

Contemporary Peer Code Review Practices in Research Software

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```
// file: IVR.CPP
void IVR()
1 {
2     //press 1 for account balance, 2 for last transaction,
3     //3 for last statement, any other for operator
4     play_prompt();
5
6
7     int key_pressed= get_user_choice();
8     if(key_pressed ==1)
9     {
10         play_account_balance();
11     }
12     else if(key_pressed ==2)
13     {
14         play_last_transaction();
15     }
16     else if(key_pressed ==3)
17     {
18         play_last_statement();
19     }
20     else transfer_to_operator();
21 }
22 }
```

```
1 //file: printer.java
2 if (user.isAuthenticated)
3 {
4     userAccess = checkUserAuthorization(user);
5
6     //if user has access to printer
7     if(user.isAuthenticated && userAccess.printer)
8         printUsageReport ();
9     else
10         emailUsageReport ();
11 }
```

Do you think only novice developers
make these mistakes?


```
#define CDMA_SUBSCRIPTION_SOURCE_NV 0
#define CDMA_SUBSCRIPTION_SOURCE_RUIM 1
```

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Sep 13, 2010

the functions below operate on an AModem object, so should be named amodem_switch technology(),
amodem_set_cdma_xxxx

Reply ...

Reply 'Done'

Sep 23, 2010

Done

Reply ...

Reply 'Done'

```
static const char* switchTechnology(AModem modem, AModemTech newtech, int32 t newpreferred)
static int set_cdma_subscription_source( AModem modem, ACdmaSubscriptionSource ss);
static int set_cdma_prl_version( AModem modem, int prlVersion);
```

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```
if (noMedia) {
```

```
// In case the file is known and now is under a  
// .nomedia folder mark as not seen in order to  
// be removed from files table in the post scan.
```

```
if (entry != null && noMedia) {
```

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Jan 15, 2012

Isn't '&& noMedia' redundant? noMedia can only be true inside the if block.

Reply ...

Reply 'Done'

Jan 16, 2012

Thanks My bad :D

Reply ...

Reply 'Done'

```
        entry.mSeenInFileSystem = false;  
    }  
    return null;  
}
```

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#13244

```
02 >> if ((nbytes=recvfrom(fd,msgbuf,MSGBUFSIZE,0,  
63 >>                          (struct sockaddr *) &addr,&  
64 >>                          perror("recvfrom");  
65 >>                          exit(1);  
66 >>                          }  
                          puts(msgbuf);
```

Feb 8, 2010

Isn't there a risk of msgbuf not being terminated? Reading all the way to MSGBUFSIZE seems to risk overwriting the implicit init done, or does the kernel always null-terminate the buffer, even if it is larger than MSGBUFSIZE?

I guess the worst case scenario is puts going off on a tangent, so probably not particularly dangerous, but still?

[Reply](#)

[Done](#)

Feb 9, 2010

You are absolutely right I will change it to write() the number of bytes received. I only tested it with the other file (sender.c) which sends "Hello, world" with the null-byte attached. I will send a patch when I get home. Thanks for the review!

```
54 >> >> if ( $this->isPermalink ) {  
55 >> >> >> $html .= Linker::link(  
56 >> >> >> >> SpecialPage::getTitleFor( 'ArticleFeedbackv5', $record[0]->p  
age_title ),  
57 >> >> >> >> wfMessage( 'articlefeedbackv5-special-goback' )->text());
```

Apr 17, 2012

And this unfixes a security bug that was fixed earlier: this must be ->escaped(), not ->text(), because the second param to link() is HTML.

Apr 17, 2012

Done



You might be an Internet 'solopreneur', a lone wolf who writes, edits, formats, checks and publishes your own content. Or you might work for a ~~company~~ website, either as a content creator or as a ~~production~~ editor, sub-editor or ~~editor~~ - the person in charge of quality control and tasked to edit/proofread ~~work~~ ^{the} produced by your colleagues.

Not you? Maybe you want to self-publish a book on Amazon, check through a student essay or thesis, perhaps error-check a company report? Maybe you're ~~involved~~ ⁱⁿ creating a brochure, newsletters, business cards, product packaging or signs? Not you either? What about sending an email, posting a Tweet or updating Facebook? They all involve words. Is everything you've typed recently correct? Are you certain? ^{It's not always easy to spot errors.}

You might not have a proofreading process. Or you might be already be actively proofreading and want to get better at it.

