# ADVENTURES IN DRUPAL SECURITY

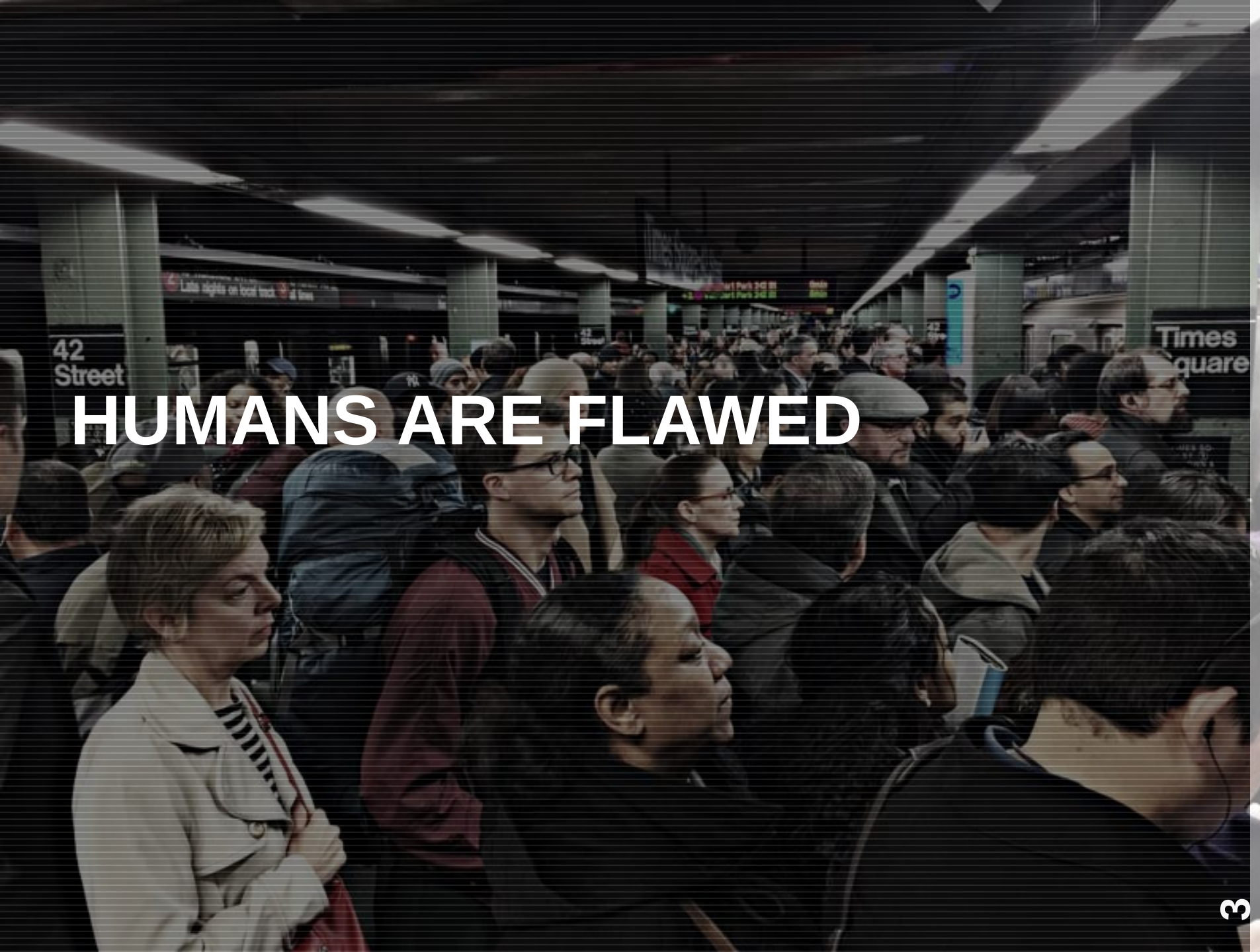
JUNIOR TIDAL

WEB SERVICES & MULTIMEDIA LIBRARIAN

NEW YORK CITY COLLEGE OF TECHNOLOGY

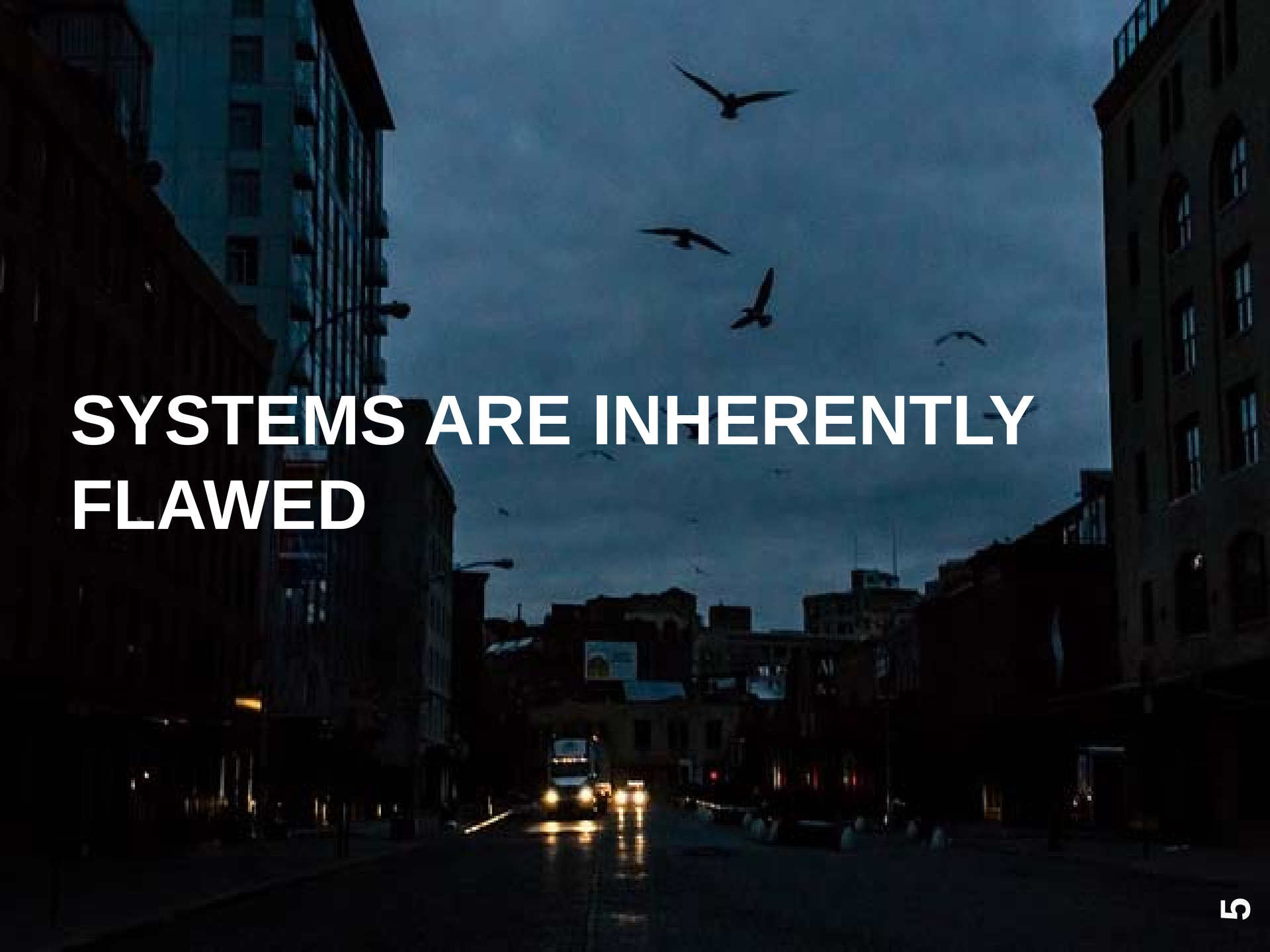
@JUNIORTIDAL

# ORGANIZATIONAL INFORMATICS




# HUMANS ARE FLAWED


# HUMANS CREATE SYSTEMS



# SYSTEMS ARE INHERENTLY FLAWED

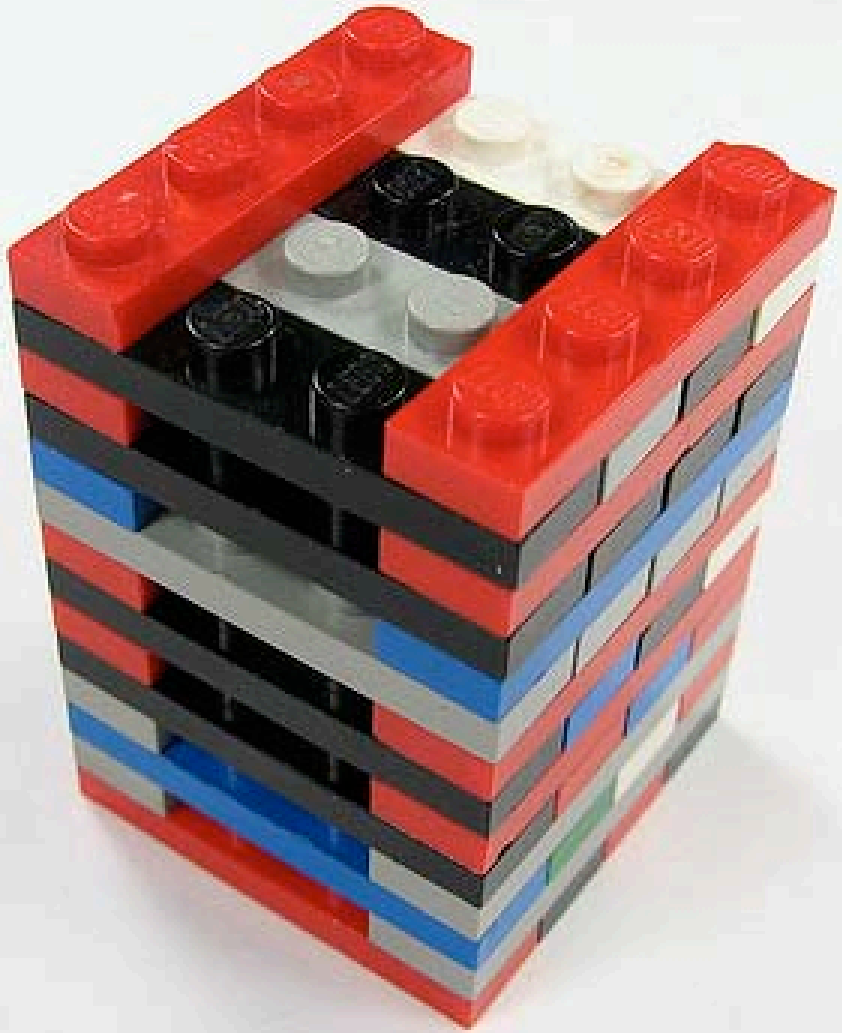

EVENTUALLY SYSTEMS FAIL

# THERE IS NO PERFECT SYSTEM

# THERE IS NO PERFECT SYSTEM

## …SO DON’T TRY TO CREATE ONE.

# SYSTEMS FAIL FROM INTERNAL AND EXTERNAL FACTORS



# INSTEAD OF BUILDING A PERFECT SYSTEM

# EMPHASIZE PREVENTIVE MAINTENANCE

# CREATE RECOVERY STRATEGIES

# WHAT ARE WE TALKING ABOUT TODAY?

**BACKGROUND**

**SECURITY COMPROMISED!**

**RECOVERY**

**LEARNING**

**SECURING YOUR SITE**

# BACKGROUND

# URSULA C. SCHWERIN LIBRARY SUPPORTS OVER 17,000 STUDENTS OF THE NEW YORK CITY COLLEGE OF TECHNOLOGY

# (CITY TECH)


ONE OF THE 23 CAMPUSES
OF THE CITY UNIVERSITY OF
NEW YORK (CUNY)


