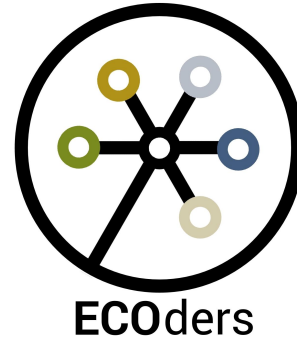


CPCESU Project Management System UGRADS Presentation



+

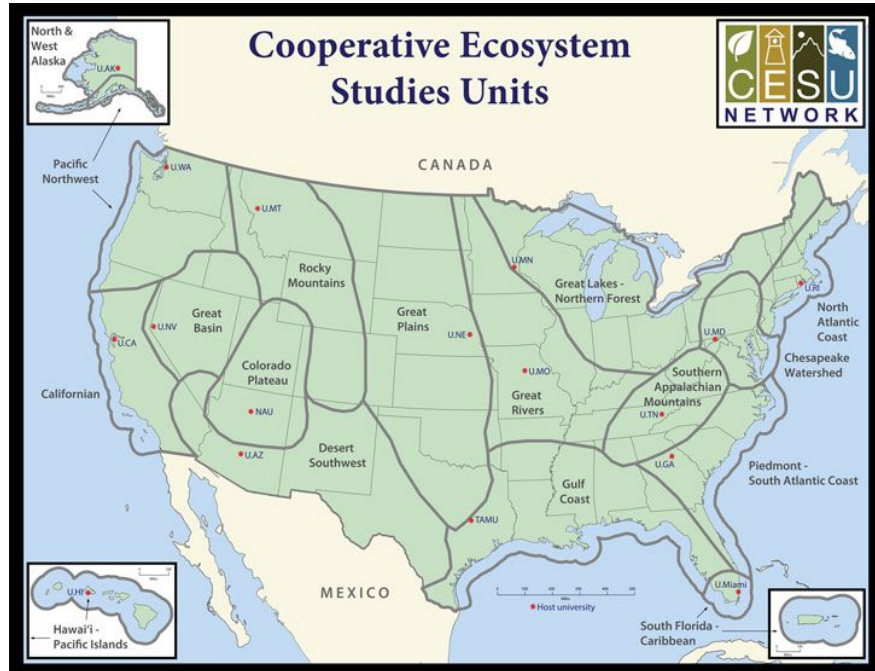


Joseph Remy [Team Lead], Colton Nunley, Jasque Saydyk

Faculty Mentor: Ana Paula Chaves Steinmacher

Colorado Plateau Cooperative Ecosystem Studies Unit

- CPCESU is a part of a national consortium for resource stewardship
 - Dozens of projects
 - Species studies
 - Building trails
 - Hundreds of modifications
 - Millions of dollars



Project Workflow



Proposal

U.S. Forest Service starts inquiry for a plant species study



Acceptance



Both parties sign and the study begins



Termination



NAU completes study. Final report is created



Drafting



NAU assigned as non-government contractor, project agreement created



Tracking



CPCESU tracks project including modifications



Reporting



Project archived and used for statistics and reporting



Problems

Proposal

Allow organizations to
Submit proposals

Acceptance

Notify work has
started

Termination

Archive projects



Drafting

Validate information
on the contract

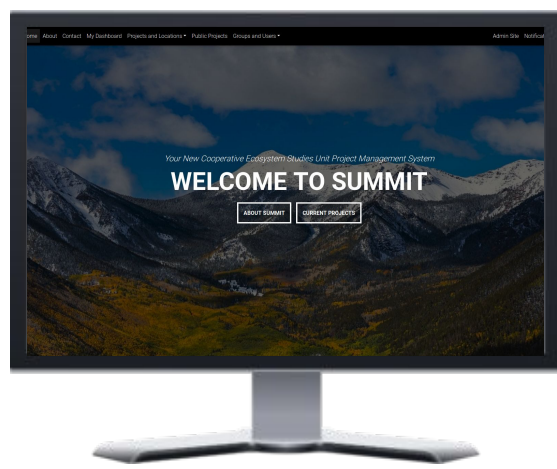
Tracking

Track and
Modify projects

Reporting

Distribute
information to
management
and public

Business Goals



All in One

Faster Entry



ACCEPT



REJECT

Validate

Speed Up
Operations



Solution - "Summit"