^{And forgotten} If you publish or print words of any kind, you won't want any mistakes to slip through. You want to ensure that what you produce is the best that it can be. This is especially true if you are printing anything. Mistakes on the web can be corrected. You don't have that luxury with print. Print has permanency. Just think how you'd feel if you'd been the sign writer who painted 'SHCOOL' in big white letters on the road when you meant to spell 'SCHOOL'. Or that you'd given the OK to a sign that read 'DRIVE-THRU ENTERANCE'. These are real examples. You'll find more proofreading howlers like these later in this book. ^{possibly} ¹¹

^a ~~Again~~ proofreading is an essential part of the publishing process. The larger the font, the more you should check it. The more permanent the publication or installation, the more you should check it. You should check and re-check everything you plan to publish until your eyes ache or until the words start to look incorrect and you have to look them up again just to make sure that you're not going crazy. And if you have time for a re-re-check, so much the better. ^{the words}

A brass balance scale is shown, resting on a wooden base. The scale has two pans hanging from a central beam. The left pan is lower and contains several coins. The right pan is higher and is empty. The background is black.

Where does it fit?

Other Activities

Code Review



Code Review Goals

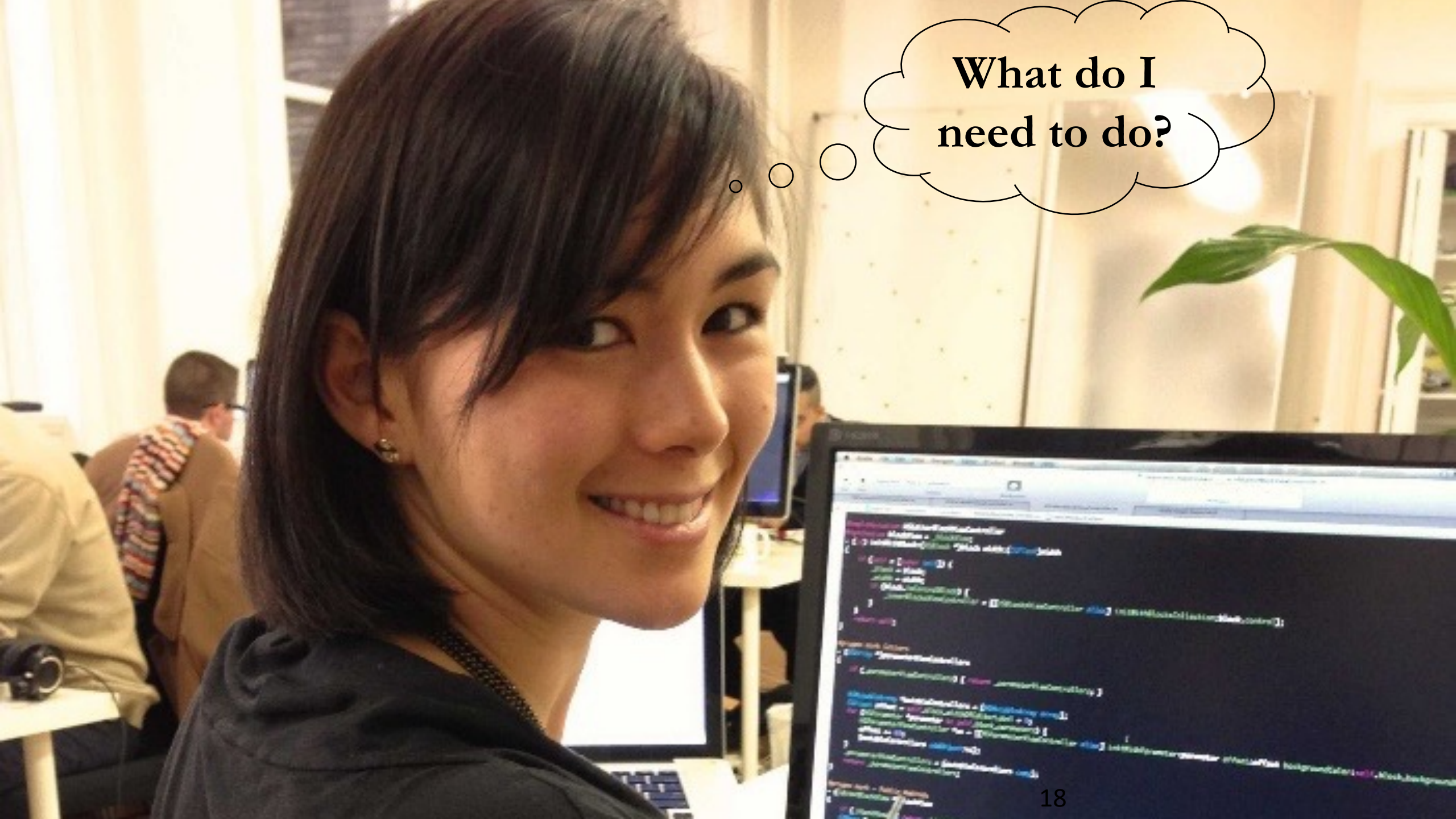


```
43 <body <?php body_class="></div>
44 <div id="fb-root"></div>
45 <script>(function(d, s, id) {
46   var js, fjs = d.getElementsByTagName(s)[0];
47   if (d.getElementById(id)) return;
48   js = d.createElement(s); js.id = id;
49   js.src = "//connect.facebook.net/en_US/sdk.js#xfbml=1&version=v2.6&appId=288644863678717";
50   fjs.parentNode.insertBefore(js, fjs);
51 })(document, 'script', 'facebook-jssdk');</script>
52 <div id="page" class="site">
53   <a class="skip-link screen-reader-text" href="#content"><?php esc_html_e( 'Skip to content', 'urduube' ); ?></a>
54   <header id="masthead" class="site-header" role="banner">
55     <div class="site-branding">
56       <div class="navBtn pull-left">
57         <?php if(is_home() && $xpanel['homepage-style'] == 1) { ?>
58           <a href="#" id="openMenu"><i class="fa fa-bars fa-3x">
59         <?php } else { ?>
60           <a href="#" id="openMenu2"><i class="fa fa-bars fa-3x">
61         <?php } ?>
62       </div>
63       <div class="logo pull-left">
64         <a href="<?php echo esc_url( home_url() ) ?>">
65           
66         </a>
67       </div>
68       <div class="search-box hidden-xs hidden-sm pull-left ml-1">
69         <?php get_search_form(); ?>
70       </div>
71       <div class="submit-btn hidden-xs hidden-sm pull-left ml-1">
72         <a href="<?php echo get_page_link($xpanel['submit-link']) ?>">
73       </div>
74       <div class="user-info pull-right mr-10">
75         <?php
76         if ( is_user_logged_in() ) {
          <?php echo esc_html( get_logged_in_user() );>
        }
      </div>
    </div>
  </div>
</body>
```





