

CS554 Assignment 3 : Usability

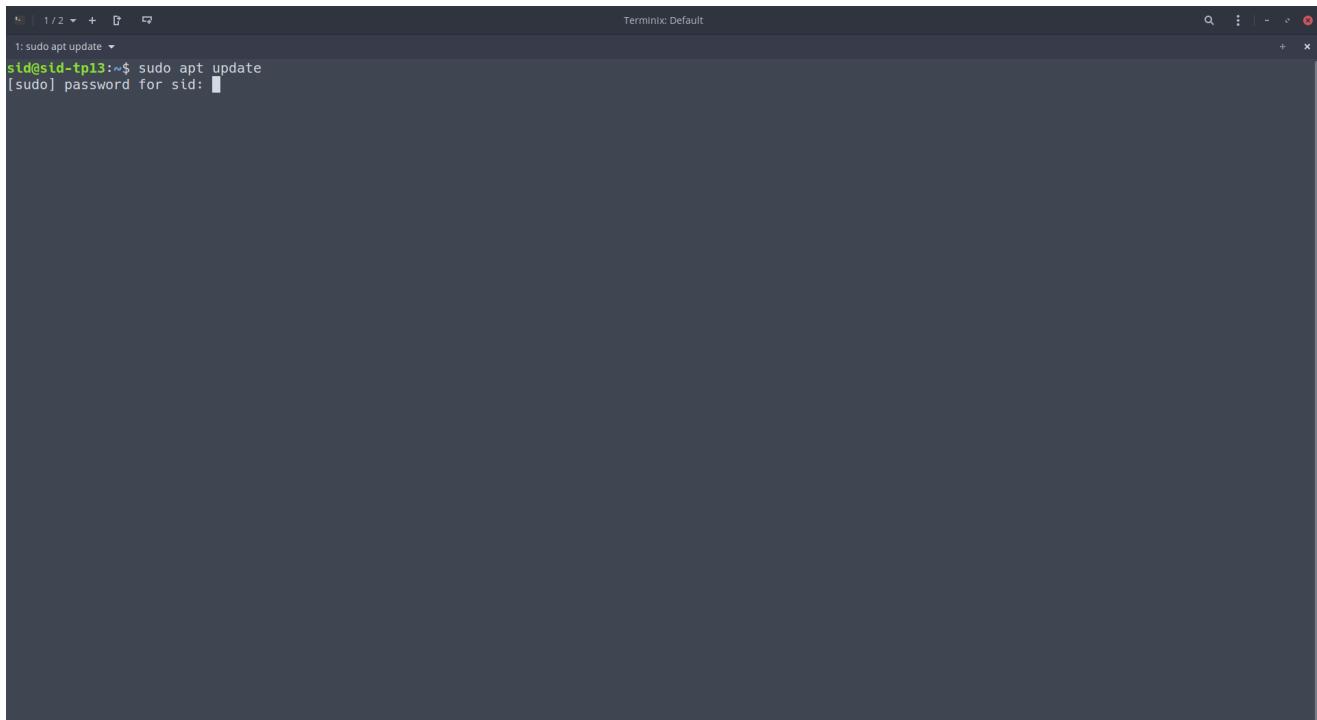
Name: Siddharth Sharma

UnityID: ssharm24

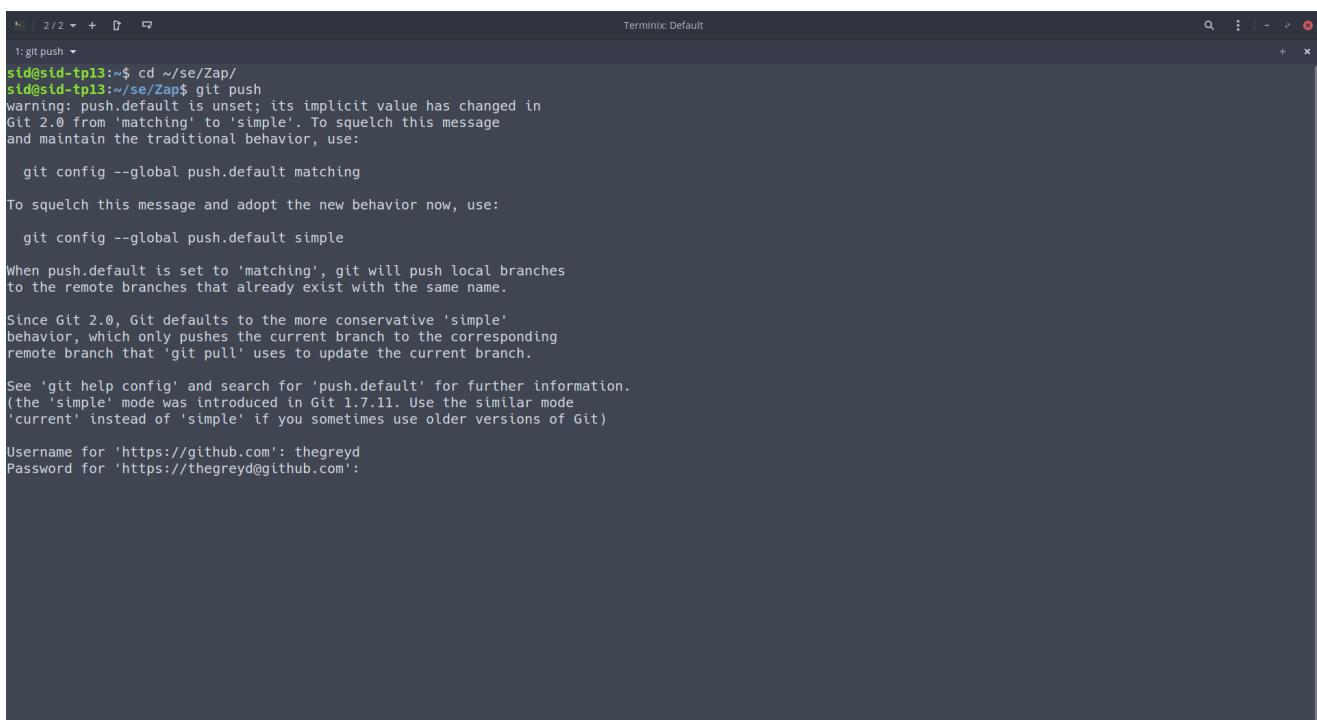
Date: Feb 20 2017

Visibility of system status

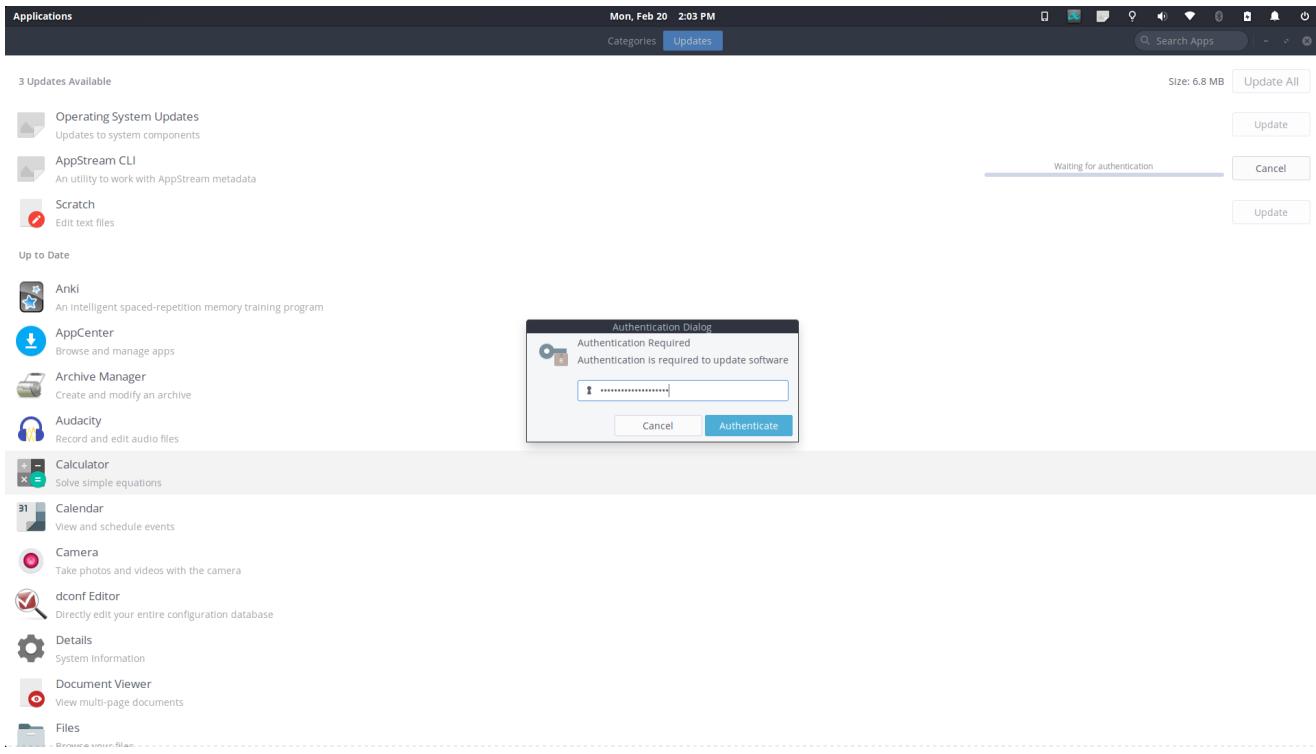
- Linux (Ubuntu) Terminal Interface



```
1 / 2 1 / 2 Terminix: Default
1: sudo apt update
sid@sid-tp13:~$ sudo apt update
[sudo] password for sid: 
```



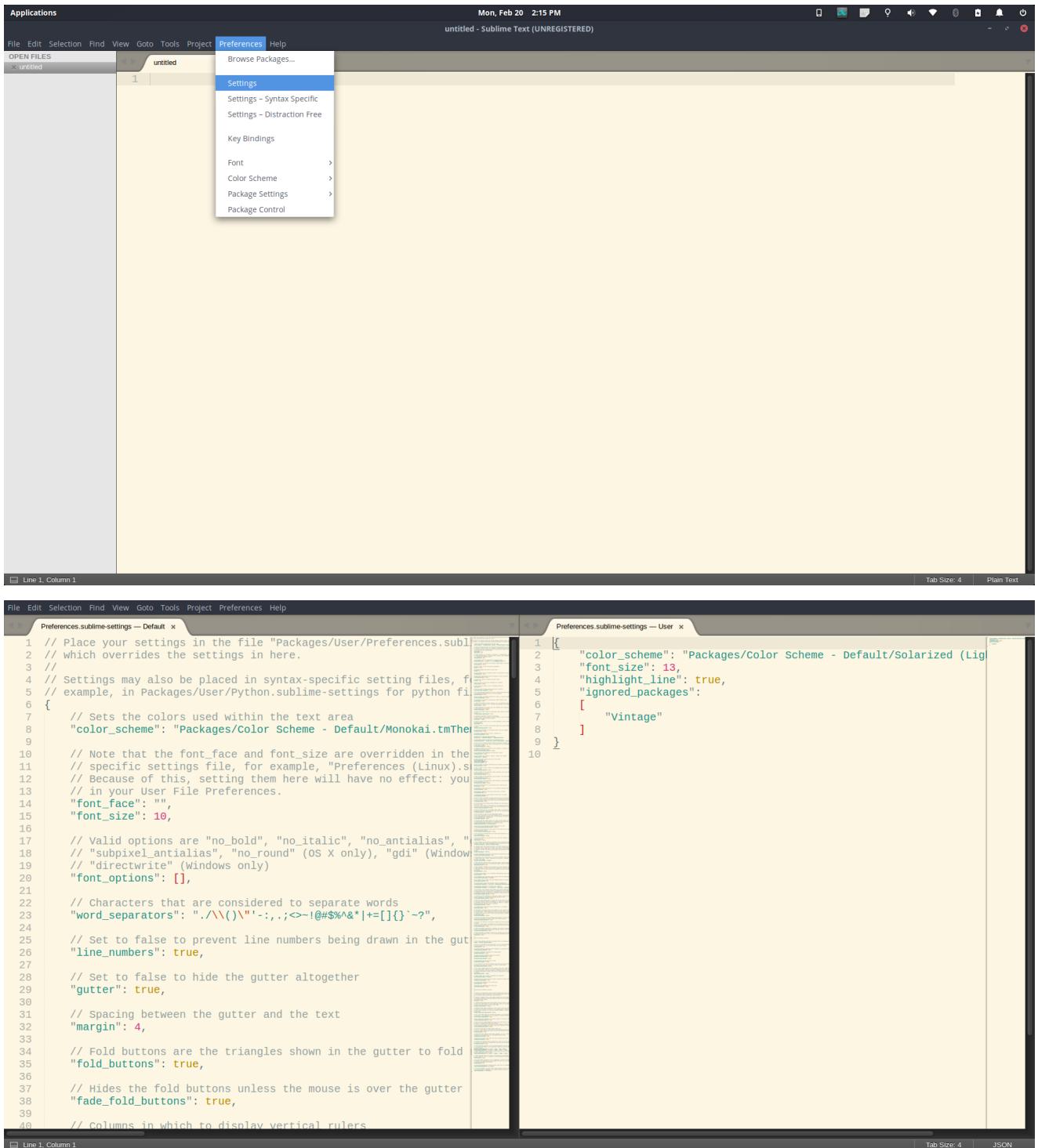
```
1 / 2 2 / 2 Terminix: Default
1: git push
sid@sid-tp13:~$ cd ~/se/Zap/
sid@sid-tp13:~/se/Zap$ git push
warning: push.default is unset; its implicit value has changed in
Git 2.0 from 'matching' to 'simple'. To squelch this message
and maintain the traditional behavior, use:
git config --global push.default matching
To squelch this message and adopt the new behavior now, use:
git config --global push.default simple
When push.default is set to 'matching', git will push local branches
to the remote branches that already exist with the same name.
Since Git 2.0, Git defaults to the more conservative 'simple'
behavior, which only pushes the current branch to the corresponding
remote branch that 'git pull' uses to update the current branch.
See 'git help config' and search for 'push.default' for further information.
(the 'simple' mode was introduced in Git 1.7.11. Use the similar mode
'current' instead of 'simple' if you sometimes use older versions of Git)
Username for 'https://github.com': thegreyd
Password for 'https://thegreyd@github.com': 
```