CONSIDERED A
“COMMUTER” SCHOOL

# SERVES A DIVERSE POPULATION IN DOWNTOWN BROOKLYN

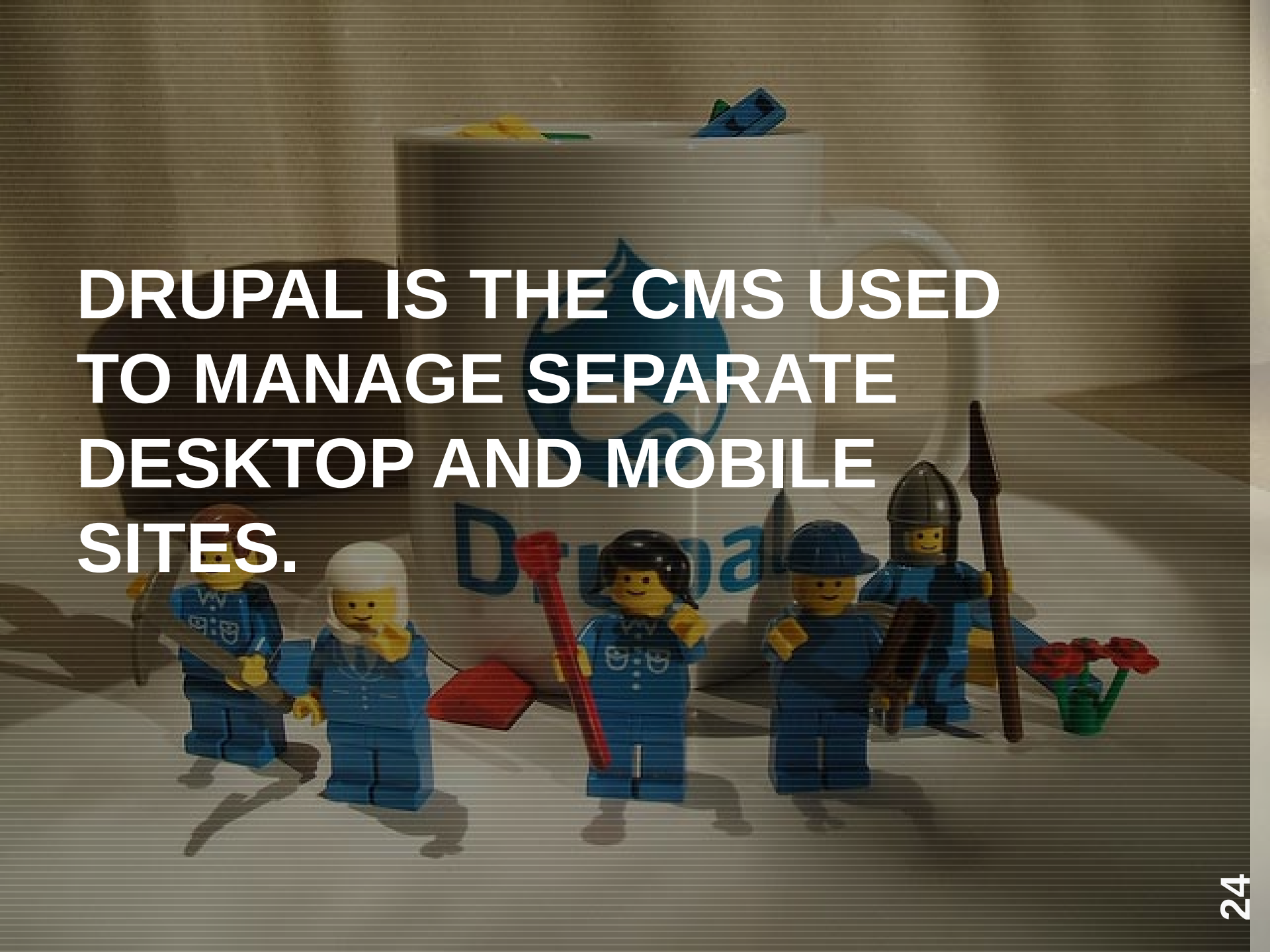
# THE WEB SERVER


MIGRATED FROM A MULTI-DEPARTMENTAL WINDOWS IIS SERVER TO A DEDICATED LAMP SERVER IN 2008.


AD HOC SUPPORTED BY
COLLEGE IT DEPARTMENT.


THE WEB SERVICES LIBRARIAN AND IT ASSOCIATE ARE ADMINS FOR THIS SERVER

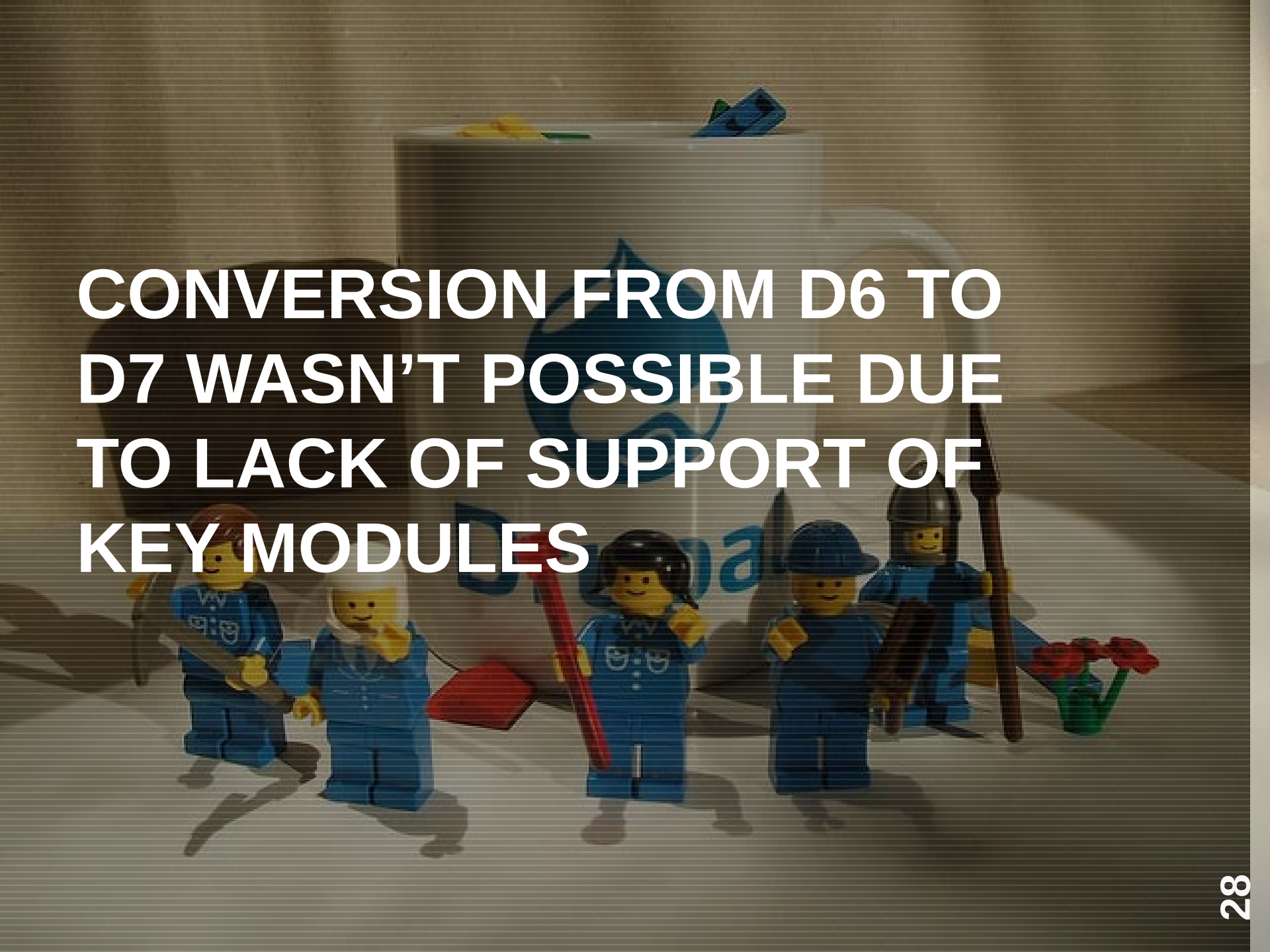
# DRUPAL


DRUPAL IS THE CMS USED TO MANAGE SEPARATE DESKTOP AND MOBILE SITES.

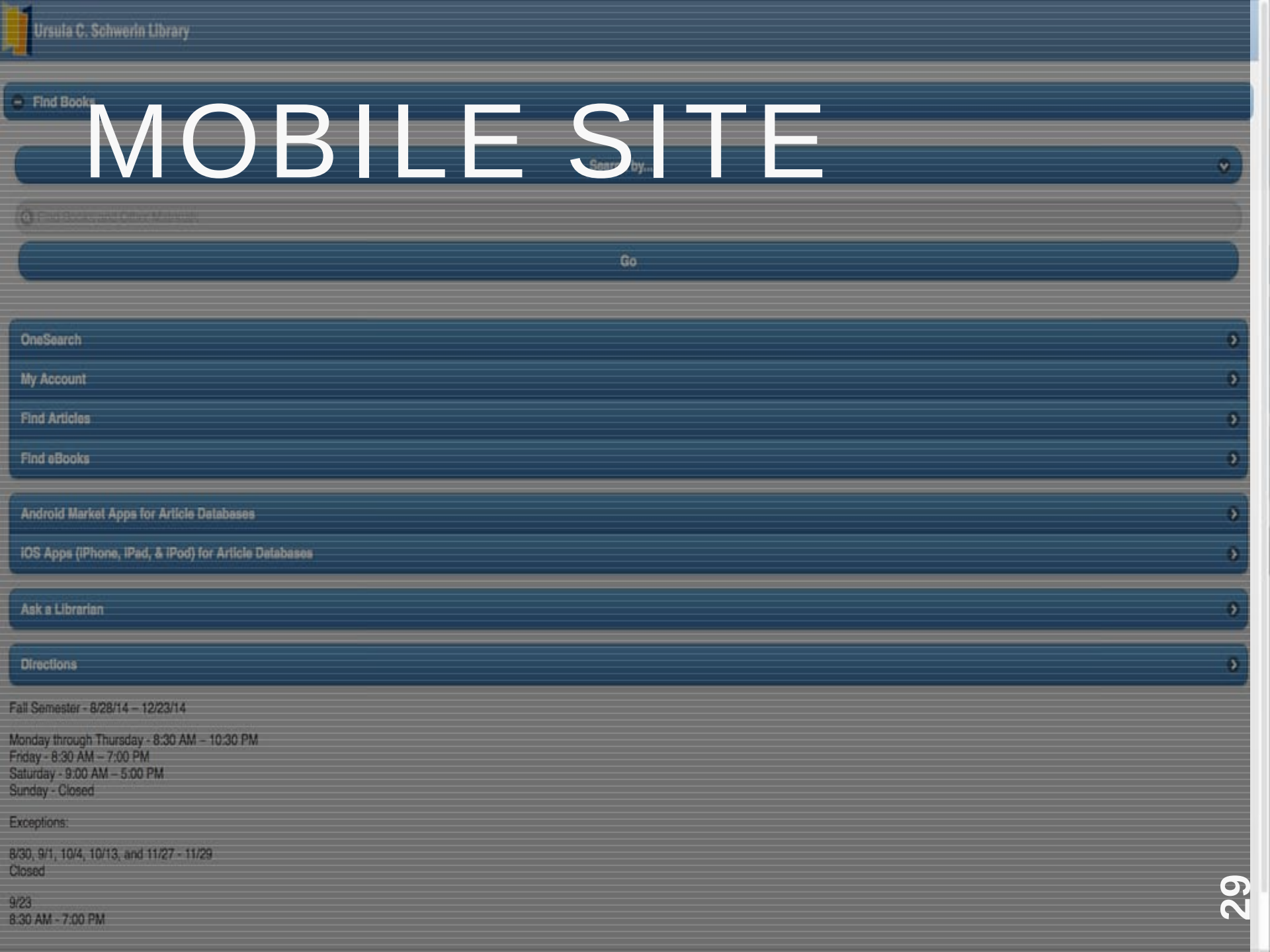

DRUPAL 6 WAS USED FOR
THE DESKTOP SITE.

# USING ANALYTICS INFORMATION, THERE WAS A NEED TO SUPPORT MOBILE USERS.

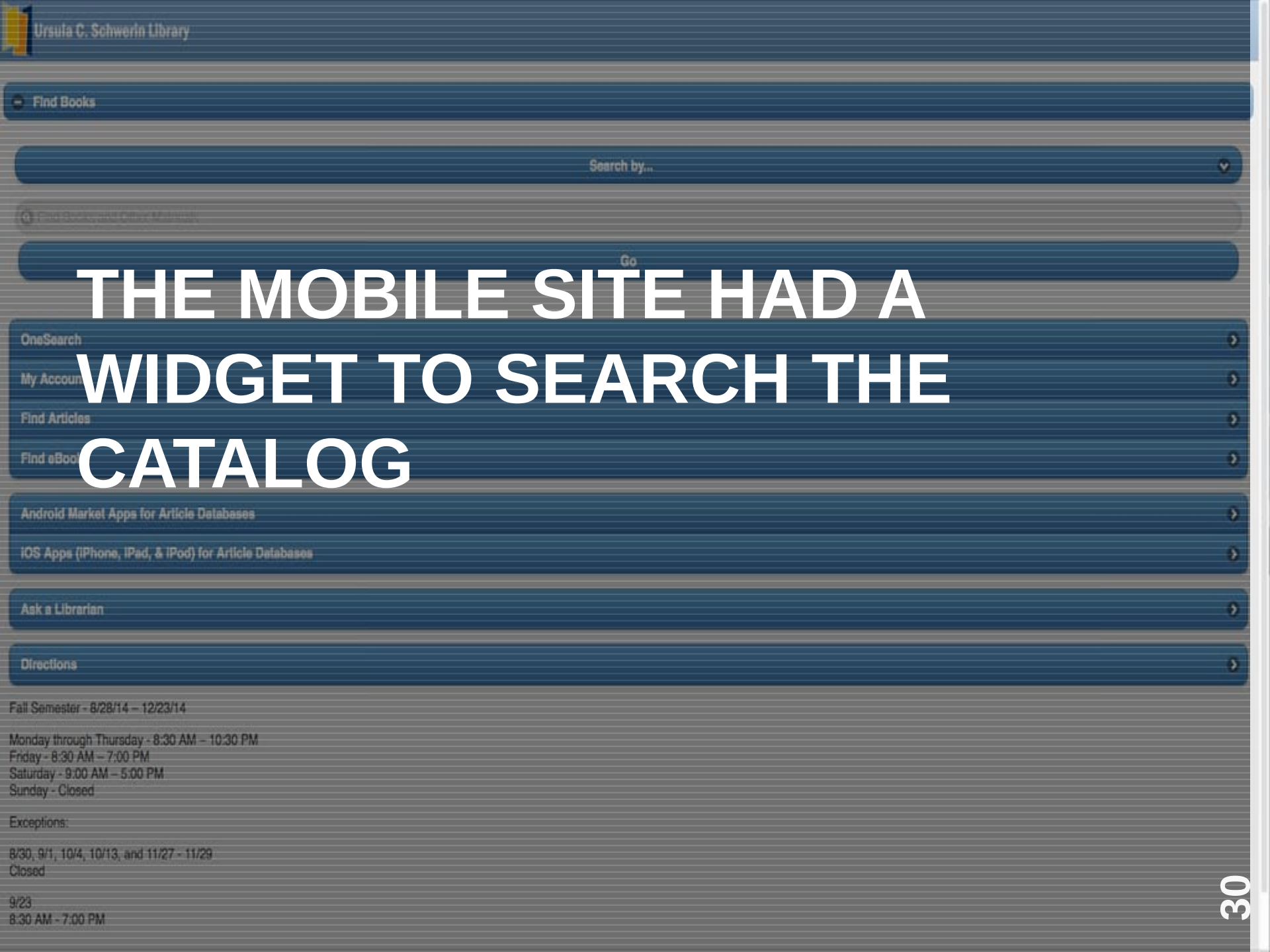

DRUPAL 7 WAS USED TO CREATE A SEPARATE MOBILE SITE.



