarily familiar with American English idioms and figures of speech. If you are one of the show hosts who grew up in the United States, do not rely on sports metaphors, idioms, and other culturally specific figures of speech that make your points more difficult for some listeners to understand. American English is saturated with terms like this and it is easy to use them without knowing you are doing it. Jokes often do not work, for similar reasons.

Filler Words

Filler words are "um", "err", "like", "y'know". Starting sentences with "So, " is another one. The meaningless "actually" and "basically" function as fillers and in nearly all cases add no information or clarity. "Somewhat" is another vague adjective. Any term that you overuse will function as a filler word.

A few ums and errs are not a problem but more than a few are a problem. One instance of "actually" per episode is not going to ruin your show. Overuse becomes annoying for the listener. These can be edited out but it's time consuming to do so. If you catch yourself after you have used fillers, you can re-do the question.

If the guest over-uses filler words that is more difficult. You can address this with the guest, but this is a touchy subject. It is likely that the guest who has a habit of using filler words will not be able to turn this off easily after being asked to do so. I have found this to be a difficult thing to retrain in myself and has taken years. I still have to redo several questions per episode that I start with "So ...". If the guest over-uses filler words to an extent you find distracting, then you may not be able to use the recorded content.

Your Pace of Speaking

[This section is more speculative - we are not yet sure what the best practices are].

There may be an optimal pace of speaking. I am not sure about this yet. When I listen to my shows it sounds to me like I speak too slowly unless I am paying attention to this. I like the results better when I force myself to go at a rate that feels about 10-15% too fast. This is not a natural pace for me so I have to be conscious of it at all times otherwise I go back to my natural (slow) pace. But I do notice a big difference and I it sounds better to me when I push myself a bit to go faster than what feels comfortable for me. I have asked other people about this who have told me they don't notice a difference. I'm not sure if this is because the issue is so

subjective, or the difference is so small that no one else would notice, or maybe the listener would like the show more one way or the other but they can't identify the reason.

Some hosts, when they listen to their shows, believe that they are going too fast. We are doing some experiments with speech pacing to try to get a better idea about this, if we can offer any guidelines.

I have noticed when I edit show transcripts that people say about 30-40% more words than necessary in spoken English. The extra words are mostly repetitive, false starts and restarts, filler words, And most podcast players have a button where you can speed up by 1.5x or 2x. This makes me wonder whether the brain gets under-stimulated if the rate of information is too slow, and people want to saturate some kind of input processing channel.

A contrary view is that we have a lot of listeners outside of the countries where English is the primary language. In those countries many of our listeners will not be native speakers of English and speaking faster might make it more difficult for people to follow.

These ideas would all suggest that faster is better (up to a point) than slow, but it is all speculation. I don't have any hard evidence.

Clean Breaks between Host and Guest

Two people talking at once does not work well in a podcast because it is hard for the listener to sort out who is saying what. Small collisions are not a problem but most of the time try to have a clean break of at least 250ms during transitions between host and guest. This will help the editors as well. If the guest starts to answer before you have finished the question, then stop the guest, tell the guest that you did not get a clean break on that one, and record a redo of the question.

Preparing to Record

Last-Minute Preparations

Go through this [excellent pre-flight checklist](#) that will remind you how to avoid many potential problems.

- Do a QA of the recording software/hardware to ensure that the levels are correct and that you are recording everything that you plan to record.
- Do a sound check of your gear alone, then one with the guest. This is to avoid recording an episode that turns out to have not been recorded at all or to be unusable.
- Silence your mobile phone, turn off the speakers on any computers you have, and otherwise silence anything that will produce audible beeps and alerts during recording.

Prepare the Guest

Before you start recording, set some expectations with the guest to help them understand the process and to avoid as much as possible having to interrupt the interview.

1. Give the guest an overview of how the hour will go (see [below](#)). Be especially sure to tell the guest that you will ask them about their (book/product/blog/upcoming conference appearance) at the end, so they do not have to worry about this.
2. Tell the guest that the show is recorded and edited, so they can have do-overs, delete things that don't work, and otherwise influence the final cut.
3. Inform the guest of the [recording best practices](#):
 - a. Keep their head a constant distance from the mic
 - b. Do not rustle papers.
 - c. Turn off mobile phone
 - d. Try to speak at a constant volume level.
4. Inquire if the guest has a hard deadline so that you will be able to wrap up the interview without running over.
5. As much as possible, the guest should shut down any other software on their device other than the recording or VOIP software.
 - a. Some software such as Skype is very chatty. If you are using Skype, the host and guest should configure their Skype client to prevent incoming calls and turn off all notifications that make a noise.
6. Before you start recording, comply with any laws you are subject to regarding recorded conversations.

Compliance with Laws Regarding Recorded Conversations

This section applies to episodes that are recorded over a telephony type technology. Many legal jurisdictions have [laws regarding recorded phone conversations](#). The laws may also apply based on where the guest is situated, which in our case is often in a different legal jurisdiction than the host. A common rule in many jurisdictions is that the participants must be informed, or consent for the recording of a call to be legal. Check the exact regulations based on where you live and based on where the guest lives. Please ensure that you follow the rules.