- Violation of heuristic: The interface here is of a Ubuntu linux operating system. Here when the user performs an action which requires administrator permission, he is asked for admin (superuser) password. If this action is performed in the linux command line terminal, there are no asterisks(*) shown on the screen, which are commonly used to represent a password being typed. Similarly when a "git push" command is invoked, here we need to provide password for an online account, we do not see the password being typed. If we perform the action in a different context with a GUI application, we are presented with a small dialog, where this behavior is present.
- Problem: the user has to enter the password without any system feedback as to what is being entered through the keyboard on the screen. Therefore the user doesn't know if anything is being typed, or in case he mistyped the password he does not know if pressing backspace works. The user has to rely on his intuition to enter the right password, and press return key to proceed. There is no immediate feedback in the action, and if this is a first time user, he can potentially view it as a broken system.

Match between system and the real world

- Sublime Text Settings

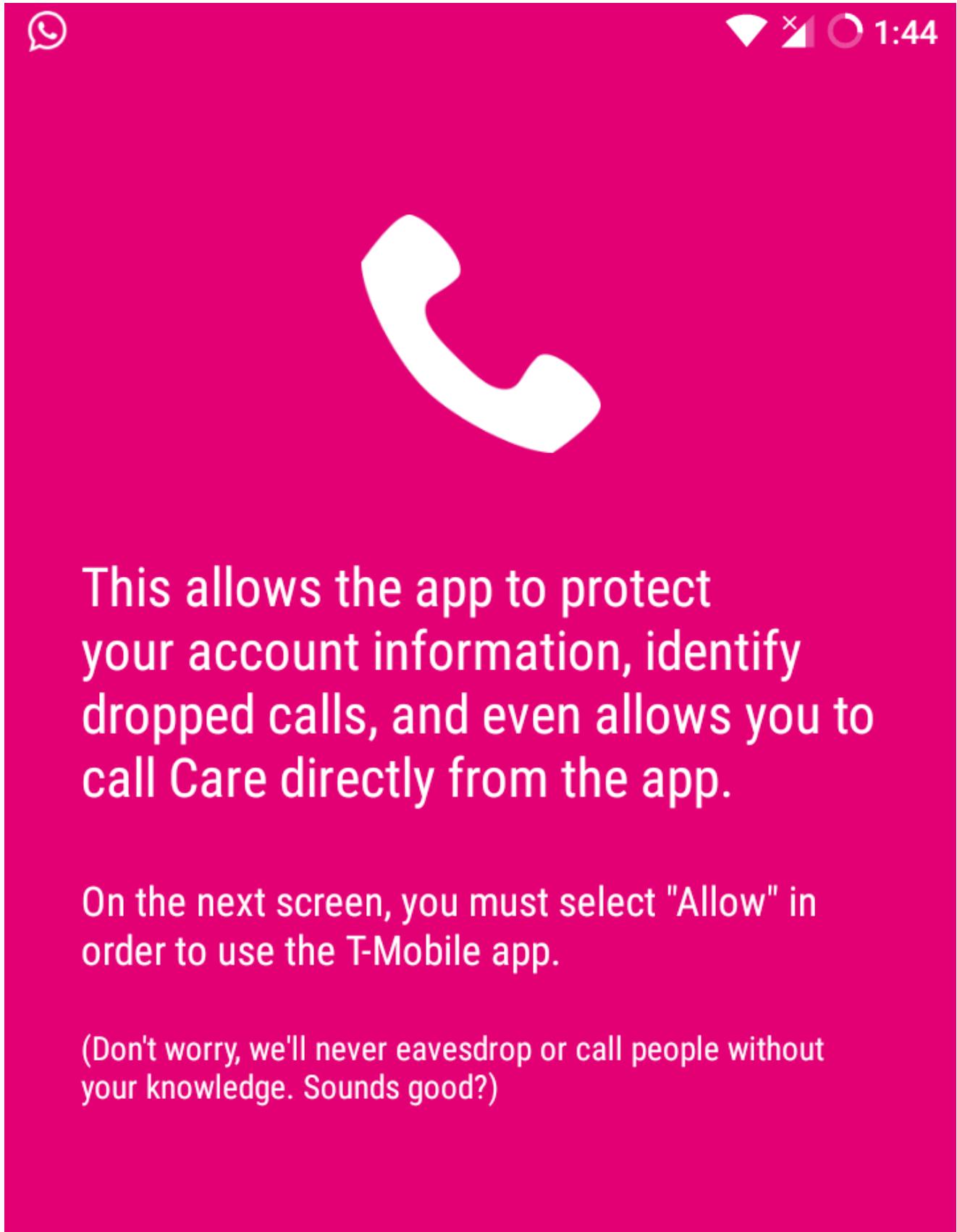


- The interface here is of Sublime Text 3 - which is a cross platform text editor. When the user wants to edit settings, he is presented with 2 tabs. The left pane is settings which is default settings of the editor written in JSON format. This file is uneditable. The file on the right pane is editable, which is the user settings. To edit a particular setting, a user has to find that in the left pane and copy that setting to the right pane, and changed the value to the desired value. The possible values of the setting are not shown in any obvious way.