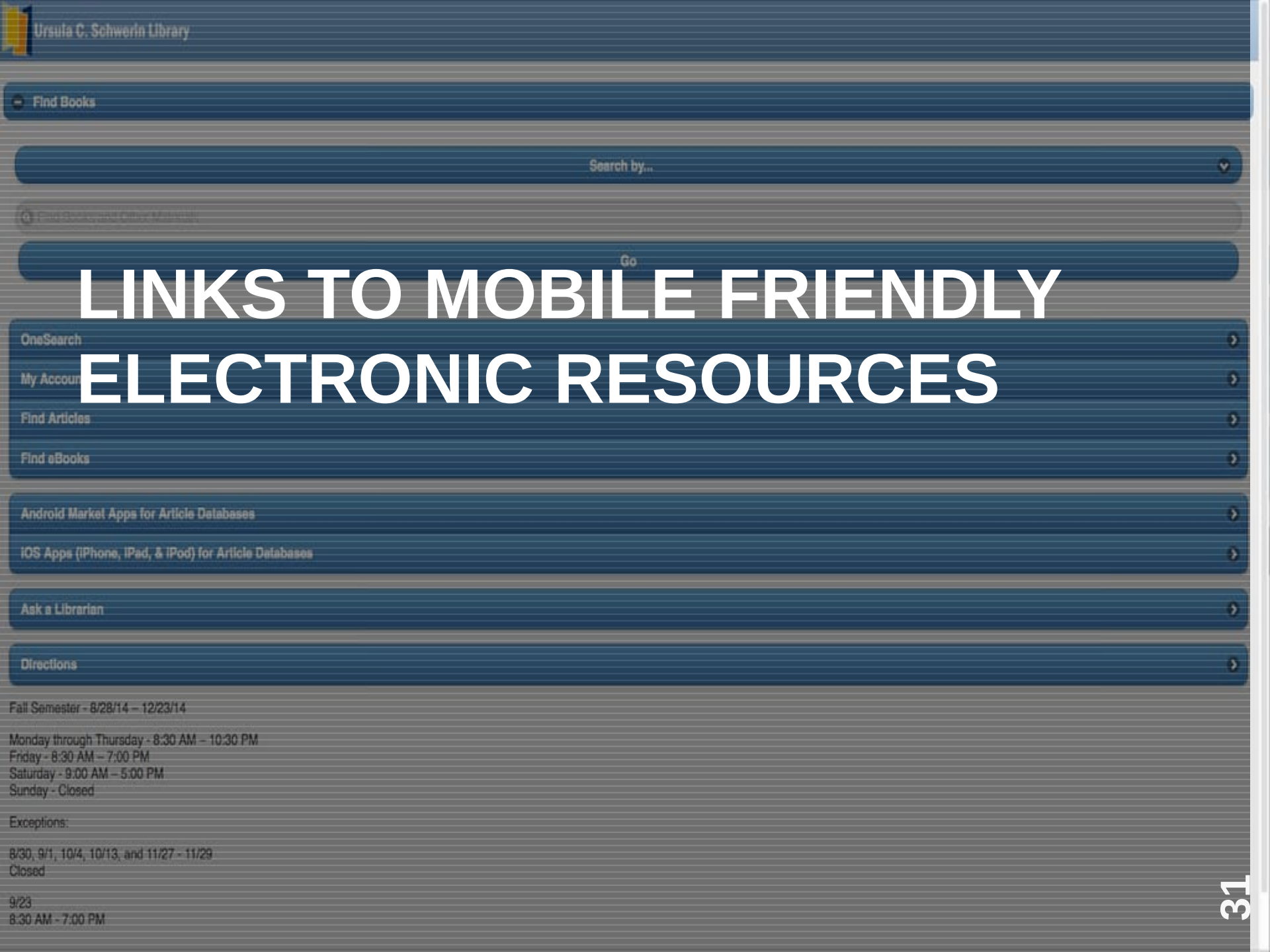
# CONVERSION FROM D6 TO D7 WASN'T POSSIBLE DUE TO LACK OF SUPPORT OF KEY MODULES


Ursula C. Schwerin Library
Find Books
Search by...
Go
OneSearch
My Account
Find Articles
Find eBooks
Android Market Apps for Article Databases
iOS Apps (iPhone, iPad, & iPod) for Article Databases
Ask a Librarian
Directions
Fall Semester - 8/28/14 – 12/23/14
Monday through Thursday - 8:30 AM – 10:30 PM
Friday - 8:30 AM – 7:00 PM
Saturday - 9:00 AM – 5:00 PM
Sunday - Closed
Exceptions:
8/30, 9/1, 10/4, 10/13, and 11/27 - 11/29
Closed
9/23
8:30 AM - 7:00 PM

# MOBILE SITE




# THE MOBILE SITE HAD A WIDGET TO SEARCH THE CATALOG

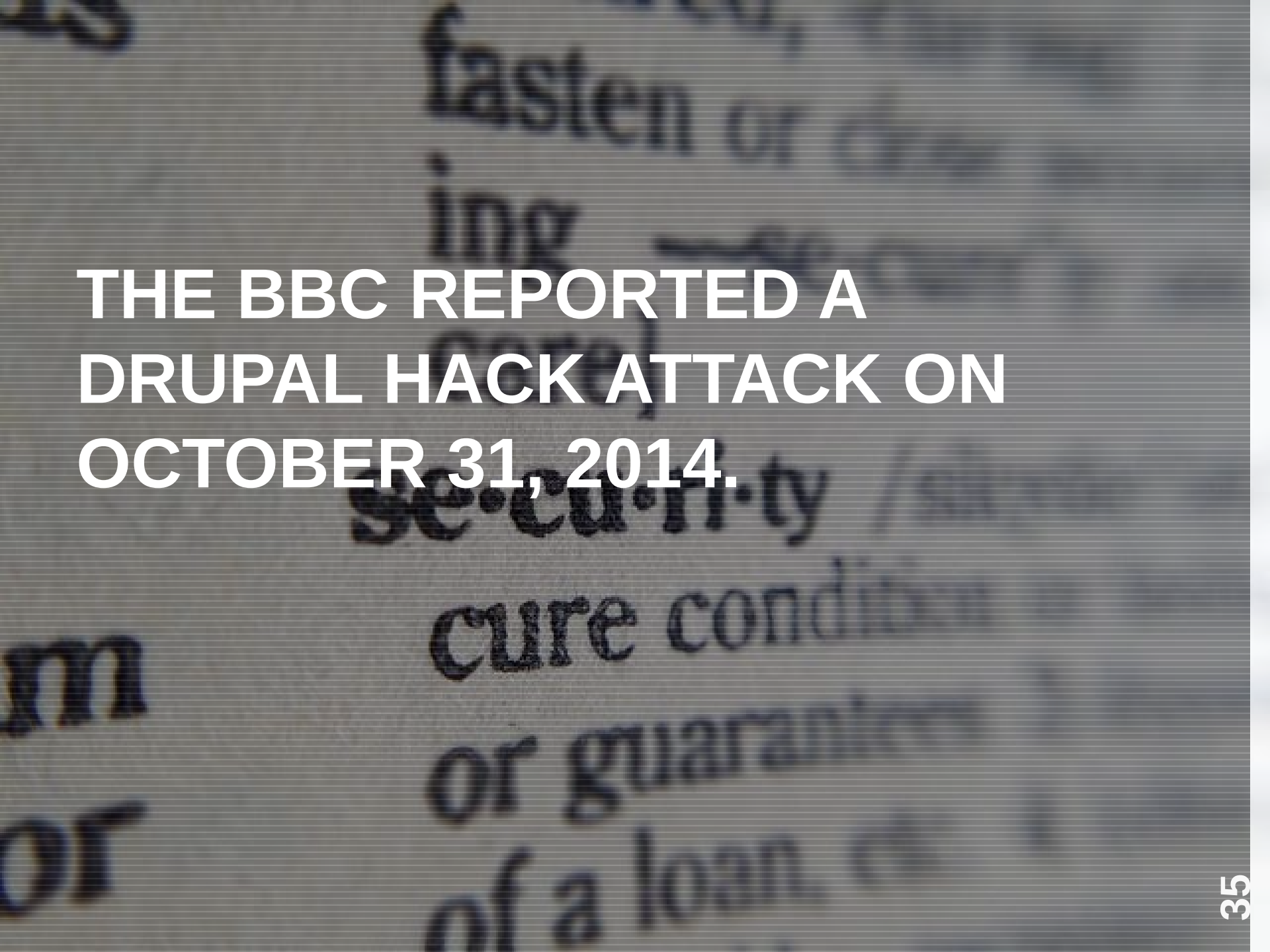



# LINKS TO MOBILE FRIENDLY ELECTRONIC RESOURCES


# LIBRARY INFORMATION SUCH AS HOURS AND CONTACT WAS ALSO PROVIDED

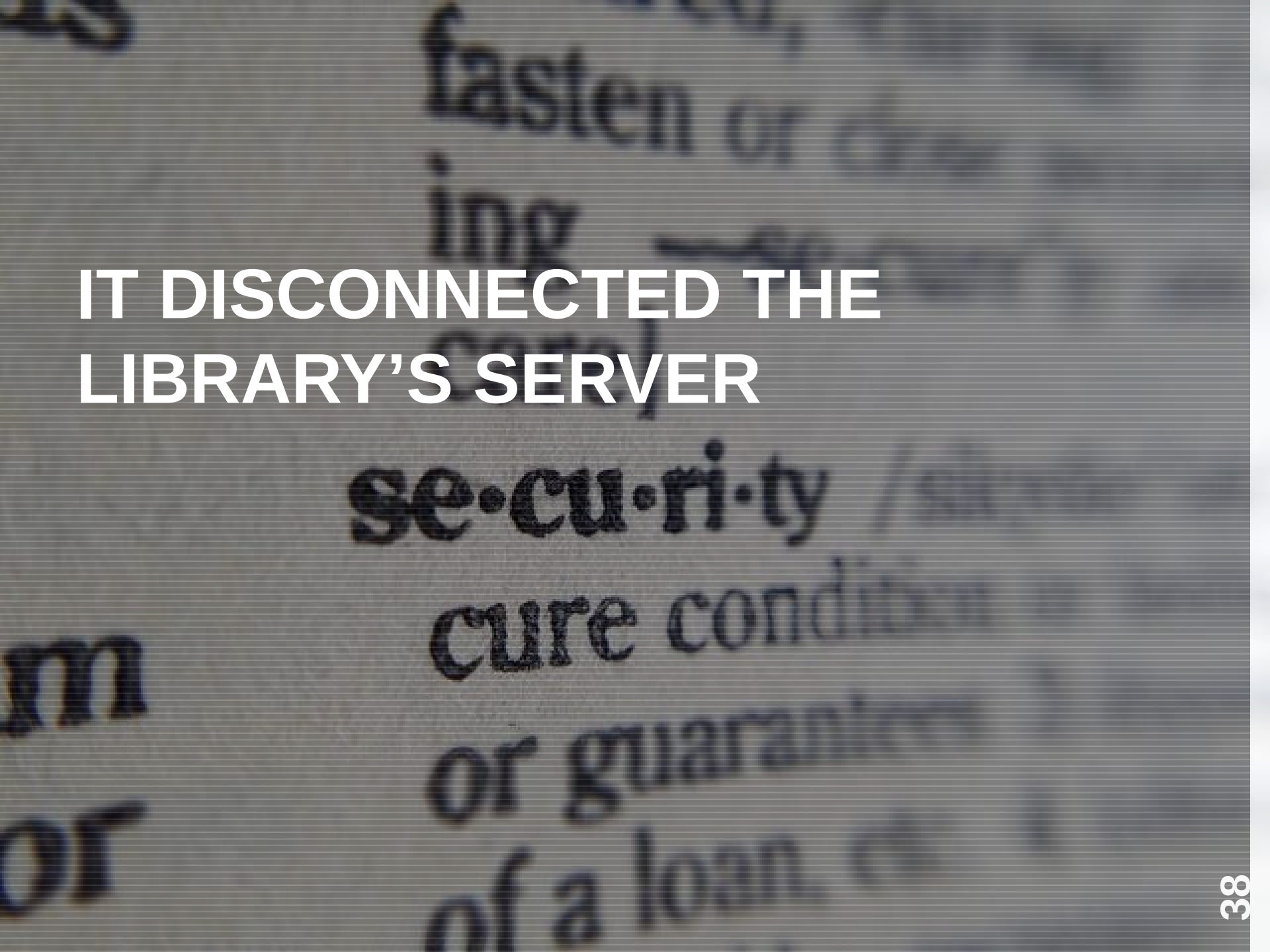
# SECURITY COMPROMISED!