Web Application

Distribute to the public

View project proposals

Track & Modify projects

Archive project info for future use



Public



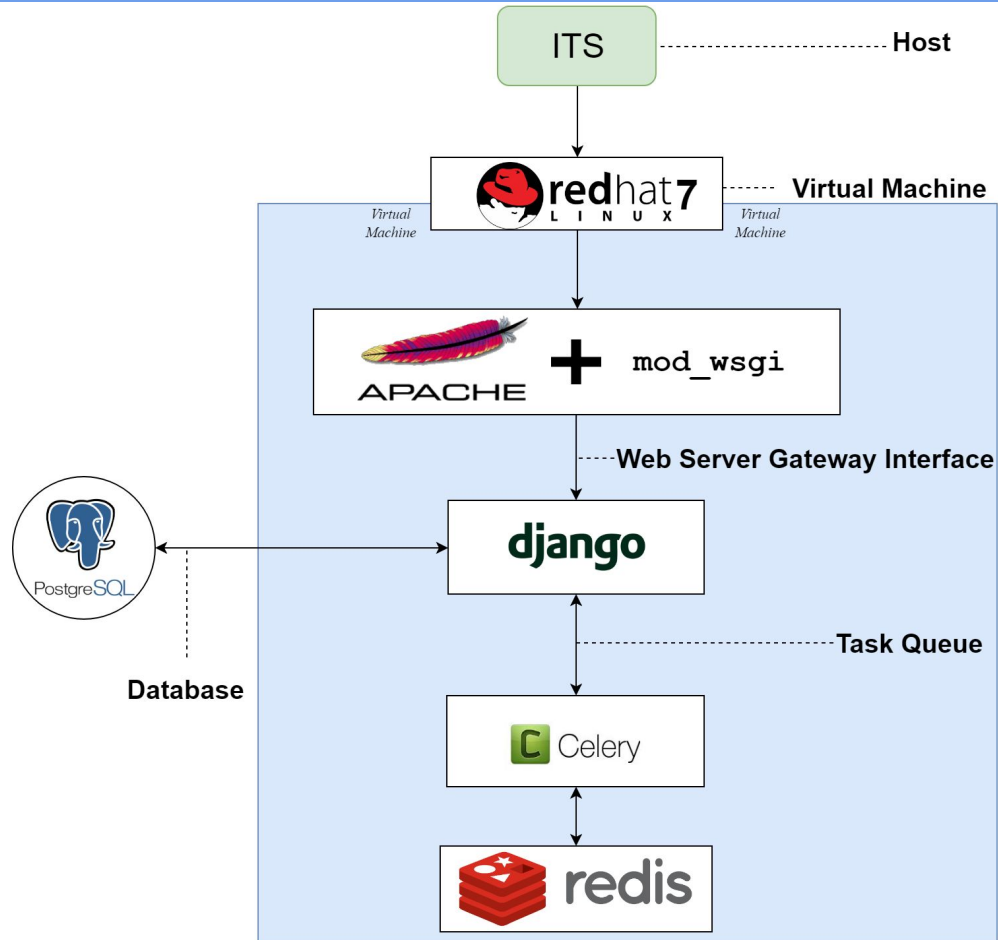
Organizations