- Problem - When a user uses GUI applications, there is an expectation that to change behavior he would be presented with a settings UI, where checkboxes and dropdown lists would be used. Instead here the user is presented with a text file, which is intimidating for a non technical user. The user may not understand the syntax of JSON, and be confused. He may try to edit the left pane, and upon discovering

he can't do it, perceive it as an error. Therefore I think this a problem where a user normally expect some knobs and buttons, instead he is shown a blank canvas to modify some behavior.

User control and freedom

- T-mobile android app



Continue

Exit T-Mobile app



1:44



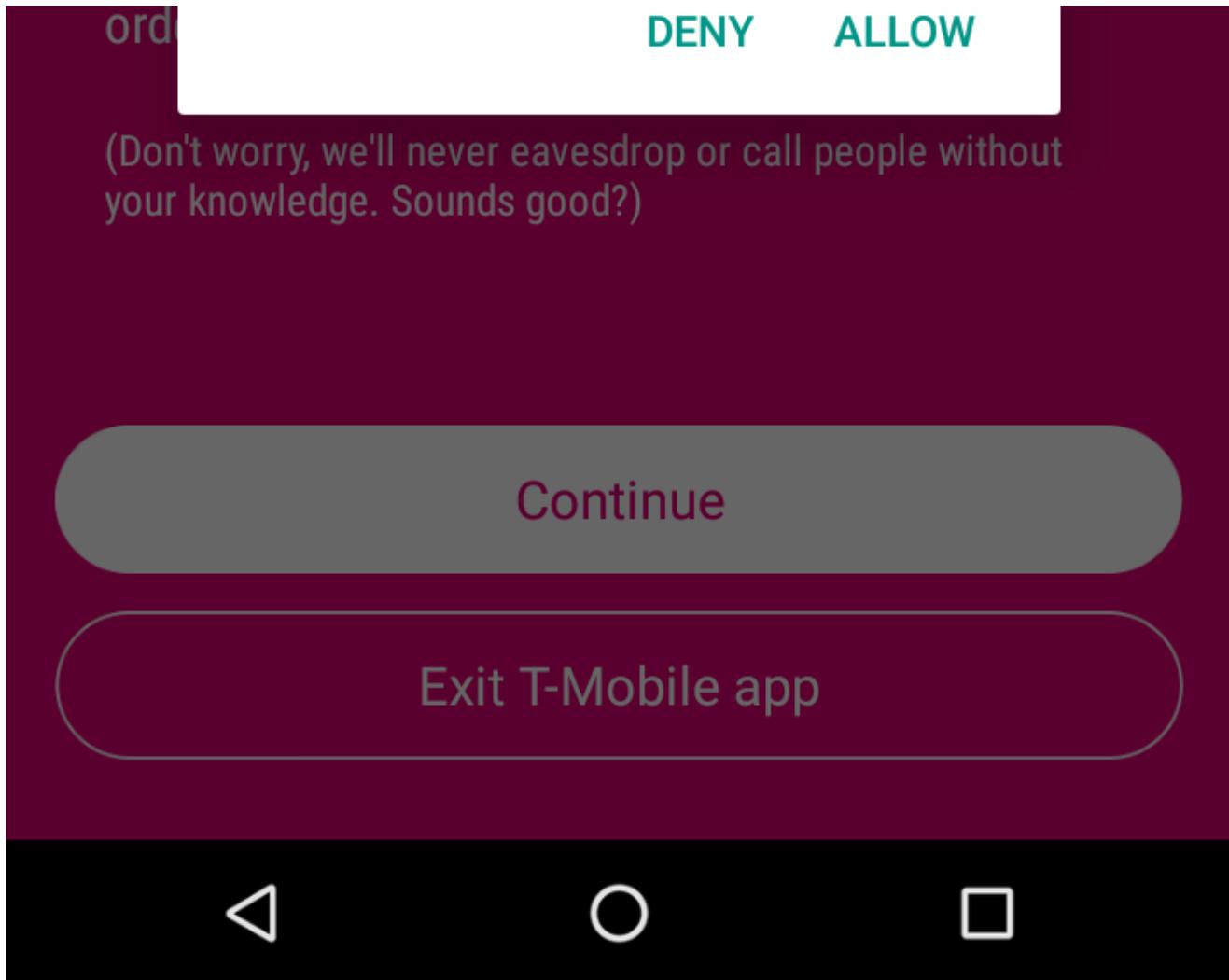
This allows the app to protect
you during calls

 Allow **T-Mobile** to
Phone?

Don't ask again

On

to



- Violation: The interface here is of Tmobile (phone carrier) android application. On opening the app we are presented with a screen saying we must allow a permission to read phone logs and status. Options presented are "Continue", and "Exit app". Upon pressing "Continue" , we are presented with a dialog asking for permission, which if we reject we are thrown back the previous screen.
- Problem: The app installed is where usage statistics and bill information of a user account is displayed. A user who wants this functionality, and doesn't trust and does not want the app to read call logs, cannot it. The same functionality is presented on the web interface without such intrusive measures. When you approve the app the permission, taking it back will render the app unusable, which restricts a users freedom and control.