# THE MOBILE SITE WAS HACKED ON DECEMBER 21ST, 2014.

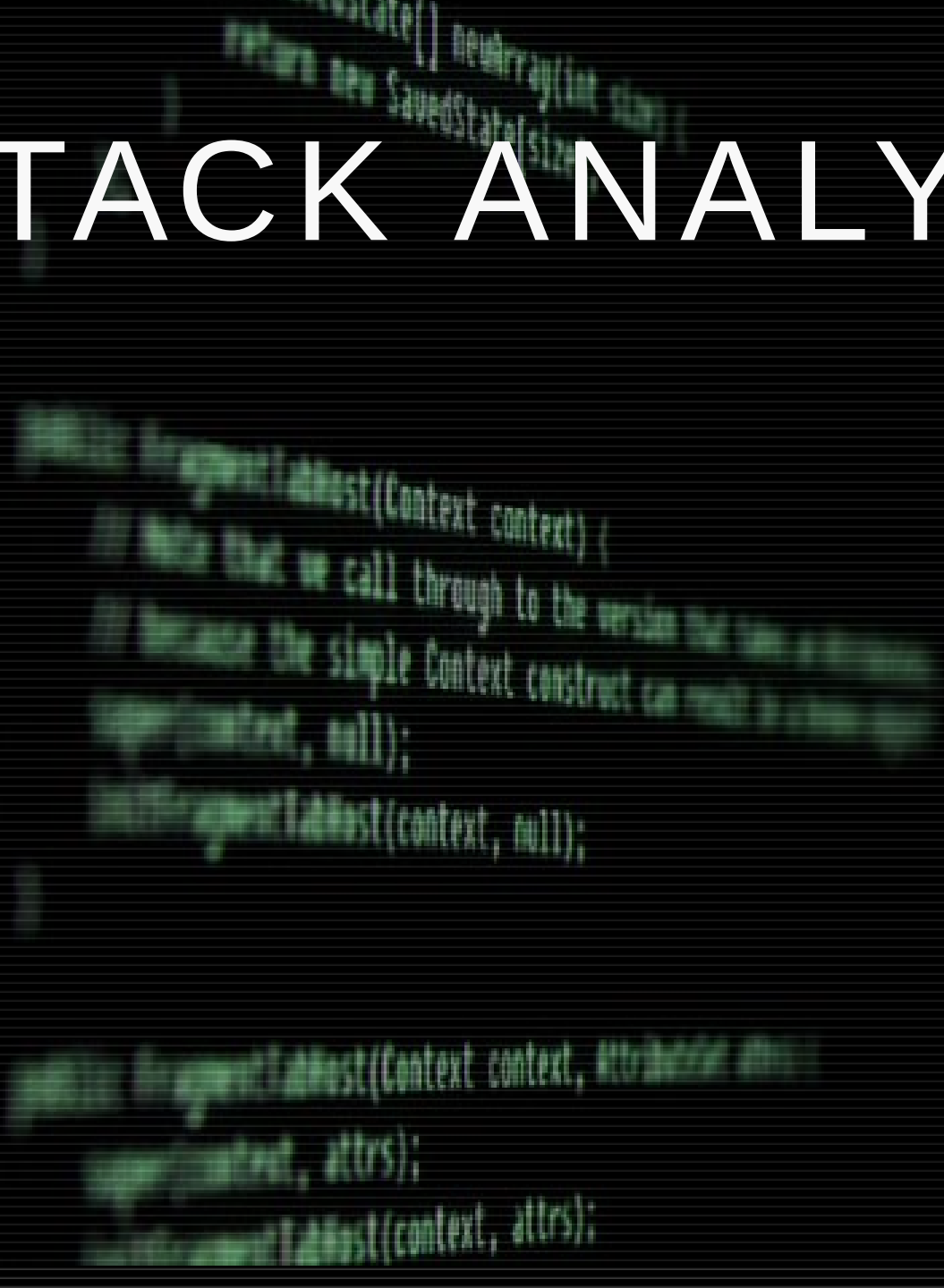

THE BBC REPORTED A DRUPAL HACK ATTACK ON OCTOBER 31, 2014.

