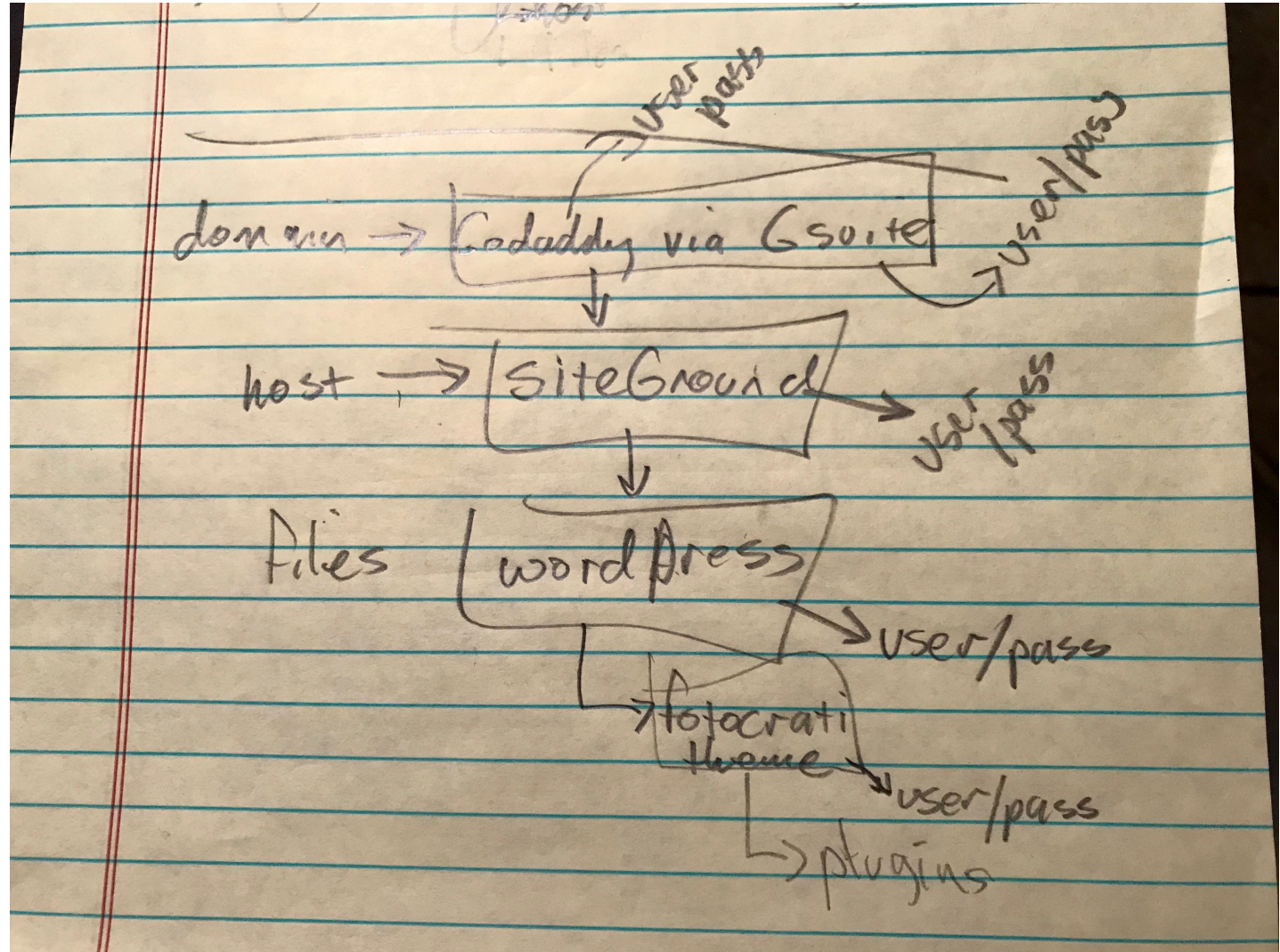# Content Management Systems

CMS

Content Management Systems

- A computer application that allows:
  - Publishing to the web
  - Editing the content
  - Modifying the website
  - Organizing the content
  - Deleting the content
- A central interface (backend), separate from…
- A user (website visitor) interface (front-end)

- Provides content management in a collaborative environment
- …without necessarily knowing
  - HTML
  - CSS
  - JavaScript
  - server-side scripting (like PHP)
  - and databases (like MySQL)

Where is your CMS?