Consistency and standards

- NCSU Mypack

Applications Mon, Feb 20 3:01 PM

Best of Hans Zimm Account Activity

NORTH CAROLINA STATE UNIVERSITY MYPACK PORTAL FOR STUDENTS

CASHIER'S OFFICE & STUDENT ACCOUNTS

Monthly Payment Plan
View Payment Information
View Tuition Surcharge
Payment Options
My Financial Aid
Return to Student Center

Siddharth Sharma ID: 200159115

Messages Billing account history payments direct deposit 1098 tax form

Billing Information

Term	Outstanding Charges Deposits	Monthly Payment Plan	Estimated Financial Aid	Current Amount
	0.00			0.00

Make a Payment * Disable pop-up blockers to Make a Payment in a new window

Updated eBILLS will be posted February 16 with a March 8 due date.
Balances on your Billing Statements will not change.
Students with past due balances will not be able to register for future terms. To receive transcripts or diplomas, all charges should be paid in full. Financial aid cannot be used to pay prior term charges.

My Billing Statements

View Full Statement	Quick Summary	Total Billed:
01/20/2017	\$0.00	
11/03/2016	\$16,558.23	
09/05/2016	\$0.00	
07/06/2016	\$16,402.23	
05/31/2016	Quick Summary	\$300.00

Currency used is US Dollar.

Messages Billing Account History Payments Direct Deposit 1098 Tax Form

javascript:submitAction_win0(document.win0,'BILLING_DT\$0');

Best of Hans Zimm Student Center Student Center

Nightly prevented this site from opening a pop-up window.

NORTH CAROLINA STATE UNIVERSITY MYPACK PORTAL FOR STUDENTS

Siddharth's Student Center

Grades

Term	Subject	Catalog	Section	Grade
2017 Spring Term	CSC	510	001	
2017 Spring Term	CSC	554	001	
2017 Spring Term	CSC	574	001	

Sign Up For Email and Text Alerts Term GPA: 0.000 Cum GPA: 3.444

Academics

This Week's Schedule

Class	Schedule
CSC 510-001 LEC (2116)	TuTh 4:30PM - 5:45PM 0121 Engineering Building
CSE 554-001 LEC (2709)	Mond 4:30PM - 5:45PM 0105 Engineering Building
CSC 574-001 LEC (9173)	TuTh 6:00PM - 7:15PM 0128 Engineering building 2

Finances

My Student Account Check your eBill! Sign up for Direct Deposit! See recent account activity! View your 1098T!

My Financial Aid Make a Payment (disable pop up blocker)

Personal Information

Contact Information

Emergency Contact Names Home Mailing Address Physical Address
Praveen Settings S/o A. K. Singh Colony, 55 & 56 Krishan Colony, Near Tink Nagar, Indore 452018
other personal... Local Phone: 0732-28-8966 Near Tink Nagar, Indore 452018
Mobile: 9826188888 Campus E-mail: ssonam24@nics.edu

Parent Access First Last Relationship SF Tax Records Directory FA

SEARCH / ENROLL

Alerts Privacy Settings Reminder view prior alerts more

Holds No Holds

To Do List Graduate Plan of Work Graduate Transcript more

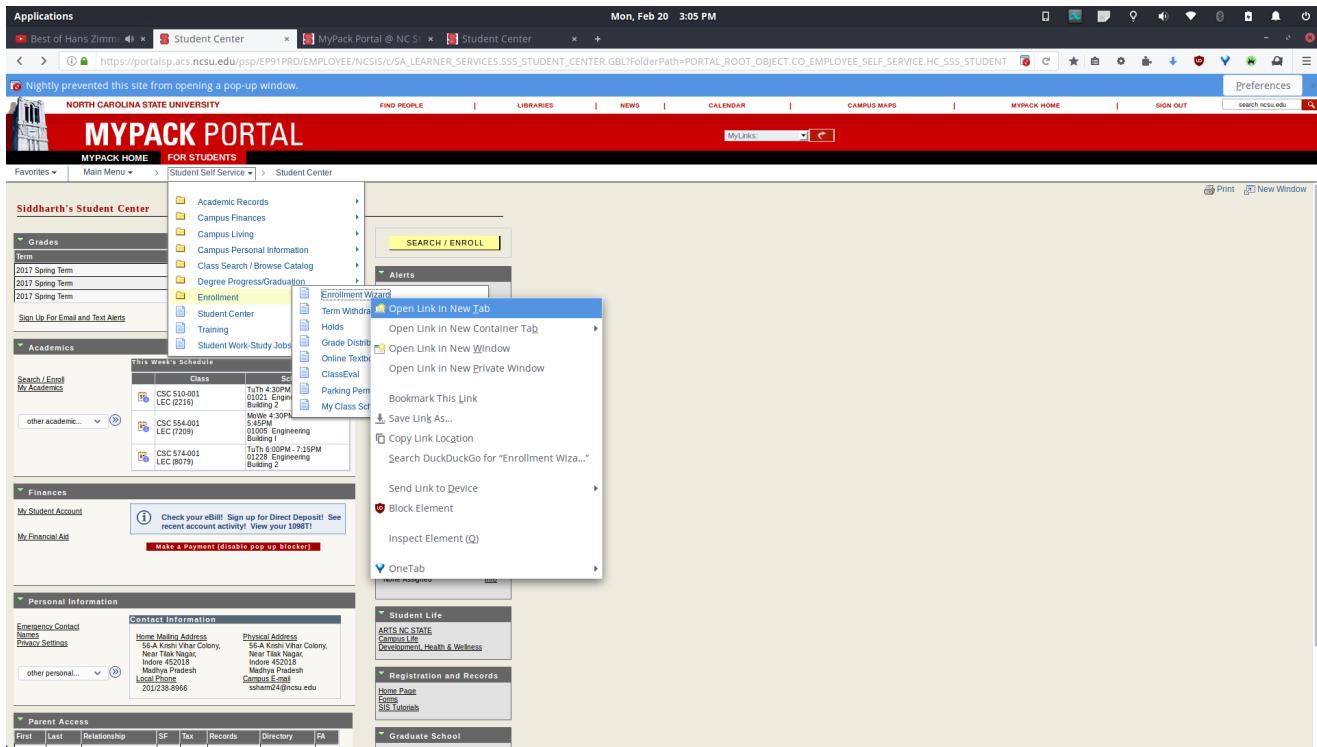
Enrollment Dates Enrollment Appointment You may begin enrolling on October 18, 2016 at 8:00AM details