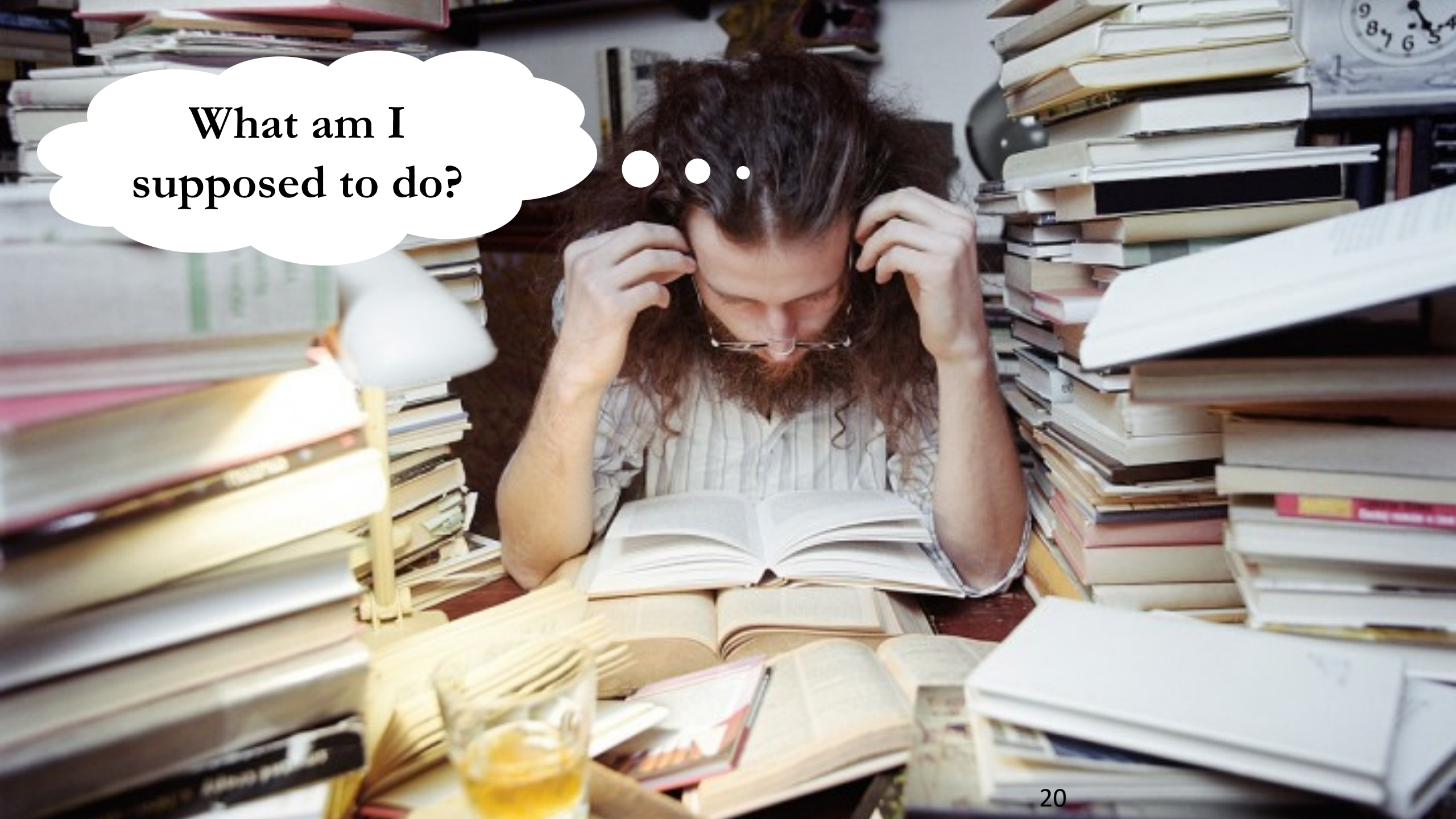
Code Review Practices



**What do I
need to do?**

What am I
supposed to do?

...