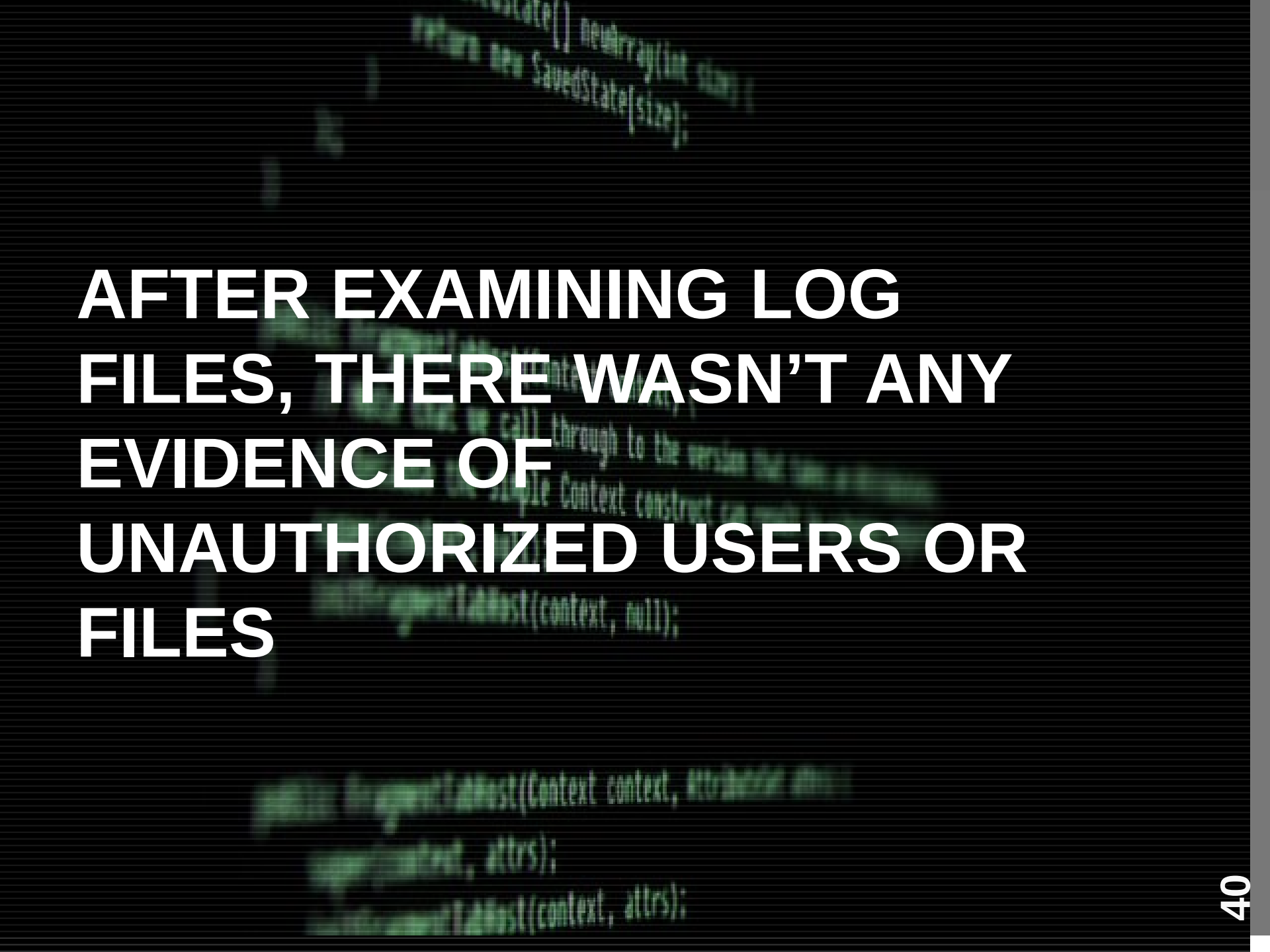

UNIVERSITY IT CONTACTED CAMPUS IT ABOUT THE BREACH
se·cu·ri·ty
cure


THE SITE WAS DEFACED AND
THE HOMEPAGE REPLACED
se·cu·ri·ty
cure

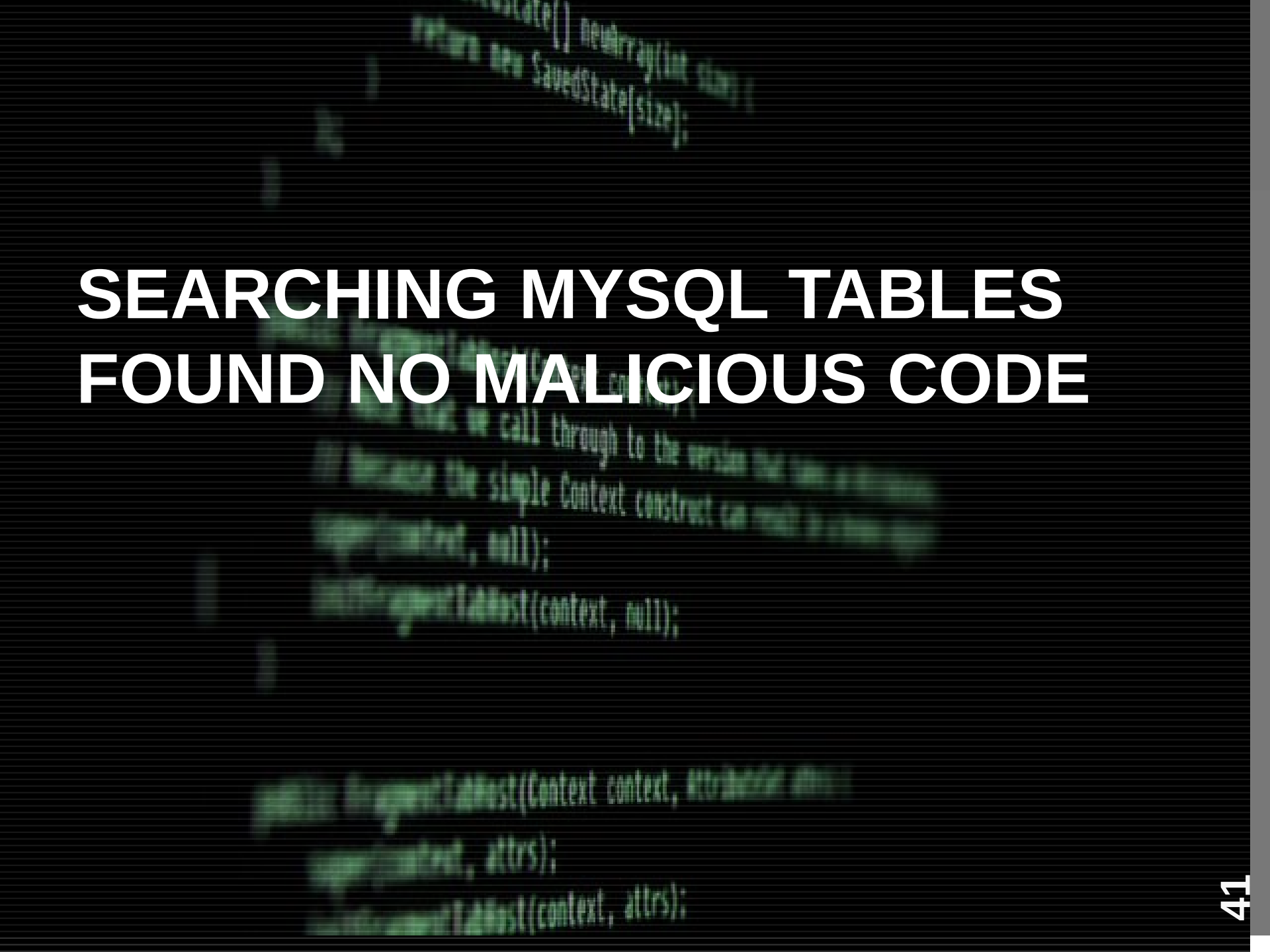

IT DISCONNECTED THE
LIBRARY'S SERVER
se·cu·ri·ty
cure

# ATTACK ANALYSIS

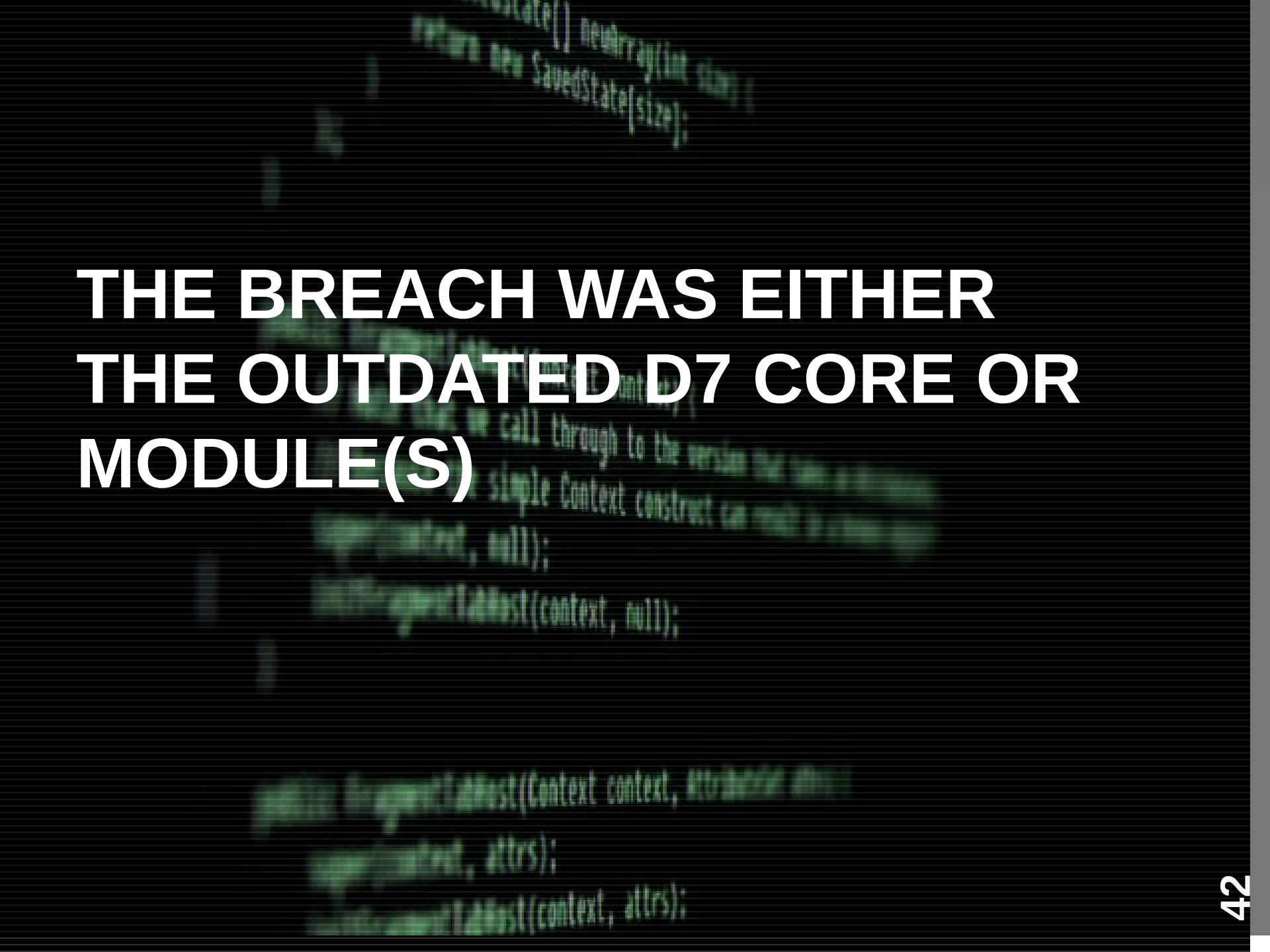




AFTER EXAMINING LOG FILES, THERE WASN'T ANY EVIDENCE OF UNAUTHORIZED USERS OR FILES



# SEARCHING MYSQL TABLES FOUND NO MALICIOUS CODE

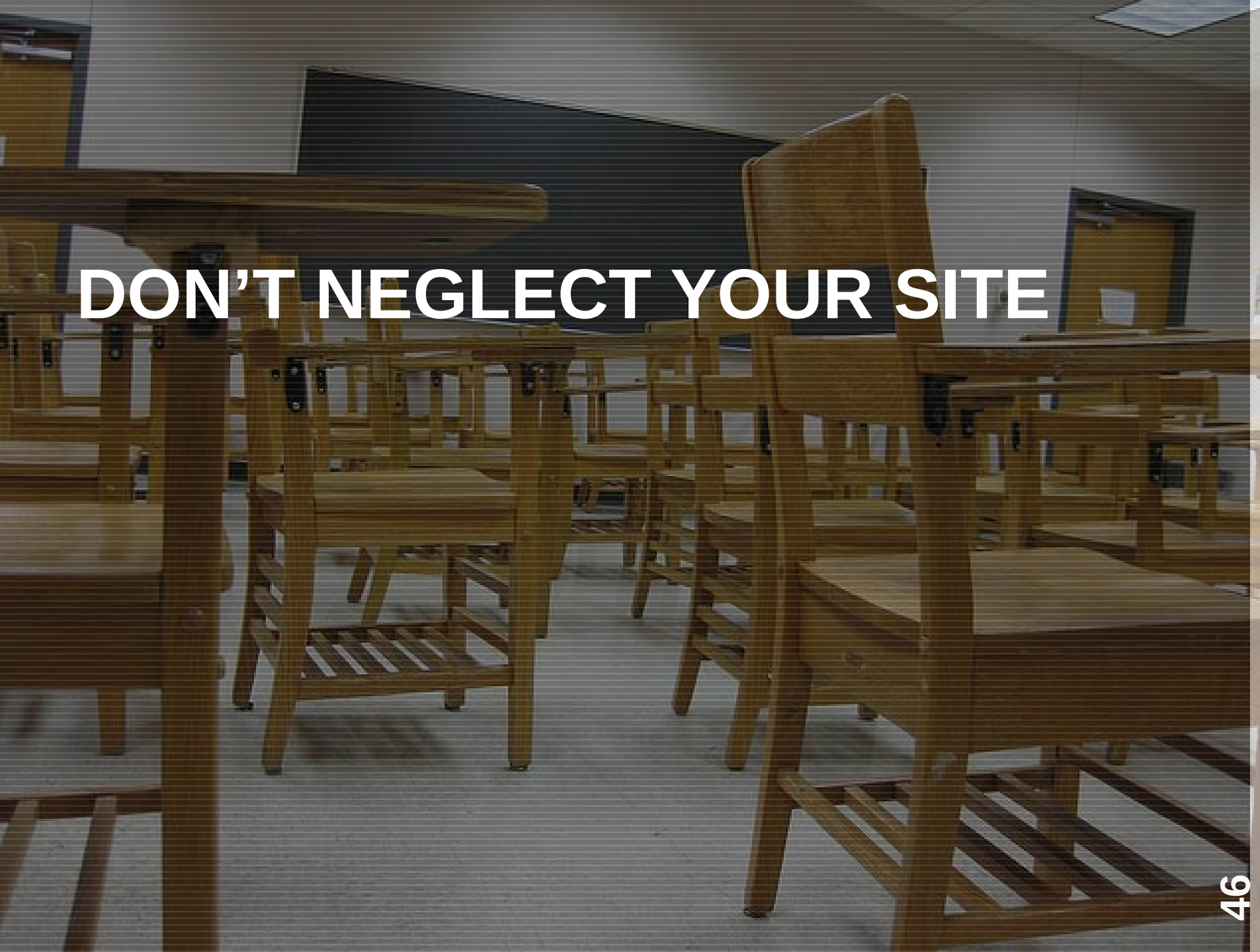


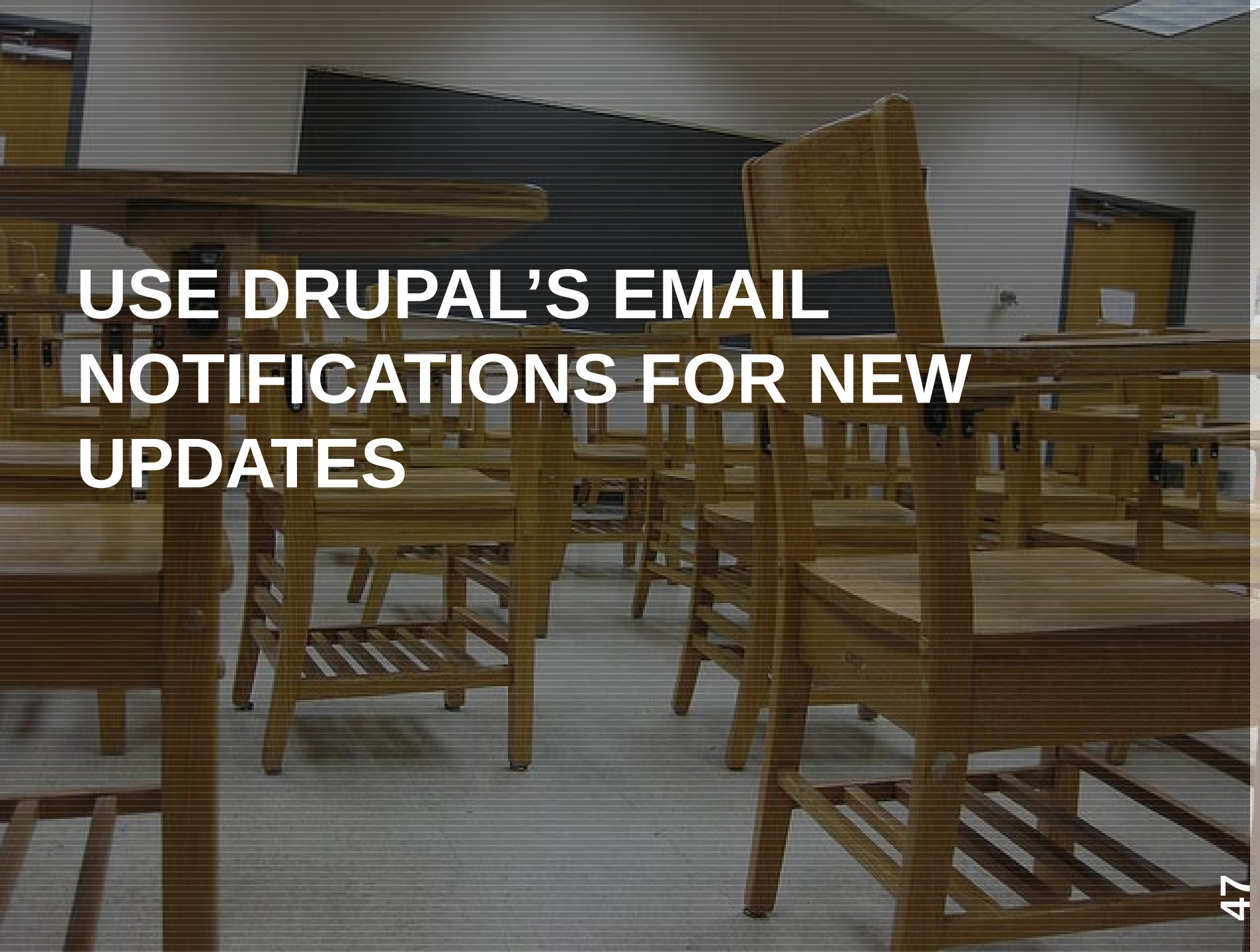
# THE BREACH WAS EITHER THE OUTDATED D7 CORE OR MODULE(S)