Advisor Program Advisor None Assigned Info

Student Life ACTS NC STATE Campus Life Development, Health & Wellness

Registration and Records Home Page Exam Dates SIS Tutorials

Graduate School

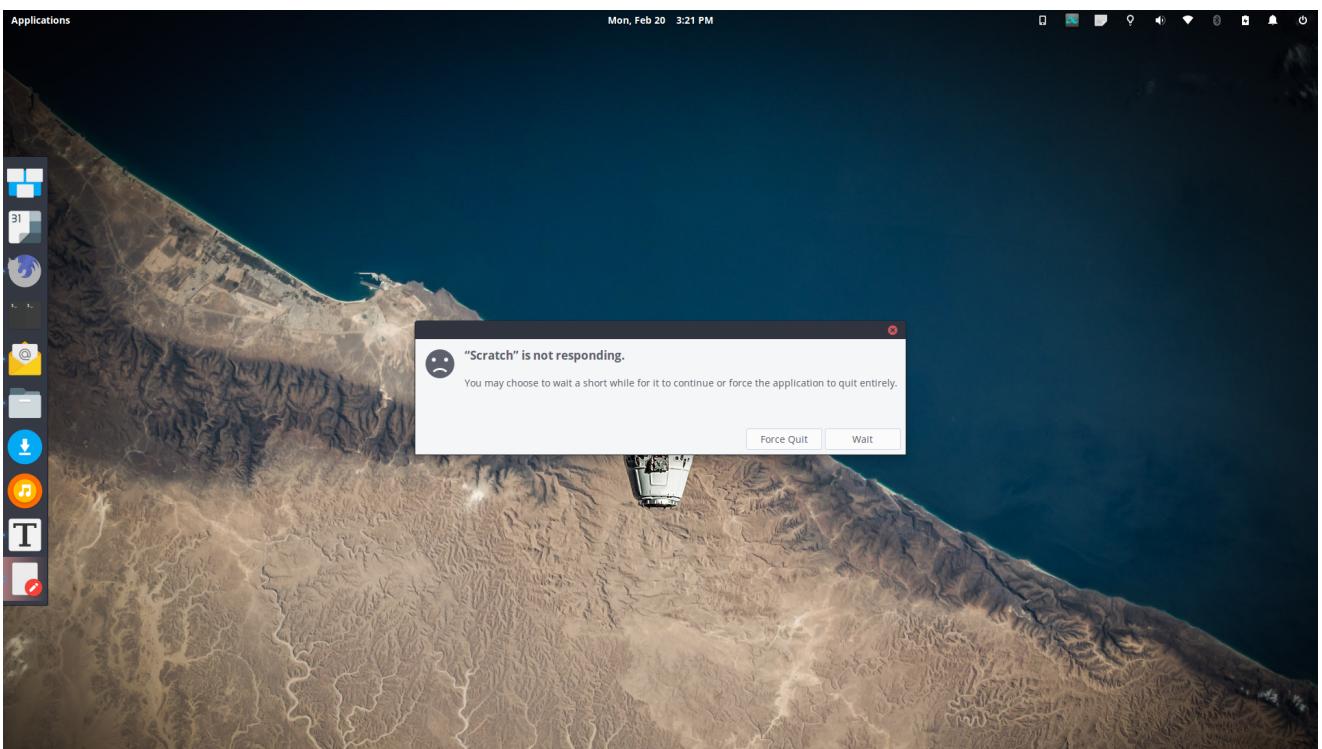


- Violation: This is the interface of NCState Mypack portal on the web. The website looks poorly designed, where the all the content is narrowly shown on the left, and the rest of the screen space is blank and wasted. The font size is pretty small, and a lot of content with links, different navigation panes, is presented in a small space. Majority of links which are shown are Javascript links, that is they are not standalone links, but operate on the same page. This means you cannot open them in a new tab or window. Some links open in a popup window, which is shown in the screenshot to be blocked by a popup blocker. Some links are standalone and successfully open in a new tab/window.
- Problem: A user is not presented the information in a good layout. Finding something is hard. This violates the standards which are used to on the web, for content to be opened in new tabs. Also consistency lacks when the links are presented in many different and unpredictable ways- like popups. If a user has blocked popups he has to manually allow them to use some functionality.

Error prevention

- Scratch text editor - Linux Desktop

```
Applications Mon, Feb 20 3:20 PM
~ se > Zap > sid > $ scratch-text-editor
[INFO 15:19:12.911018] Application.vala:155: Scratch version: 2.4.1
[INFO 15:19:12.911094] Application.vala:157: Kernel version: 4.4.0-62-generic
[DEBUG 15:19:12.912102] Settings.vala:163: Loading settings from schema 'org.pantheon.scratch.saved-state'
[DEBUG 15:19:12.912668] Settings.vala:163: Loading settings from schema 'org.pantheon.scratch.settings'
[DEBUG 15:19:12.913969] Settings.vala:163: Loading settings from schema 'org.pantheon.scratch.services'
[DEBUG 15:19:12.996442] [Gtk] Connecting to session manager
[WARNING 15:19:13.004925] [libpeas] Failed to enable unknown plugin loader 'gjs'
[WARNING 15:19:13.007906] [libpeas] Failed to enable unknown plugin loader 'gjs'
[FATAL 15:19:13.133378] [Gtk] gtk_action_set_visible: assertion 'GTK_IS_ACTION (action)' failed
[DEBUG 15:19:13.136842] SplitView.vala:202: WelcomeScreen shown successfully
[DEBUG 15:19:13.140925] settings.vala:162: Loading settings from schema 'org.pantheon.scratch.plugins.folder-manager'
[DEBUG 15:19:13.144486] SplitView.vala:210: WelcomeScreen hidden successfully
[DEBUG 15:19:13.145582] SplitView.vala:125: View added successfully
[DEBUG 15:19:13.151855] sql-schema.vala:204: schema_version is 10
[DEBUG 15:19:13.221299] Document.vala:747: Could not find mount location
[INFO 15:19:13.221440] Document.vala:167: Opening "Jeene_De-mohitchauhan.wma"
^C
```