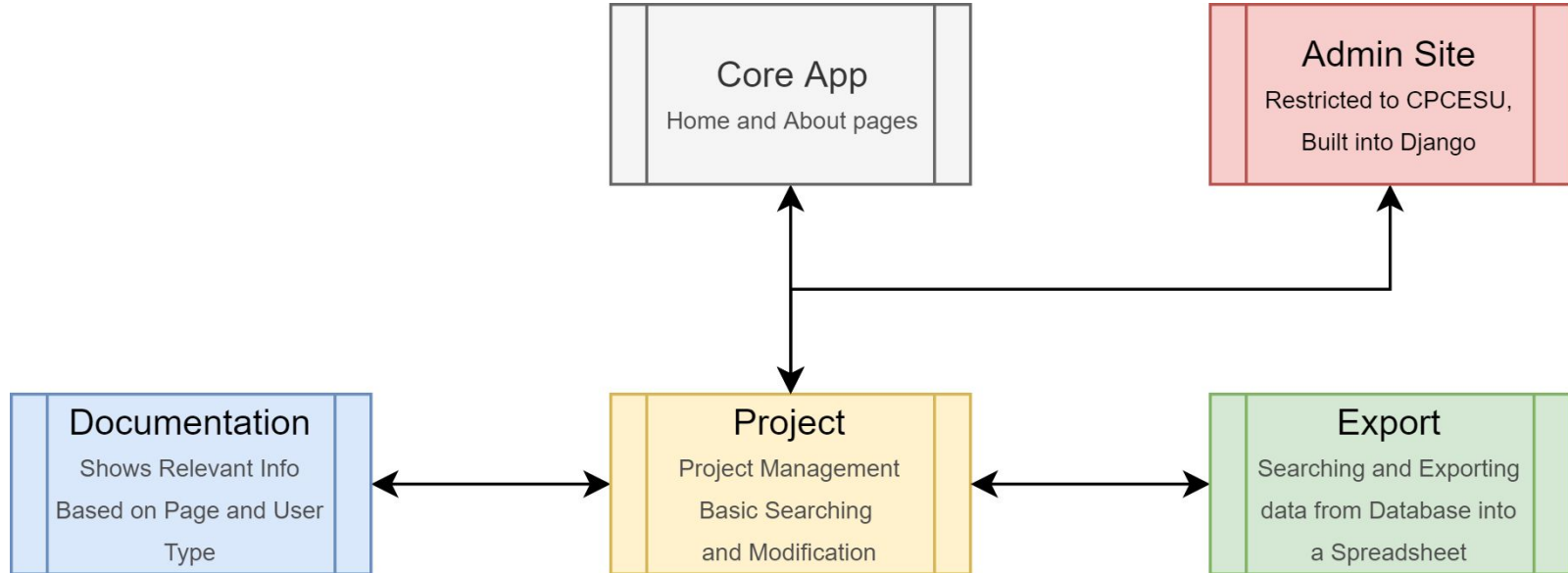
Key Requirements

- Track and modify projects
- Notified of project deadlines
- Ensure correct data
- Autofill from a document
- Export data from searches
- Public searching through projects