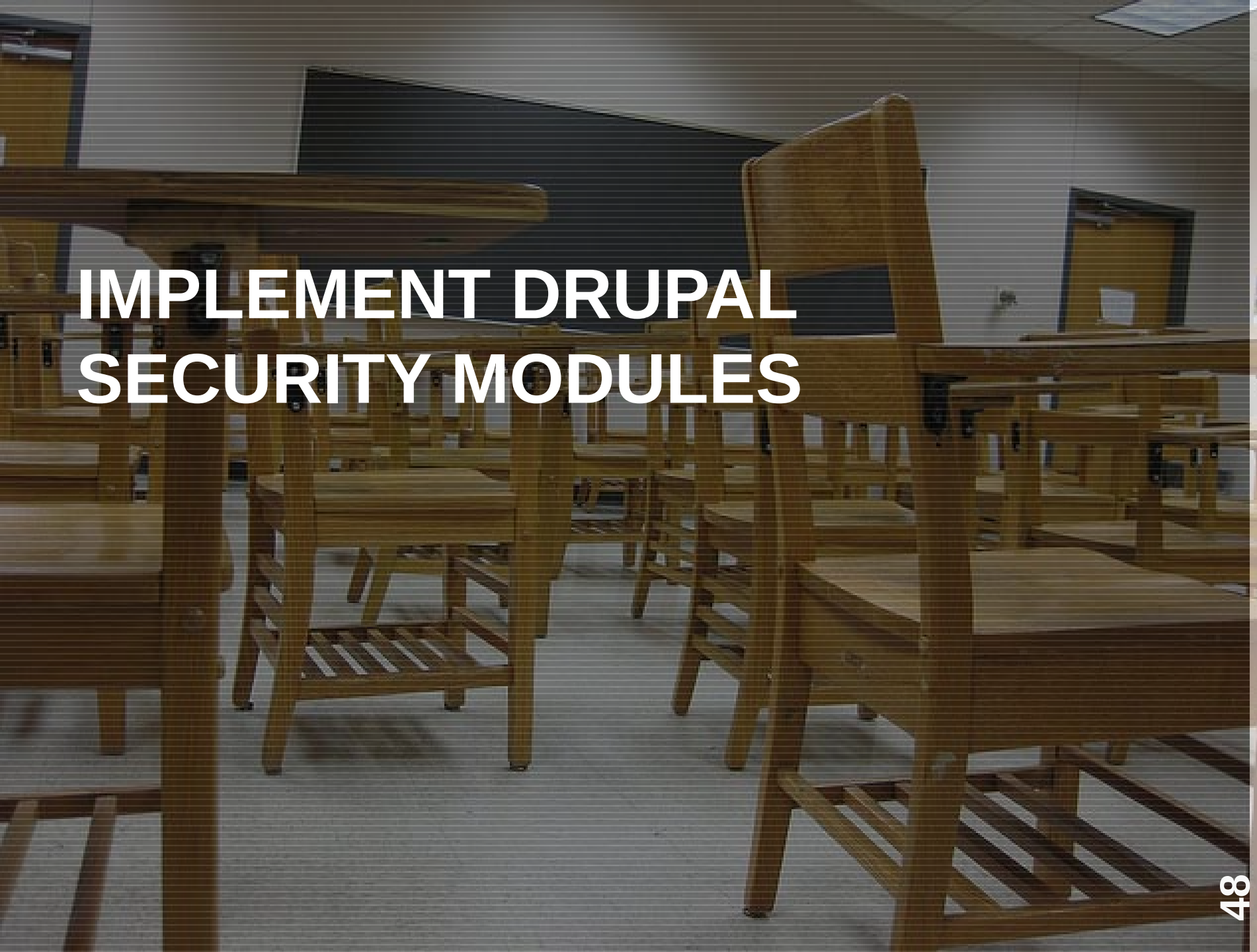
# THE MOBILE SITE WAS SHUT DOWN

UNTIL THE BETA SITE WAS READY, TRAFFIC WAS REDIRECTED TO THE DESKTOP SITE

# LESSONS LEARNED


DON’T NEGLECT YOUR SITE

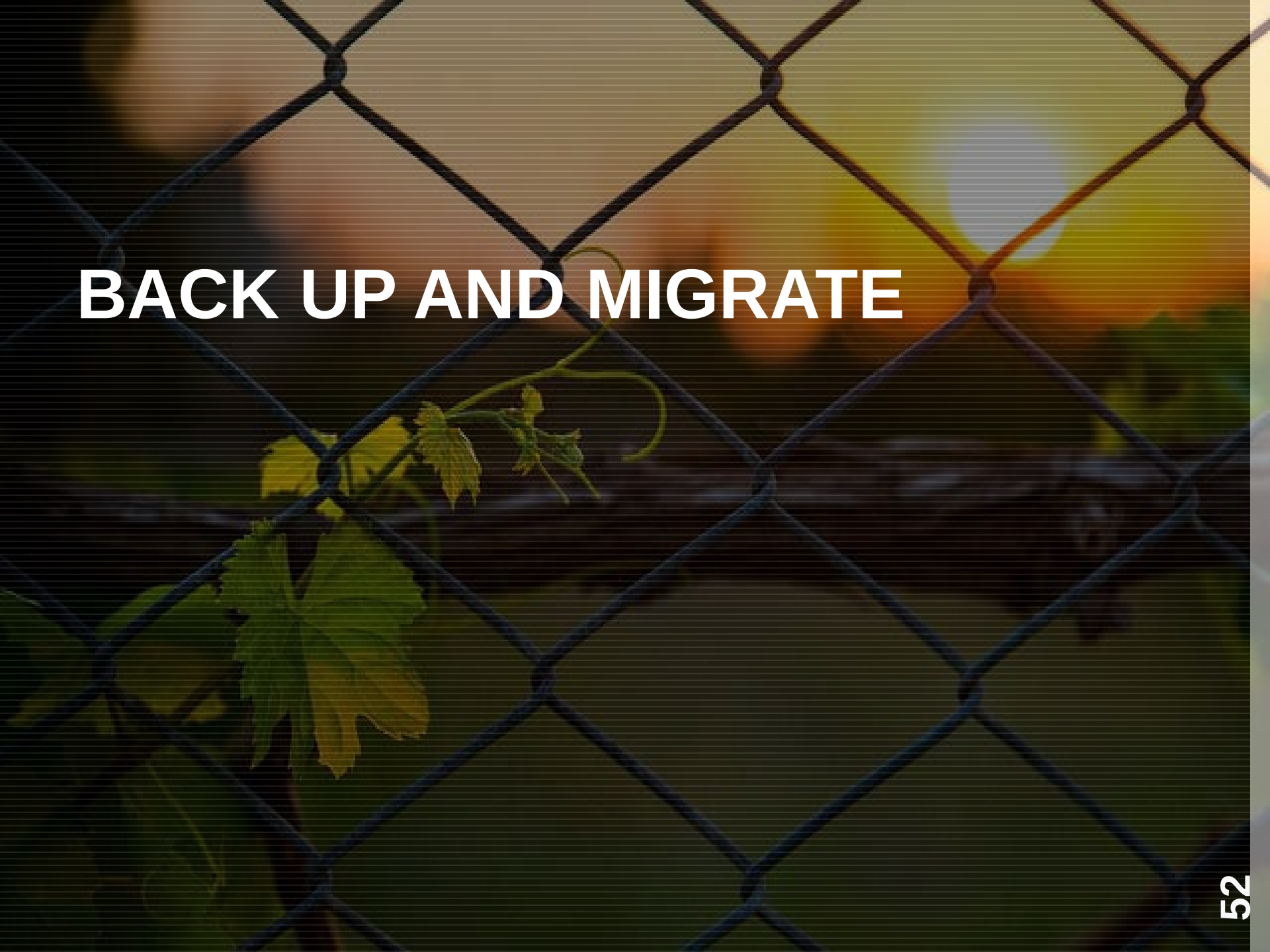

USE DRUPAL'S EMAIL NOTIFICATIONS FOR NEW UPDATES


IMPLEMENT DRUPAL
SECURITY MODULES


DRUPAL SECURITY
MODULES


DRUPAL SECURITY KIT


CAPTCHA


BACK UP AND MIGRATE

# AUTO LOGOUT

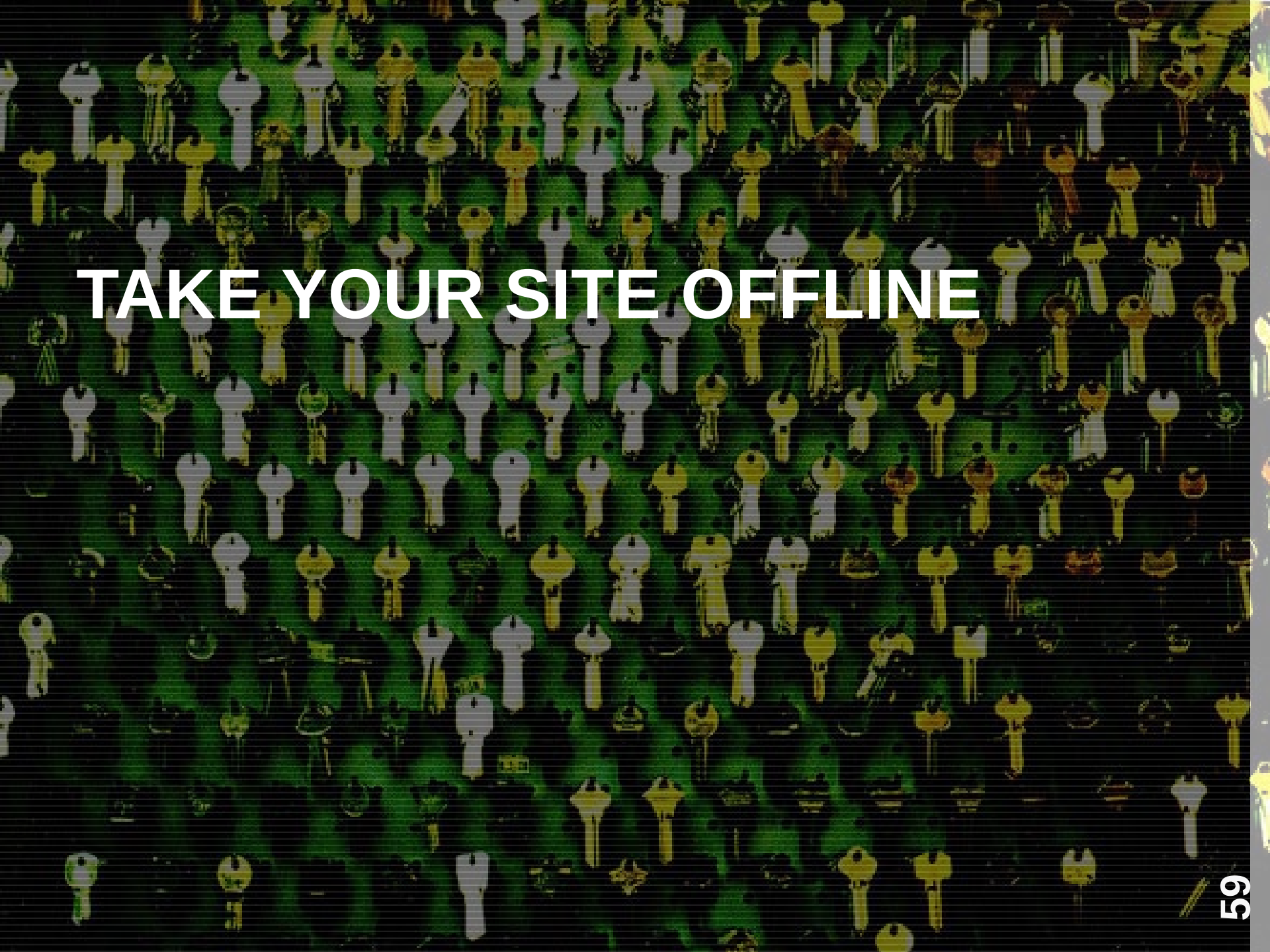

LOGIN SECURITY


DRUSH

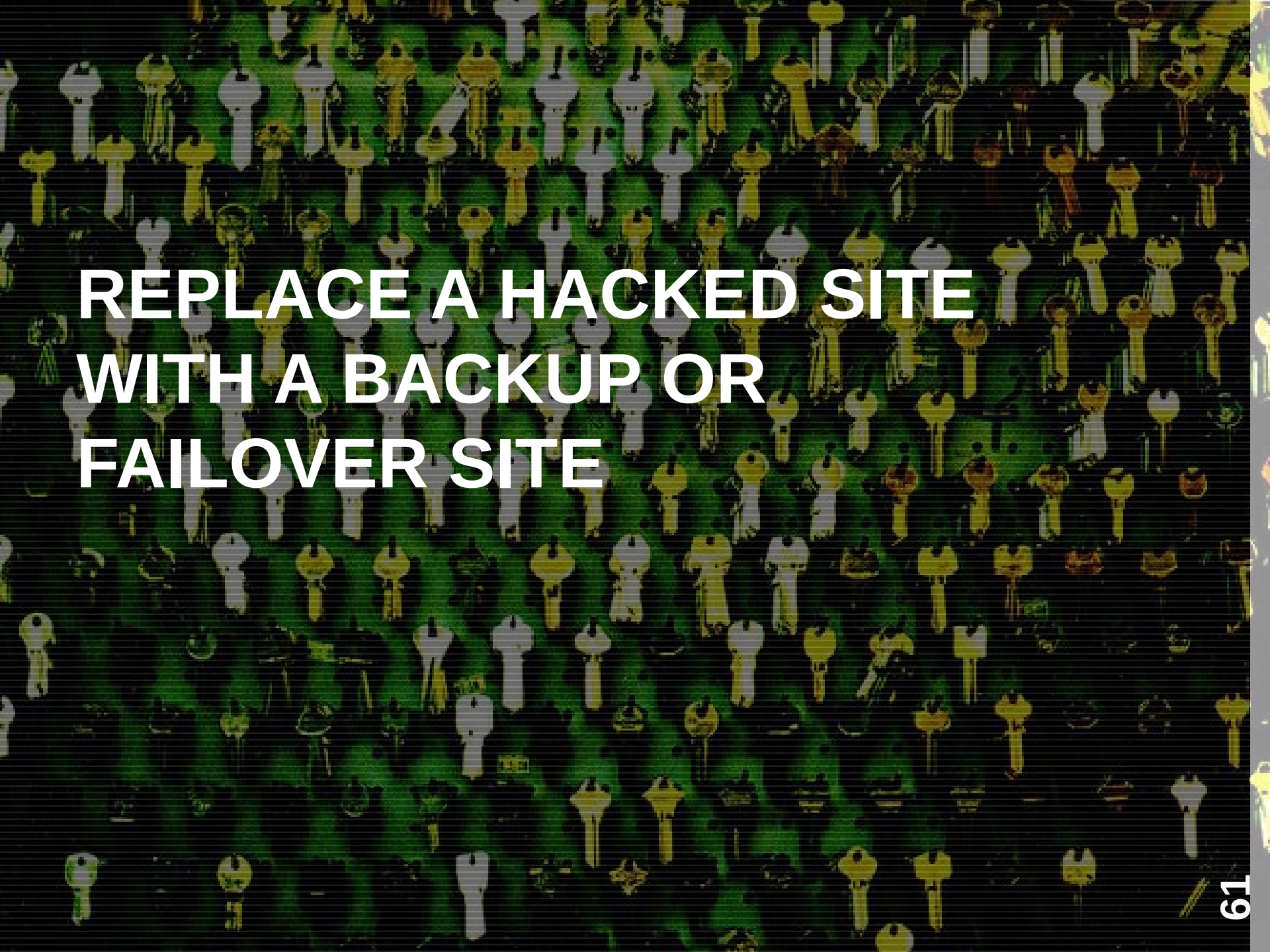

STRATEGIES FOR A
SECURITY BREACH


CREATE RECOVERY