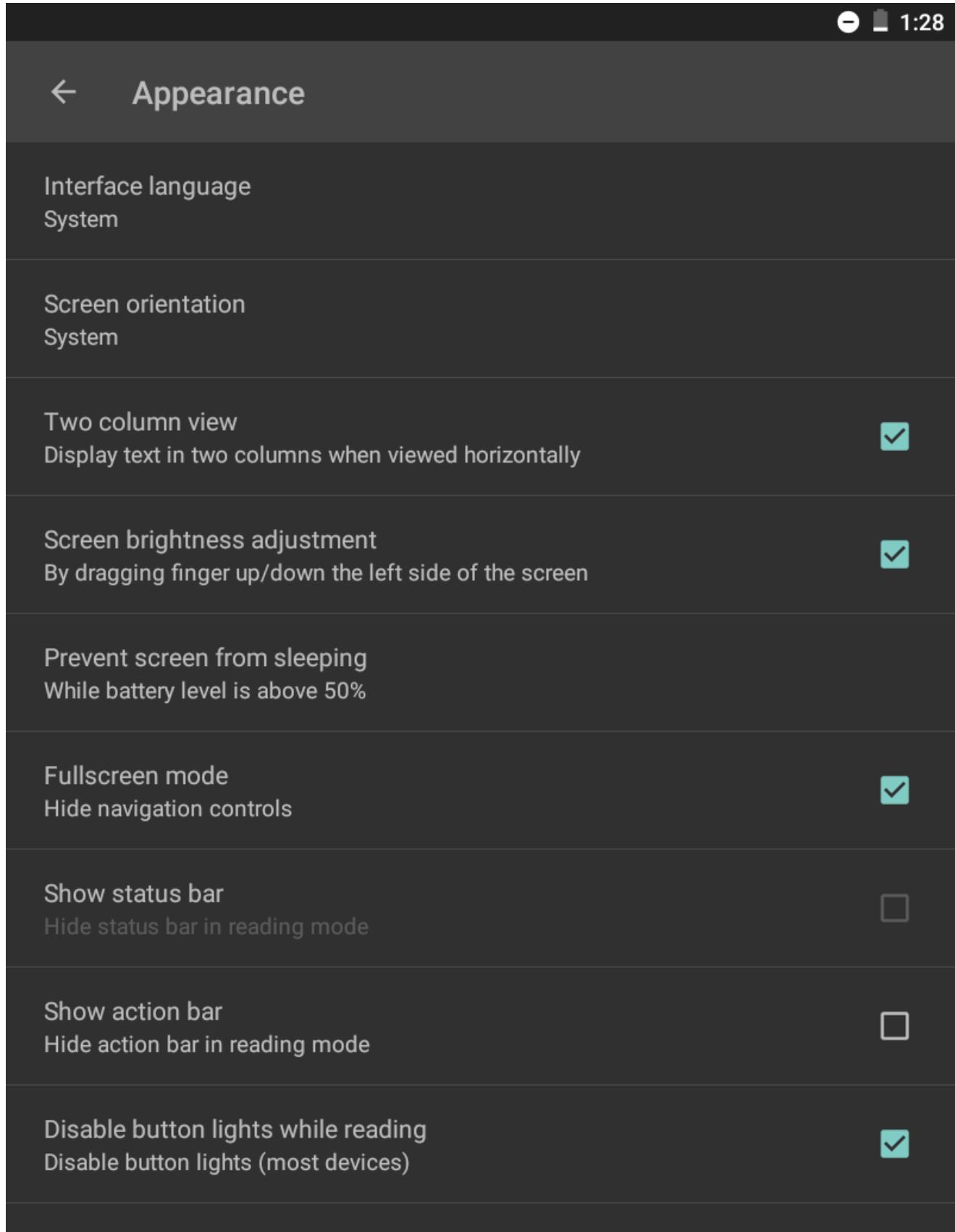


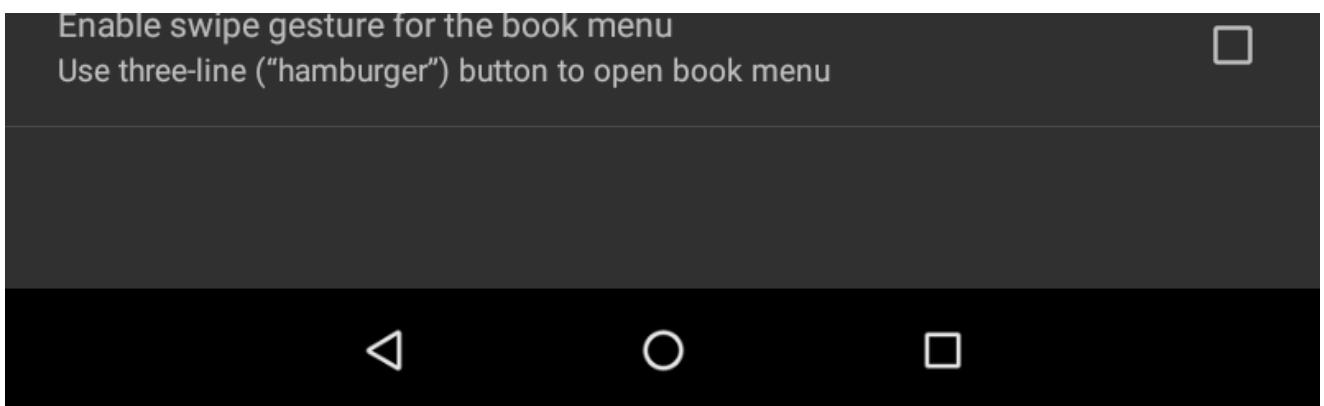
- Violation: This interface is of Scratch text editor which comes in a Linux desktop environment. When the editor is used to open a unsupported format (like a music file, in this case .wav), it crashes unexpectedly without giving error. When you close the editor, and open for the second time, it tries to restore the previous session which leads to crash again. This behavior goes on and the application is unusable. This is shown in the first screenshot where the app is opened through a terminal, and it displays its logs.
- Problem: The user might open some unsupported format in an app, which should first validate and then open. Even if the app is not able to open, it should display appropriate error message, and remember it to not open the next time. Instead the app's restore previous session functionality makes

it even worse, where it keeps trying to open a format which leads it to crash. Here the application's behavior cannot be modified in any obvious way.

Recognition rather than recall

- FBreader Android Application





◀ ○ □

Enders Game 2 - Speaker for the Dead
Card, Orson Scott

Screen orientation ▶

Zoom in

Zoom out

Settings

Install plugins

What's new

Help

Start screen

Upgrade to Premium

9

Congenital Defect

CIDA: The Descolada body isn't bacteria that can enter the cells of the body and take up permanent residence just like mitochondria, reproducing when the host does. The fact that it spread to a new species in less than a few years of our arrival here suggests that it is a parasite. It must surely have spread through the entire world since the Lusitania long ago, so that it may now be a permanent infection.