Code Review Techniques

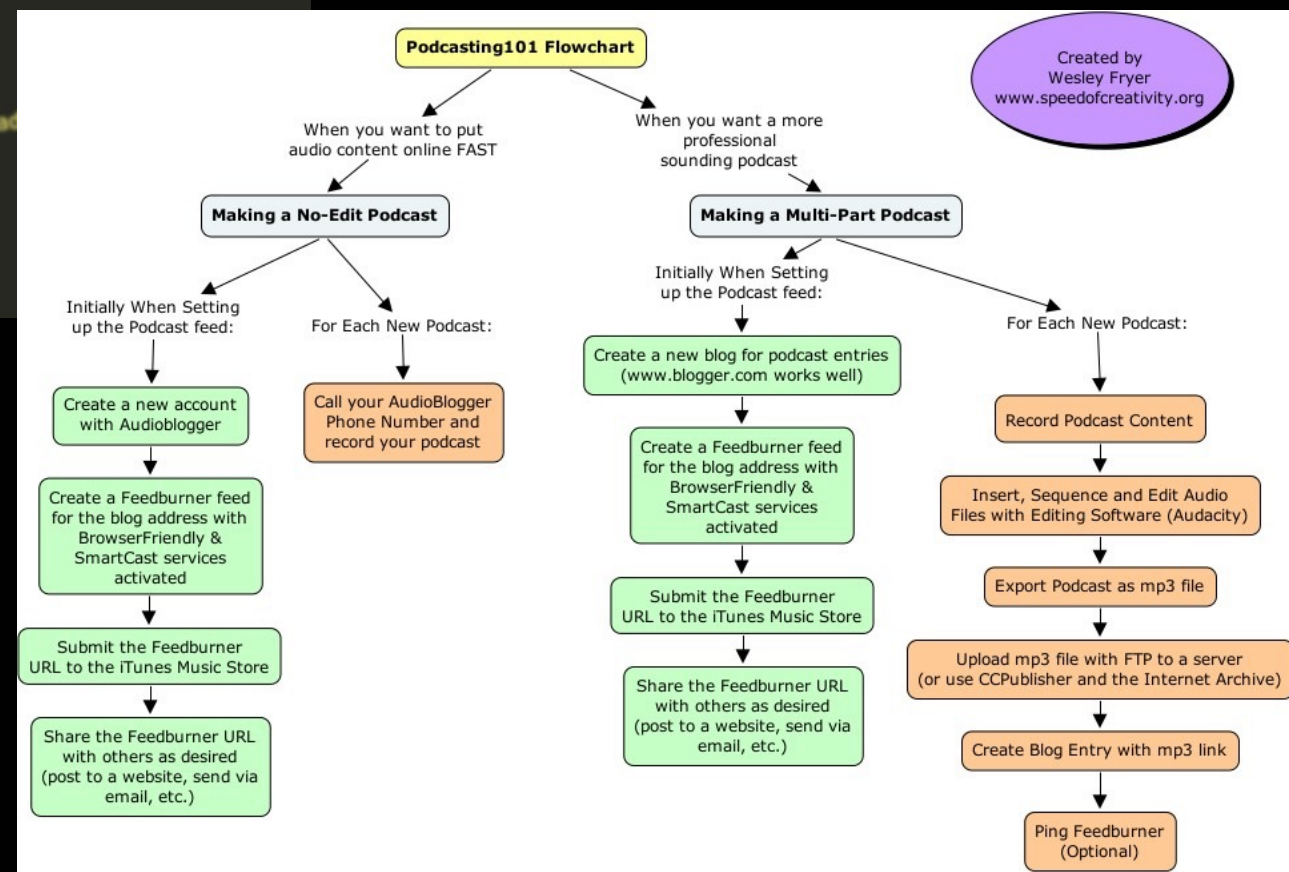

```

43 <body <?php body_class()></div>
44 <div id="fb-root"></div>
45 <script>(function(d, s, id) {
46   var js, fjs = d.getElementsByTagName(s)[0];
47   if (d.getElementById(id)) return;
48   js = d.createElement(s); js.id = id;
49   js.src = "//connect.facebook.net/en_US/sdk.js#xfbml=1&version=v2.6&appId=298644663678717";
50   fjs.parentNode.insertBefore(js, fjs);
51   }(document, 'script', 'facebook-jssdk'));</script>
52 <div id="page" class="site">
53   <a class="skip-link screen-reader-text" href="#content"><?php esc_html_e( 'Skip to content', 'urduube' ); ?></a>
54
55   <header id="masthead" class="site-header" role="banner">
56     <div class="site-branding">
57       <div class="navBtn pull-left">
58         <?php if(is_home() && $xpanel['homepage-style'] == 1) { ?>
59           <a href="#" id="openMenu"><i class="fa fa-bars fa-3x"></i></a>
60         <?php } else { ?>
61           <a href="#" id="openMenu2"><i class="fa fa-bars fa-3x"></i></a>
62         <?php } ?>
63       </div>
64       <div class="logo pull-left">
65         <div class="search-box hidden-xs hidden-sm pull-left ml-10">
66           <?php get_search_form(); ?>
67         </div>
68         <div class="submit-btn hidden-xs hidden-sm pull-left ml-10">
69           <?php echo get_page_link($xpanel['submit-link']) ?> <div class="head
70         </div>
71         <div class="user-info pull-right mr-10">
72           <?php
73             if ( is_user_logged_in() ) {