- Domain (one username/password)
- Host (may be another username/password)
- Files (free)
  - Wordpress files + database (free, username/password)
  - plugins (may be $; unlocked with username/password)

CMS Comparisons

- Content Management System (CMS)
  - Proprietary: Ektron, Kentico, Websphere, …
  - Open Source: **WordPress**, Drupal, Joomla, …
  - See: https://en.wikipedia.org/wiki/List_of_content_management_frameworks
- Alternatives: Database-less www.pagelime.com; Hosted: SurrealCMS
- WordPress has the largest base of users and plugin developers[1]
  - …compared to any other open source or proprietary CMS
  - Written in PHP and MySQL (common in most web server stacks: LAMP, etc.)
  - Plugins extend functionality and adds value to the platform
  - Relatively short learning curve for front-end developers
  - Relatively easy management interface for end-customers
  - Open source means it's free! (also editable)
  - Also: large number of designers creating themes

[1] http://trends.builtwith.com/cms

WordPress

- First and foremost: a blogging platform
  - Often, *not* used for blogging
  - Used for websites where end-customer needs to manage content in their own website
  - Used for the extensive collection of plugins
    - Forms (to capture user input)
    - Shopping carts and credit card transactions
    - Interactive calendars
    - Slideshows, photo galleries
  - Used for the extensive collection of themes
    - Easy to re-skin a website by simply applying a new theme
    - Themes may be customized relatively easily
   - Free and for-pay

Pages vs. Posts

Pages

- Static – like a "normal" brochure website
- Usually, static formatted text and images
- Able to present installed plugins like calendars, photo galleries, whatever
- End-users may comment on pages

Posts

- Embedded in a "special" Page
  - The page is really just a normal Page that has the code (like a plugin) to pull posts from the MySQL database.
- Usually, reverse chronological posted content, written by the end-customer
- End-users may comment on posts

Themes

- Tightly developed set of HTML/PHP templates with CSS

- Large community of developers writing themes

- Easy to apply a theme
  - End-customer can change themes via the back-end CMS with a few clicks

- Themes may be customized/modified (not trivial)