GUSTO: If it's permanent and everywhere, it isn't an infection, Cida, it's part of normal life.

CIDA: But it isn't necessarily inborn-- it has the ability to spread. But yes, if it's endemic then all the indigenous species must have found ways to fight it off.

GUSTO: Or adapt to it and include it in their normal life cycle. Maybe they NEED it.

CIDA: They NEED something that takes apart their

genetic molecules and puts them back together at random?

GUSTO: Maybe that's why there are so few different species in Lusitania-- the Descolada may be fairly recent, only half a million years old-- and most species couldn't

173/449 9



Speaker for the Dead

9

Congenital Defect

CIDA: The Descolada body isn't bacterial. It seems to enter the cells of the body and take up permanent residence, just like mitochondria, reproducing when the cell reproduces. The fact that it spread to a new species within only a few years of our arrival here suggests that it is wildly adaptable. It must surely have spread through the entire biosphere of Lusitania long ago, so that it may now be endemic here, a permanent infection.

28%

GUSTO: If it's permanent and everywhere, it isn't an infection, Cida, it's part of normal life.

CIDA: But it isn't necessarily inborn— it has the ability to spread. But yes, if it's endemic then all the indigenous species must have found ways to fight it off.

GUSTO: Or adapt to it and include it in their normal life cycle. Maybe they NEED it.

CIDA: They NEED something that takes apart their genetic molecules and puts them back together at random?

GUSTO: Maybe that's why there are so few different species in Lusitania— the Descolada may be fairly recent, only half a million years old— and most species couldn't adapt.

CIDA: I wish we weren't dying, Gusto. The next xenobiologist will probably work with standard genetic adaptations and won't follow this up.

GUSTO: That's the only reason you can think of for

- Violation: The interface is of FBreader Android application which is an ebook reader app. The app presents a behavior which is adjust brightness by sliding your finger on the edge of the screen. This gesture can be enabled or disabled in the setting. When a book is opened, there are action bar on the

top and some options. There is no way to adjust brightness in the GUI bar or options, and no possibility of enabling it. The user is intended to learn the gesture and use it.

- Problem: The app relies on recall rather than recognition here as the gesture is meant to be learned. A new user may not know the option even exists because there is no option in the UI.

Help users recognize, diagnose, recover from errors

- NewPipe android app

← Error report

11:31

Share

Sorry that should not happen. Guru Meditation.

What happened:
App/UI crashed

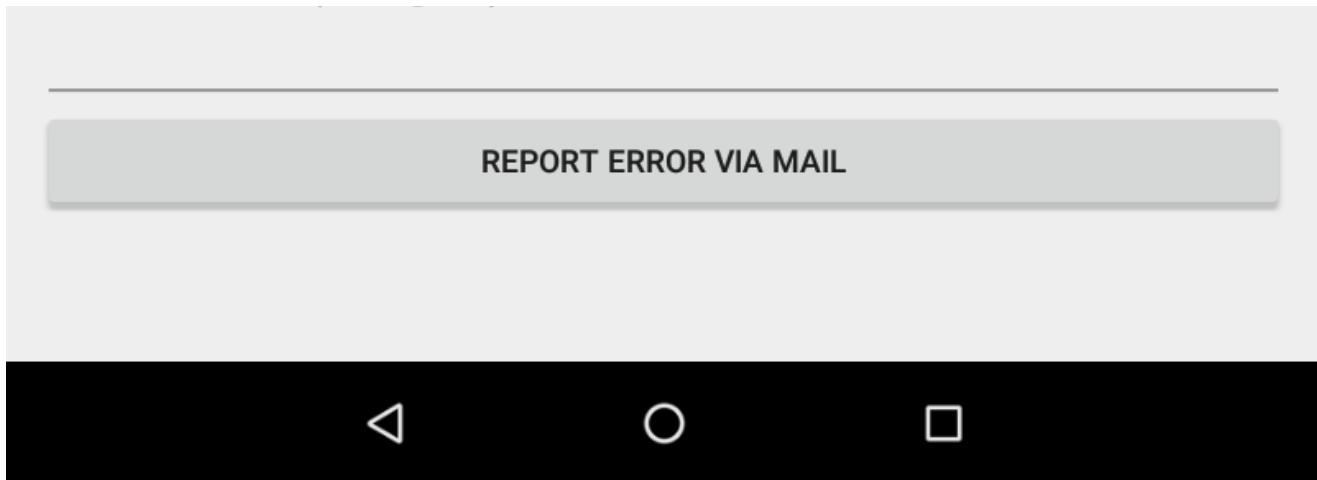
Info:

What: ui error
Request: App crash, UI failure
Content Lang: en
Service: none
GMT Time: 2017-02-20 04:31
Package: org.schabi.newpipe
Version: 0.8.9
OS version: Linux Android 7.1.1 - 25
Glob. IP range: 71.69.0.0

Details:

```
-----  
java.lang.RuntimeException: java.io.IOException: No such file or dire  
    at us.shandian.giga.get.DownloadManagerImpl$Initializer.run(DownloadManagerImpl.java:100)  
Caused by: java.io.IOException: No such file or directory  
    at java.io.UnixFileSystem.createFileExclusively0(Native Method)  
    at java.io.UnixFileSystem.createFileExclusively(UnixFileSystem.java:948)  
    at java.io.File.createNewFile(File.java:948)  
    at us.shandian.giga.get.DownloadManagerImpl$Initializer.run(DownloadManagerImpl.java:100)  
java.io.IOException: No such file or directory  
    at java.io.UnixFileSystem.createFileExclusively0(Native Method)  
    at java.io.UnixFileSystem.createFileExclusively(UnixFileSystem.java:948)  
    at java.io.File.createNewFile(File.java:948)  
    at us.shandian.giga.get.DownloadManagerImpl$Initializer.run(DownloadManagerImpl.java:100)  
-----
```

Your comment (in English):



- Violation: The interface here is of Newpipe android application which is a video playing app. Here when a page is not able to load on the web, the app crashes and shows a page of error messages. You can go back and try again. There is a button to report error via mail.
- Problem: The problem for the user is the page shows a big wall of text about the error presented in a very technical manner. This maybe helpful for the developer to work with, but for the user this is not convenient. A user may wonder if the app is crashed and would work again or not. Also there is no way shown to recover from the error which may confuse the user.