74               <?php echo get_user_avatar($current_user);
75             }
76           </div>

```

Code

Algorithms



Issues Identified in code review



Research Code Review?



Our Results



References for further reading

- *Code Complete*, by Steve McConnell
- <https://www.codeproject.com/articles/524235/codeplus-reviewplusguidelines>
- <https://blog.philippbauer.de/code-review-guidelines>
- <https://github.com/joho/awesome-code-review>
- <https://www.planetgeek.ch/wp-content/uploads/2013/06/Clean-Code-V2.1.pdf>

Collaborate?



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<http://BSSw.io>



Photo Credits

- <http://incolors.club/collectionfdwn-female-computer-programmer.htm>
- <http://tech.trivago.com/img/posts/code-review/code-review-3.jpg>
- <http://www.protectitip.com/wp-content/uploads/2014/11/Software-Code.jpg>
- http://www.computerhistory.org/atchm/wp-content/uploads/2013/11/marked_up_listing-542x404.jpg
- <https://static1.squarespace.com/static/53798babe4b0fca9449cf693/t/53f78774e4b0ce4d05e4152f/1408730997720/>
- <https://residentialwastesystems.com/wp-content/uploads/2016/10/dumpsters-trumbull-ct.jpg>
- <http://www.hipaasecurenw.com/index.php/beckers-hipaa-compliance-8-best-practices/>
- [https://commons.wikimedia.org/wiki/File:Collaboration_\(9601759166\).jpg#metadata](https://commons.wikimedia.org/wiki/File:Collaboration_(9601759166).jpg#metadata)
- <http://entertainment.time.com/2012/05/09/confessions-of-another-book-reviewer/>

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