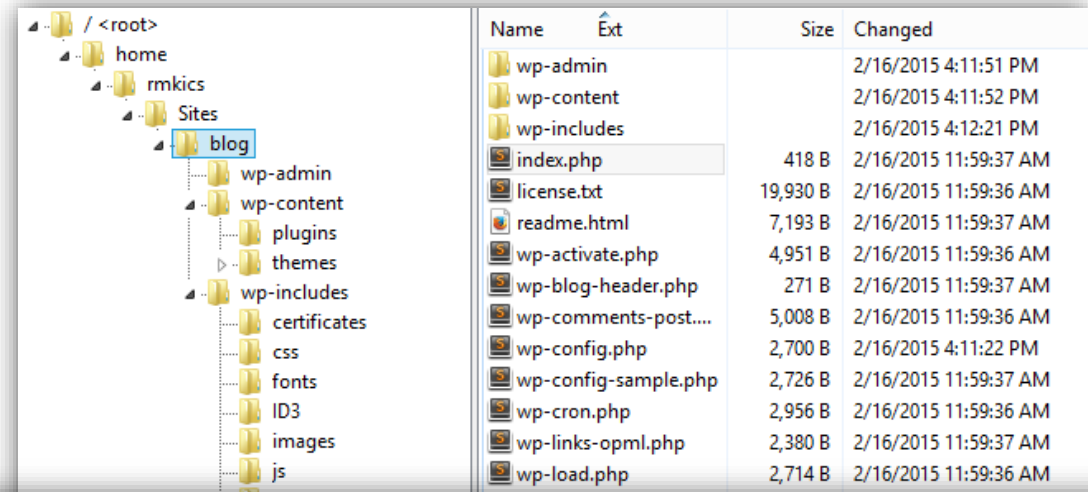- Themes are installed in the **./wp-content/themes** directory as it's own subdirectory
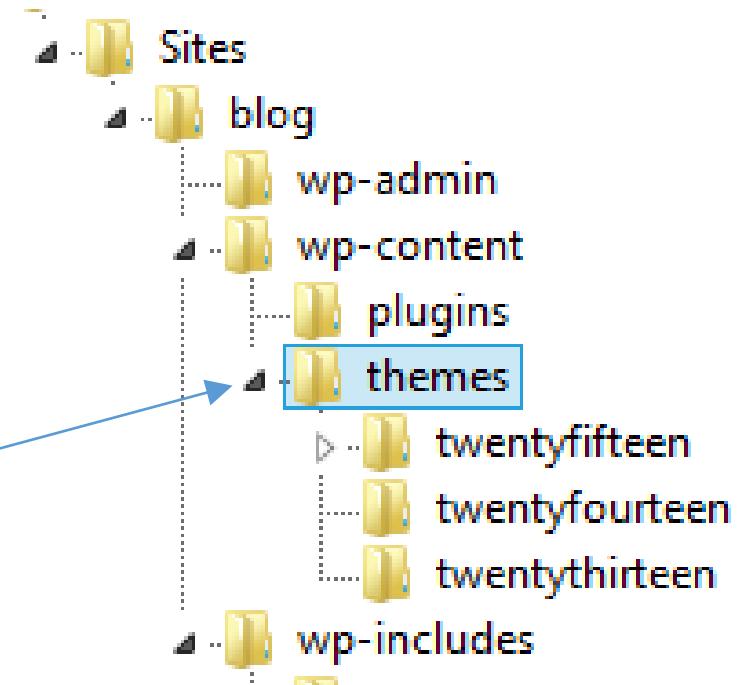
Sidebars and Menus

- WordPress templates allow the end-user website to display "sidebars" in various places,
  - Theme dependent
  - Turned-on or off by the end-customer via the back-end CMS interface
- Sidebars may present static content, automatically generated lists and "widgets"
  - Navigation elements (menus)
  - Lists (latest posts, categories of posts, recent comments, et cetera)
  - Widgets (installed plugins that display content, e.g. calendars, and other controls)

Technologies Used by WordPress

- HTML in PHP pages (e.g. *index*.**php**) and lots of CSS

- PHP pages structured in a MVC framework (debatable)

- HTML pages use embedded PHP as templates to get and put data from a MySQL database and generate the presentation to the end-user