It is not clear whether these laws apply to Skype or VOIP but to be on the safe side, assume that whatever restrictions apply to phone apply equally as strictly to Skype. The most conservative practice here would be to state that the call is being recorded and to ask for the guest's consent. That should cover nearly all cases.

Remain Calm

It is natural to feel nervous when you start doing shows. Everyone goes through this. It will get better with experience. Preparing in advance will help with this to some extent but you will be

nervous at first and then less so over time as you get better at it. Your perception of time can expand or contract during the hour. At times you may be worried about running out of material, and other times feel like you won't have enough time to cover everything. Try to relax, use whatever stress management techniques work for you, look at the clock, and look at your notes to get an idea where you are and how much time you have left.

How to Divide up the Time

Record more than you need

Most episodes have some do-overs and side discussions, some more than others that will not make into the final cut. It is difficult to keep track of how much time has been spent on side discussions that won't be published. It can add up to a lot if the guest spends two minutes answering a question, you have audio problems, you restart the question, and the guest answers it again, that can be five minutes. If that happens two or three times, it adds up. Some times during editing you will decide that one question did not go very well and that you don't want to use it in the final. That is another reason for recording a bit more than you need.

It is recommended to record more than an hour so that you will have an hour of content that you can use. Up to a 75 minutes is not going to be too much, if you have five minutes of side discussions.

Milestones in the Hour

This section describes how to use the time. It is recommended to print this out, keep it in front of you during the interview, and check items off as you go along so you don't forget anything.

1. Introduce yourself: *"Hello this is <you> for Software Engineering Radio"*
2. Introduce your guest:
 - a. *"Today I have with me <guest>."*
 - b. Speak about the guest's bio. Cover three or four high points. Keep it to about three sentences or less, unless the guest is a major luminary then you may go up to four sentences. It's ok to omit some things if the guest has accomplished a lot.
 - c. State the topic of the episode. *"I will be talking with <guest> about <topic>".*
3. Welcome the guest to the show: *"<guest> welcome to Software Engineering Radio"*. (If the guest appeared on any past shows, then say "Welcome back to Software Engineering Radio" and then mention all of the past *show numbers and topics* of that guest.)
4. If the guest and the host are employed by the same employer, disclose that. If you have any other disclosures, such as past business relationships with the guest, then makes those here.
5. Call to action here (or later, or both)
6. If the show has done any past episodes on very closely related topics, mention the episode numbers and topics of those episodes. If there were past episodes that are related but not very closely related, save those for the episode notes.

7. Ask the guest to share any additional information about himself or herself. The guest-provided or internet biographies are often out of date.
8. The first question or two should be very high level, like:
 - a. *what is <topic>?*
 - b. *what problem does <topic> solve?*
 - c. *what problems does the industry/developers face that drove this solution?*
 - d. *what is the history of this topic?*
 - e. it may be appropriate to provide some background, like “before we discuss <topic> tell us about the N-1 generation of solutions in this area”
9. Cover the topic by asking the guest questions from your prepared list, and other interesting ideas you have as the episode goes on.
 - a. Keep in mind the time. You have about 45-50 minutes to cover four to six main sub-areas.
 - b. It is ok to deviate from your prepared list.
 - c. If you totally mess up a question you can ask it again. The editor can fix it. Leave a verbal “note” to the editor to fix it (you can say, live, “editor please fix this”) and then leave a few seconds of silence before asking the question again.
 - d. Asking follow-up questions is a good way to get more detail. “Can you say more about...”, “How exactly does it do that?” etc.
 - e. If you like where the guest is going, then ask a question that keeps the guest going in the same direction they were going in.
 - f. Guests often say something really interesting that suggests a drill down question. If it sounds interesting, then go that direction. If something that the guest said makes you think of another question, probably a lot of your listeners had the same thought.
 - g. If the guest is going on for too long without a pause, interrupt the guest so you can ask another question. Consider reminding the guest to deliver shorter answers and then come to a full stop so the host has another chance to talk.
 - h. Again, keep in mind that you want to cover four to six main areas in the main body of the episode, so don’t spend too much time drilling down too deeply into one area or you will find that you have not left enough time for other things. Keep track of time and make a judgement of when to move on to something new.
 - i. You can have some “out of band” conversations with the guest that will be removed from the final edit
 - j. If you realize while you are doing the interview that some edits will be required, make a note and the approximate timestamp where you are when the thing happened.
 - k. Continue drilling down and changing topics until it is time to go into the closing segment.
10. When you reach approximately the 0:50 to 0:53 of recorded content (which can take longer than the clock time because of side discussions and do-overs), go into the last phase of the episode:

- a. Ask the guest if there are any questions that you should have asked that you did not. The out of band conversation you have about this will be edited out. The questions themselves and the guest's responses may need to be moved to a different place in the episode during the editing process if you ask a question that relates to something that you covered earlier. This is the part where the guest makes you sound really smart if they feed you a question that you wouldn't have thought of.
 - b. Ask about organizational matters:
 - i. Is the project open source/commercial?
 - ii. Does the project have an industry sponsor?
 - iii. Does it have an active community?
 - iv. How can listeners find out more about it? [always ask this question]
 - v. Where is the website/ mailing list/etc.
 - c. Ask the guest to promote himself.
 - i. Tell the listeners about your book. Where can the book be purchased?
 - ii. Where can listeners follow you? Do you have a blog/twitter?
 - iii. Where can listeners find your other publications?
 - iv. Will you be speaking at any upcoming conferences or events?
 - d. Tell the listeners that all of the things the guest just said will be in the show notes.
11. Thank the guest for being on the show.
 12. Remind the listener that the show notes will have everything that was mentioned.
 13. [Call to action](#) (if you did not already do it, or you want to do it twice).
 14. Say your name again, "This is <X> for Software Engineering Radio. Thank you for listening".

Manage the Time

After the introduction and some basic questions, but before you go into the close, you have about forty minutes in the middle of the interview to cover about four to six sub-topics. Each subtopic will take about five to ten minutes.

Time management is important in the middle section of the interview. How you manage time will determine how well you get the main points of the interview into your sixty minutes. Keep track of how long you have been recording time so that you will know when to change the subject to move on from one sub-topic to the next. If you have any do-overs or out-of-band discussions, then the elapsed recorded is going to slightly overstate how much time you have used up if you have. In that case you will have a bit more time than the clock shows.

During the middle section, you have the freedom to ask follow-up questions and go into more depth within a sub-topic, but if you spend too much time on one sub-topic, then that will subtract from the amount of time you have for other sub-topics. The work that you have done in preparation deciding what are the most important sub-topics to cover will be useful here if you have more material than you have time to cover and need to leave some things out.

Also keep track of what the guest covers that was not exactly in response to your questions. Often the guests will cover things that you had planned to ask. Cross these off your list or otherwise keep track of what has been discussed so you know at any time what you have left.

The Call to Action

We use a [call to action](#) to get listener feedback. This is optional because it is now in the pre-recorded outro. If you do this, then, in your own words, hit all of the following:

We want to hear from the listener. There are many ways they can reach us.

1. Comment on the show on our web site se-radio.net
2. Email: team@se-radio.net.
3. Twitter: tweet about or direct message @seradio
4. On LinkedIn and FaceBook, or comment in our group *Software Engineering Radio*

The Nuclear Option: Fire the Guest

There is always going to be a mix of what the host expects and unexpected content in a show, and this is a positive. However, we have had some episodes where the guest loses control of the interview, either because the host had a very strong agenda that was different than what the host wanted to talk about or the guest would not follow the structure of the show within reason.

If the guest is not cooperating with the format or is going too far off topic, try to save the show by having an out-of-band discussion with the guest about what you want. This can be about flow issues, like telling the guest to pause until the host has finished the question, telling the guest to give shorter answers to keep a balance between host and guest, or with content.

Keep in mind that you are not obligated to finish recording the episode or to use the content if something goes horribly wrong. This hardly ever happens but in a tiny fraction of cases the guest has been unsuitable because they will not follow the format laid out by the host or they provide bad content for the answer. If you have tried several times to give the guest feedback and it is just not working, you always have the option to stop recording the episode, or to record it but not to publish it. There are multiple people in the industry who would be suitable guests on most topics. If an interview doesn't work out, then you can find another guest and re-use the outline.

A more common case is audio issues that were bad enough to make the episode unacceptable from an audio quality standpoint. In those cases, the episode had to be re-recorded with better audio quality.

Editing the episode

Sometimes an episode comes out perfectly; other times it needs to be fixed. IEEE Computer Society staff will do the first pass of edits. Put the required edits in the Trello card.

Listen to the first pass of edits. If there are any fixes required, pass those along. When you sign off, your episode goes into QA. Robert or someone else will listen through for any egregious bugs (one time we published the raw file).

You will learn a lot about your own skills by listening to the episode. Listening to your own episodes is a great way to find out those areas where you need to improve as a broadcaster. It is that you are not perfect when you start out. You will improve over time if you try to fix the things you hear that you don't like.

Getting Feedback from the other Hosts

Feedback from hosts is a part of our process. We can all learn from each other. I hope that all of the hosts will listen to all of the episodes, but this is not a requirement. Robert creates a feedback thread on each episode for the internal mailing list..

Here is the current list feedback questions:

1. The first question concerns the content. How would you summarize the major themes and takeaways of the show? [this is to help the host understand how the content came across]

The remaining questions concern the content or the host's approach to the show, the host-guest interaction, or anything else:

2. What did you like about the show? What worked? (This can be either content or the way the host handled the show.)
3. What did you not like about the show? What did not work? (This can be either content or the way the host handled the show.)
4. Any suggestions you have for the host of something they should have done? Questions they did not ask?
5. What did you learn from the way the host developed and managed the interview that you could use in your hosting?

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