GUIDELINES


CREATE RECOVERY
GUIDELINES


TAKE YOUR SITE OFFLINE


MAKE A BACKUP OF YOUR HACKED SITE


REPLACE A HACKED SITE WITH A BACKUP OR FAILOVER SITE

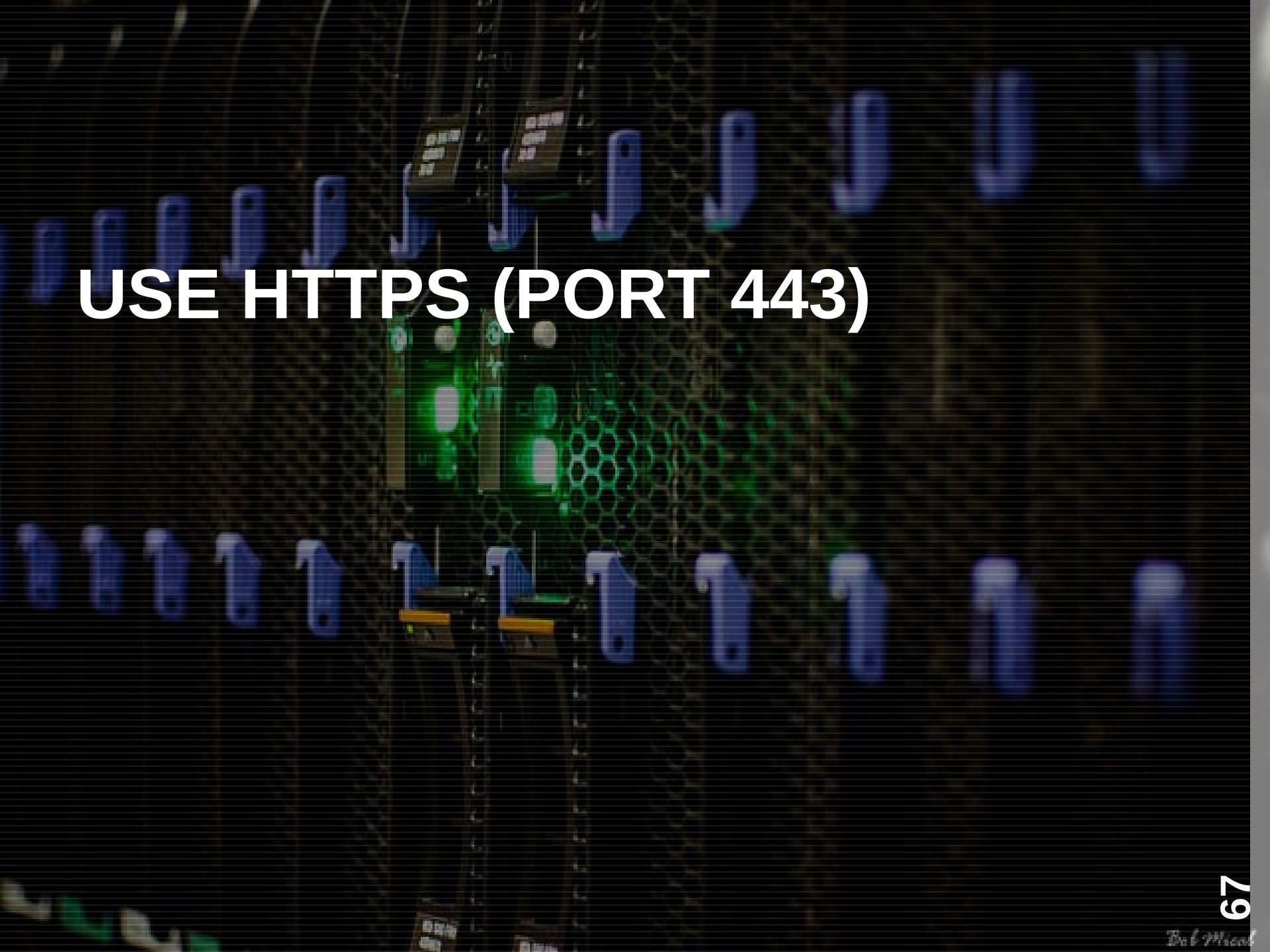

CHECK LOG FILES


NOTIFY ALL WHO NEED TO KNOW

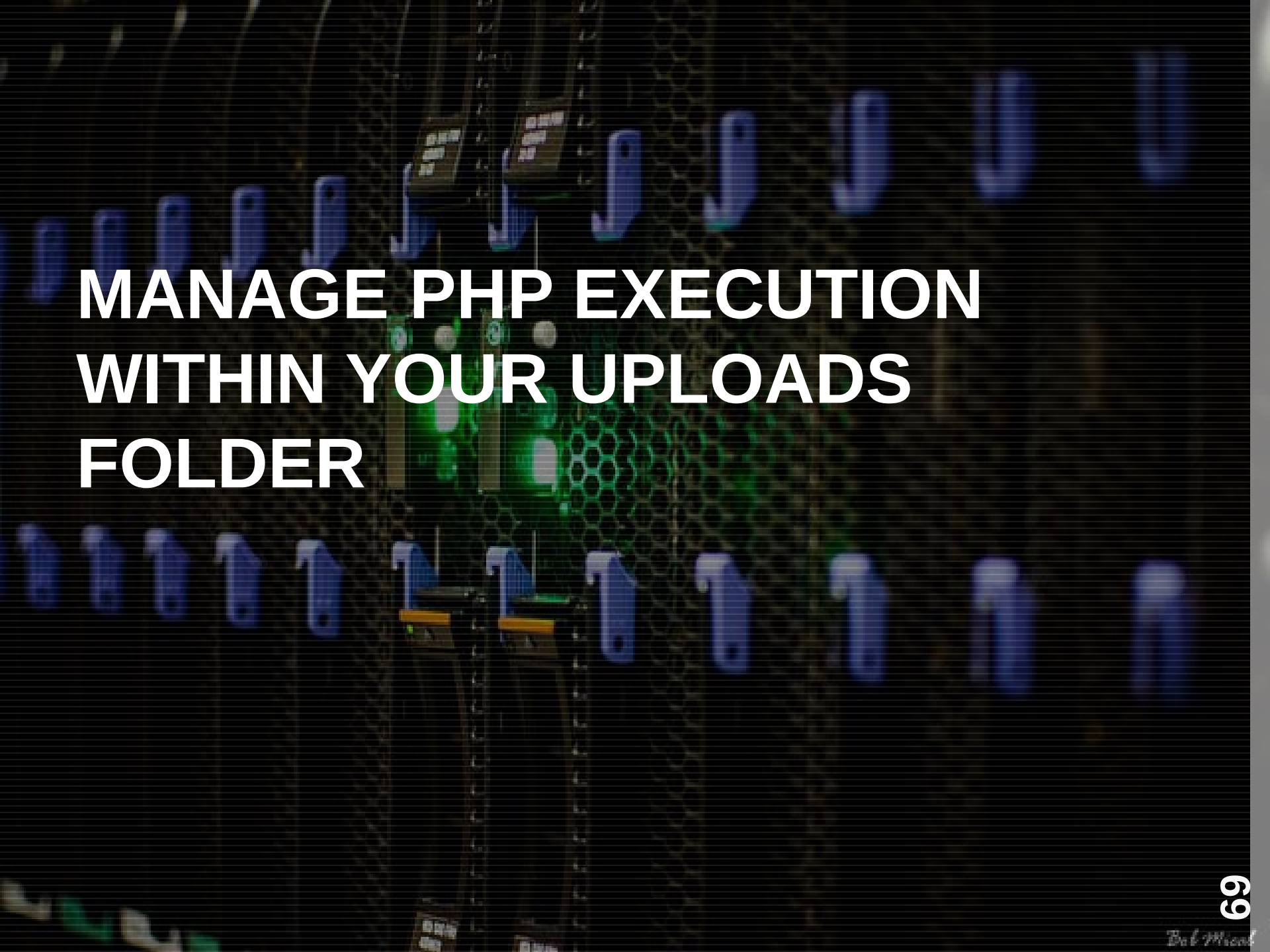

CHANGE PASSWORDS

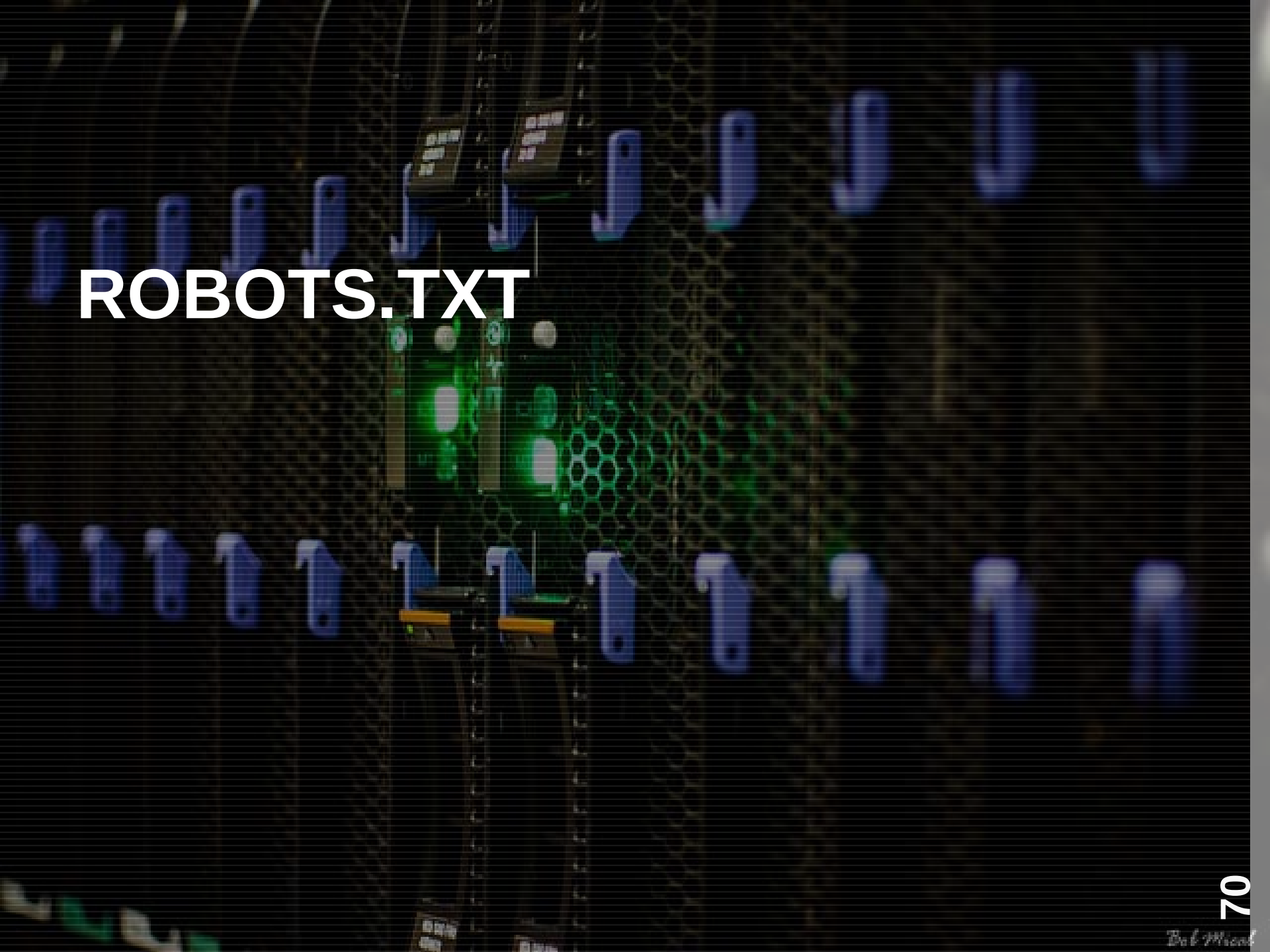

DOCUMENT EVERYTHING

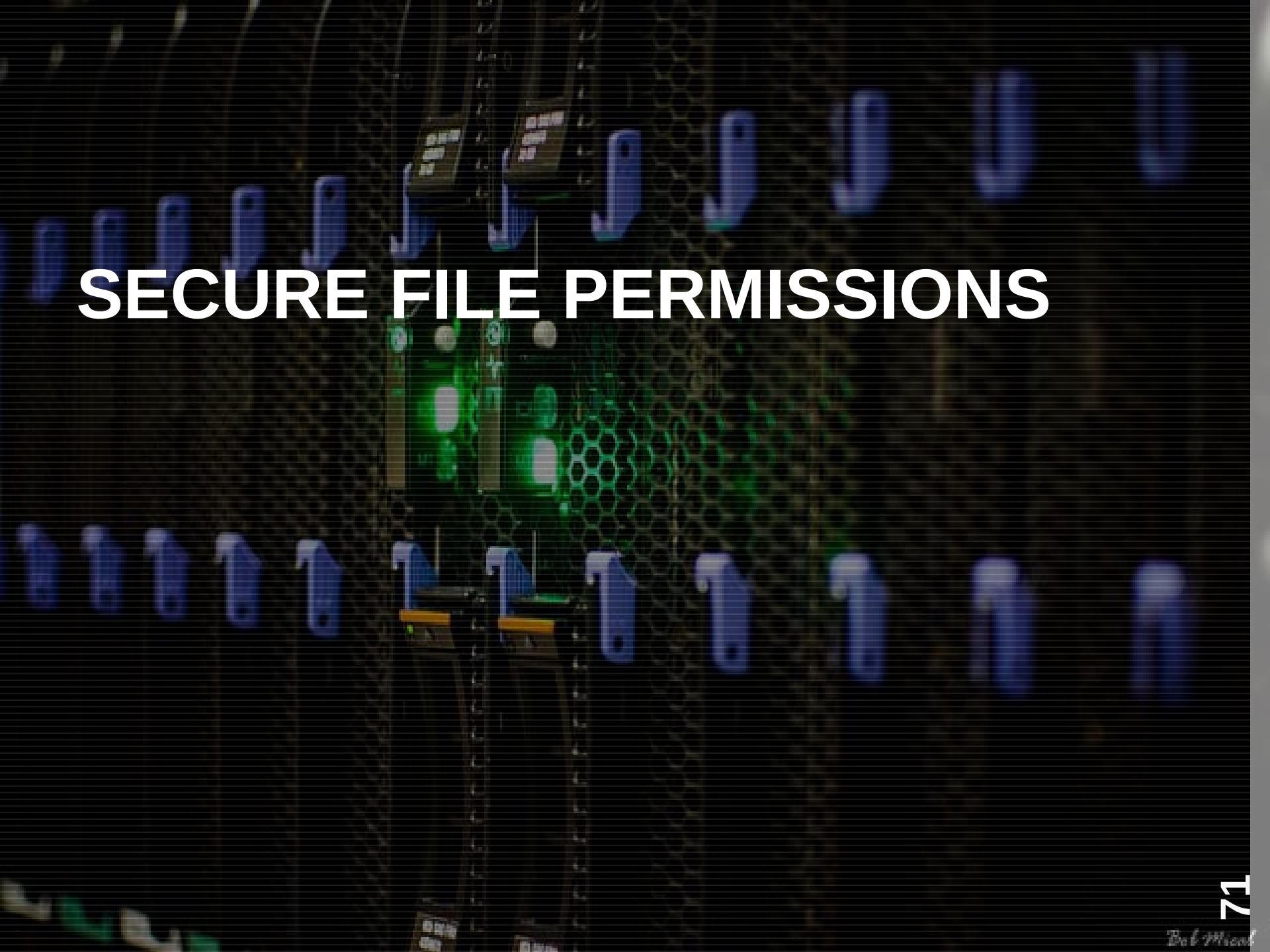

PREVENTIVE
STRATEGIES AT
THE SERVER
LEVEL

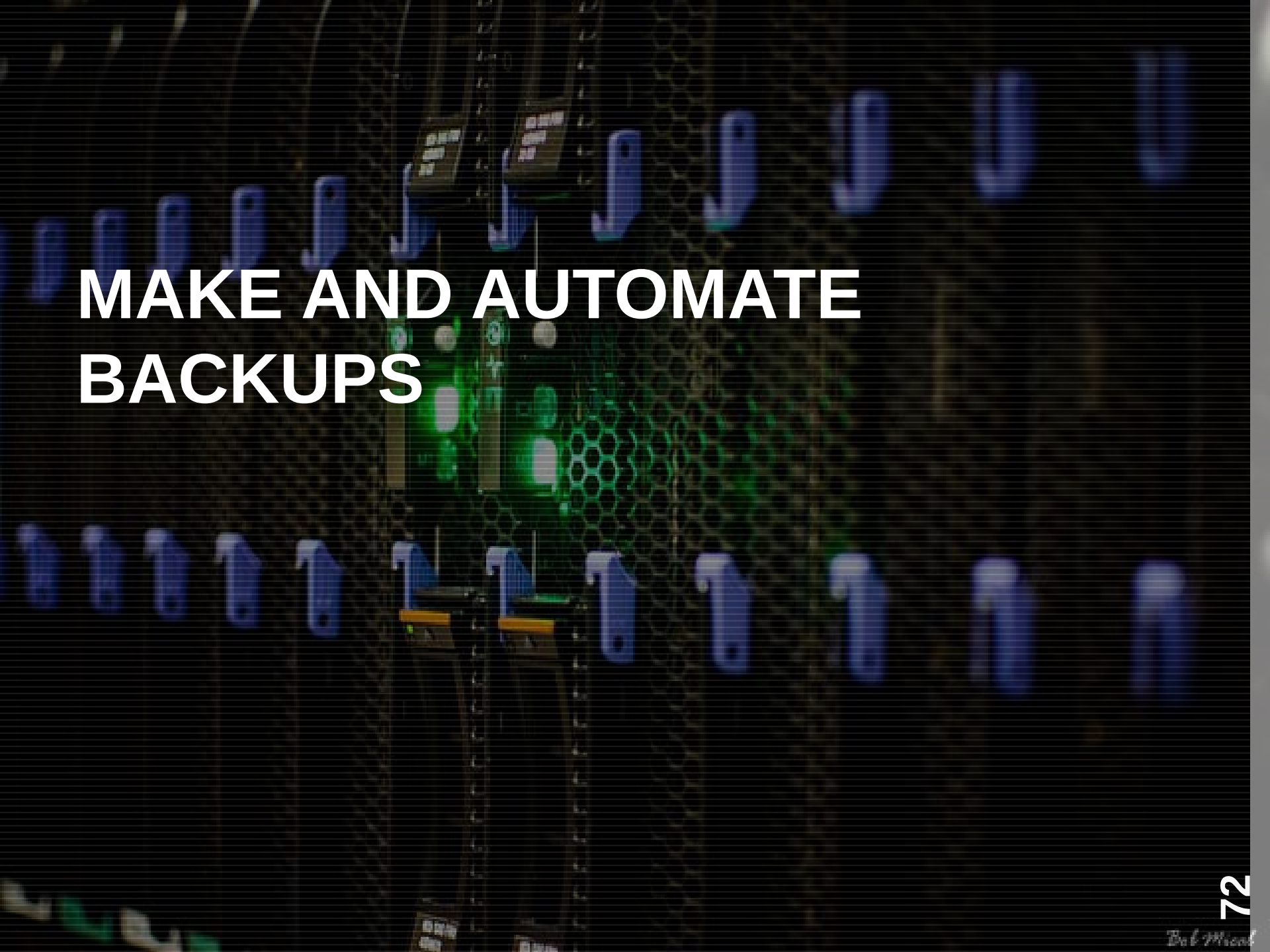

USE HTTPS (PORT 443)


MANAGE FILE EXTENSIONS


MANAGE PHP EXECUTION WITHIN YOUR UPLOADS FOLDER