- PHP/MySQL also used to present the back-end interface to the end-customer

Content Managment

- Two interfaces
  - The website (front-end) – viewable by the public
  - The CMS (back-end) –used by the end-customer to manage their own content
- The CMS
  - Hidden from the public
  - Password protected user accounts
  - Balance of non-technical tools (for end-customers) and somewhat technical tools (for administrators, not necessarily developers)
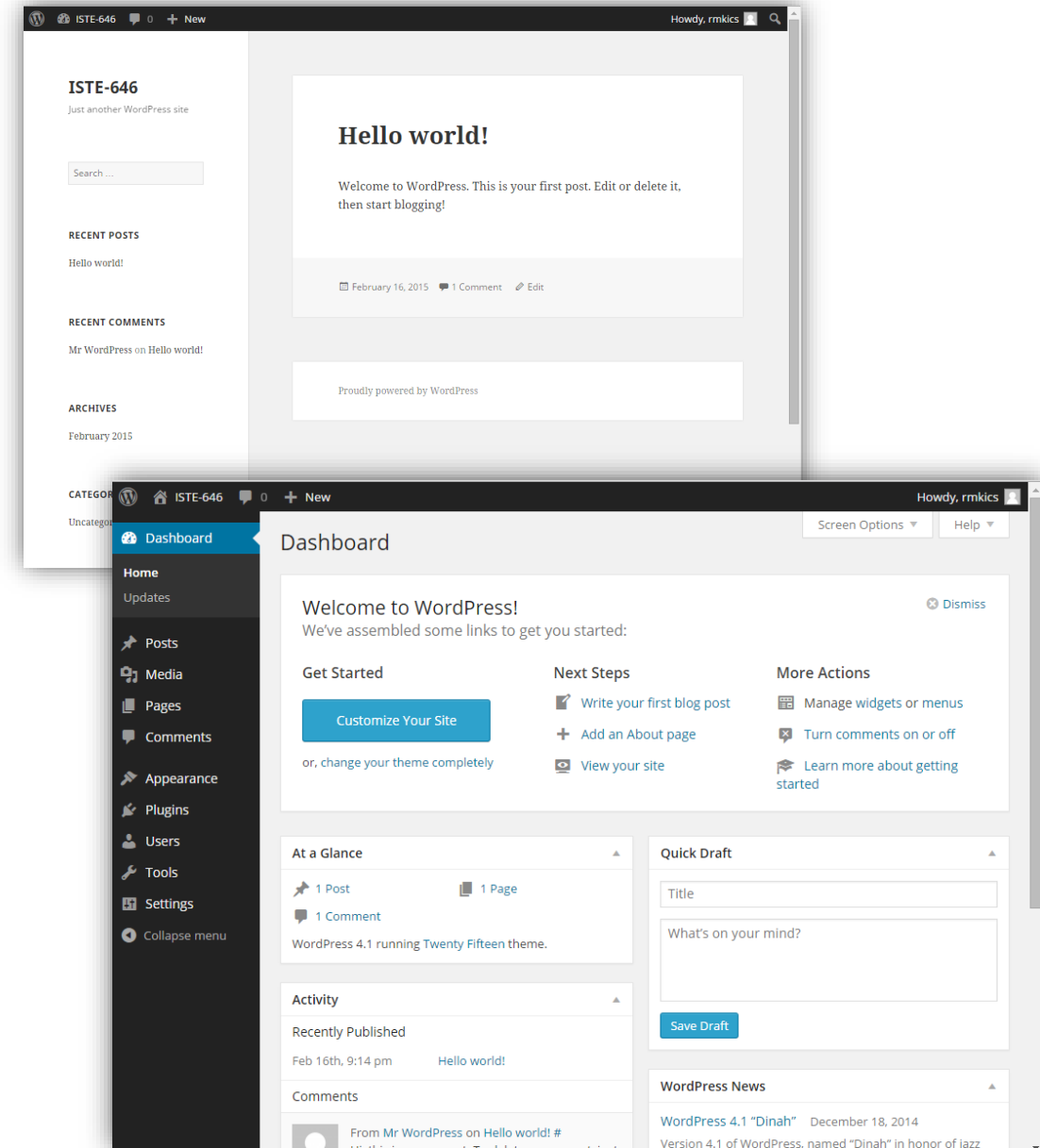
Content Management in Wordpress

Via the back-end interface...

End-Customer Tools

- Dashboard

- Posts

- Media

- Pages

- Comments

Administrator Tools

- Appearance

- Plugins

- Users

- Tools

- Settings

End-Customer Tools in the CMS

- Dashboard
  - Customizable overview of the other end-customers tools
- Posts
  - Create and manage blog posts (a list of content in reverse chronological order)
- Media
  - Upload and manage image and video files
- Pages
  - Create and manage static pages in the website (pages that do not have blog posts)
- Comments
  - All Pages and Posts my have end-user comments that may be managed

Administrator Tools in the CMS

- Appearance
  - Mostly technical tools to customize the end-user (front-end) website
  - Ability to re-skin the website using Themes
- Plugins
  - Install and manage plugins to extend the functionality of the Website and the WordPress platform
- Users
  - Create and manage users including assign privileges
- Tools
  - Utilities provided by the WordPress platform (may be extended by plugin developers)
- Settings
  - Common customizable attributes of the current WordPress installation