ROBOTS.TXT

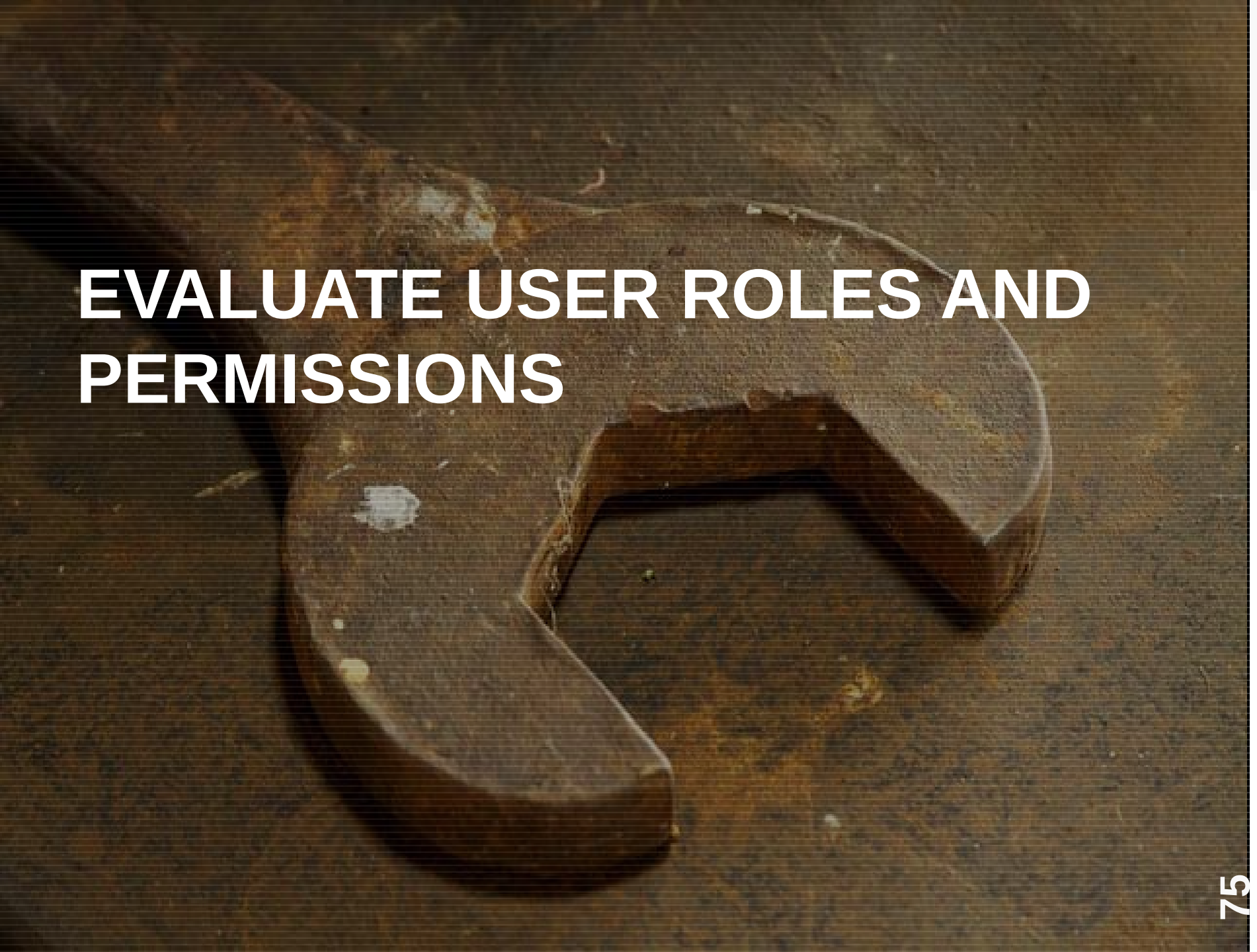

SECURE FILE PERMISSIONS



# MAKE AND AUTOMATE BACKUPS

# PREVENTIVE MAINTENANCE


STRONG PASSWORDS



# EVALUATE USER ROLES AND PERMISSIONS


EXAMINE SUB DIRECTORIES FOR RANDOM FILES ESPECIALLY /FILES AND /UPLOADS

# WRAPPING UP

**SYSTEMS FAIL**

**BACKGROUND OF CITY TECH**

**SECURITY COMPROMISED!**

**RECOVERY**

**LEARNING FROM THE COMPROMISE**

**SECURING YOUR DRUPAL SITE**

# RESOURCES

**DRUPAL'S SECURITY ADVISORIES**

**YOUR SITE GOT HACKED. NOW WHAT?**

**SEC4LIB LISTSERV**

# THANKS!