Solution System Diagram

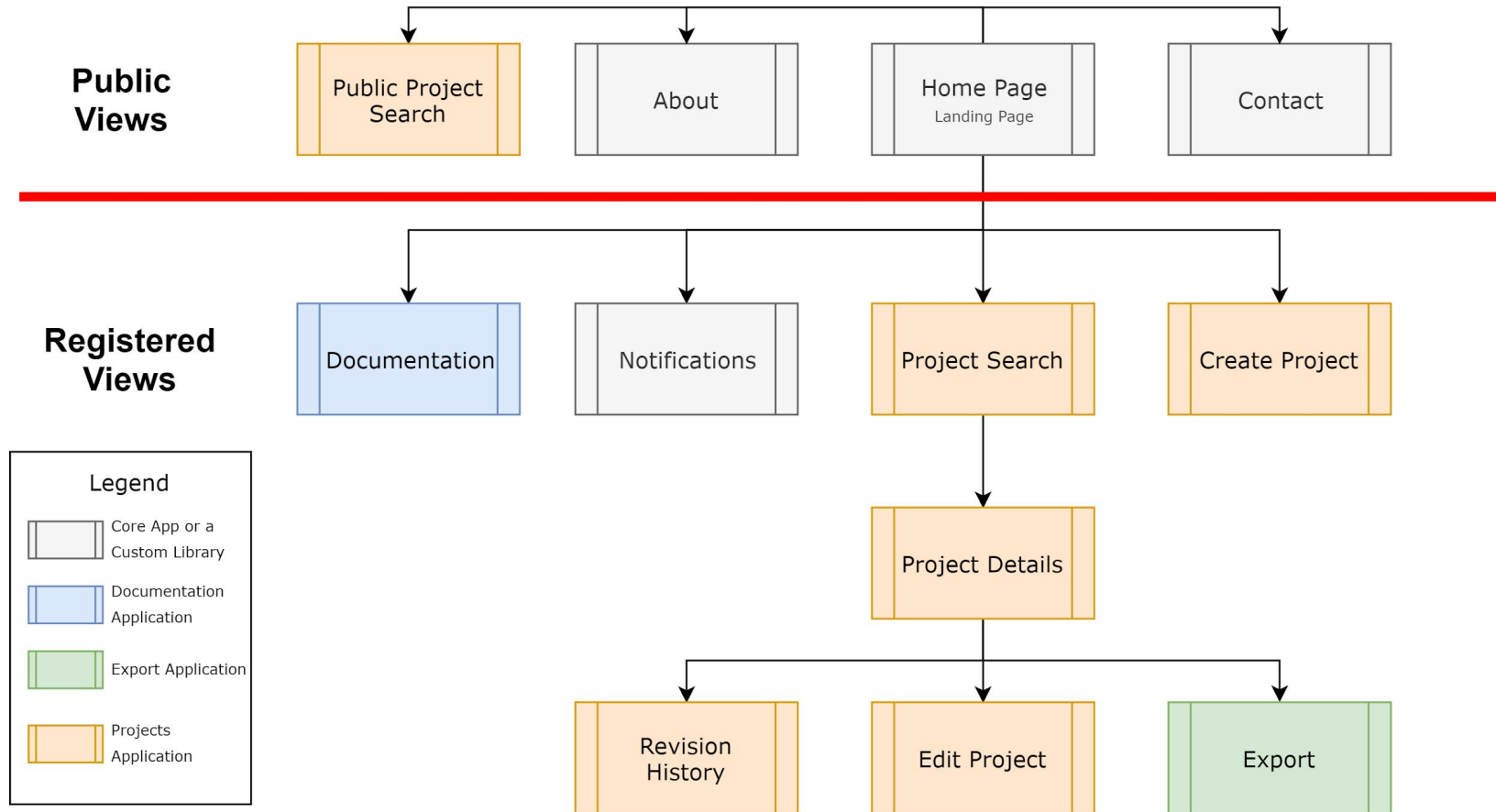


Modular App Design



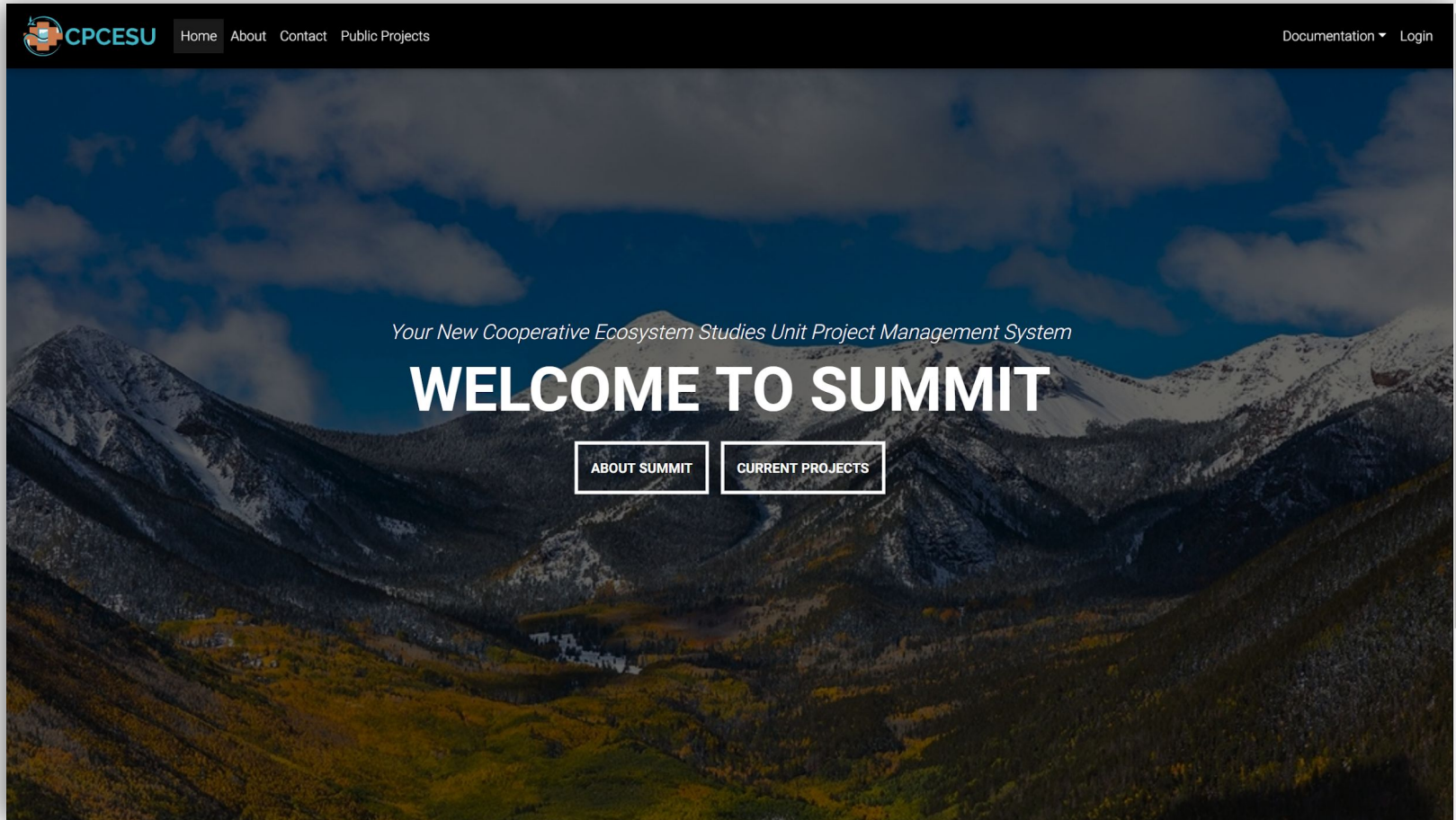
Each app is connected via Python imports and URL configurations

Simplified Sitemap for Authenticated Users



Current Status

Centralized functionality and data accessibility by different user groups



Distributing project information to the public

Home About Contact Public Projects Documentation Login

Public Projects List

List for publicly viewable projects that are currently active or are formally completed and are archived.

Show 100 entries Search:

Award Number	Title	Status	Federal Agency	Non-Gov't Partner	Start Date	End Date	Total Funds	Details
F18-abc-123-def	Monitoring and Data Development for Special Status Plants and Pollinators in Mesa Verde National Park, Montezuma County, Colorado-2018	Closed	National Park Service	Colorado State University	May 20, 2018	Aug. 1, 2018	\$20000.00	VIEW MORE
F18-ghi-456-jkl	Project for Using Plant Functional Traits to Predict Native and Non-native Species Success According to Soil Type in Restoration	Executed	National Forest Service	Northern Arizona University	Oct. 8, 2018	Sept. 28, 2019	\$50000.00	VIEW MORE

Showing 1 to 2 of 2 entries Previous 1 Next

ABOUT CPCESU
The CPCESU is a cooperative network, transcending political and institutional boundaries, which creates innovative opportunities

ABOUT SUMMIT
The CPCESU Project Management System, nicknamed "Summit", was created from a senior capstone project Fall 2018 to Spring

Submitting projects automatically for our client and federal agencies

The screenshot displays a web browser window with the URL `localhost:8000/projects/autofill/`. The browser shows the CPCECU logo and navigation menu. The main content area is titled "Autofill Project Form" and includes instructions: "Create a new project using a PDF. Upload and the data will automatically import into the system. You will be able to verify the information before submission."

Below the instructions, there is a "Select files from your computer" section with a "Choose Files" button (showing "No file chosen") and an "UPLOAD FILES" button. A dashed box below indicates a drag-and-drop area with the text "Or drag and drop files below" and "Just drag and drop files here".

An "Upload List" section shows a single item: "None".

To the right, a Windows File Explorer window is open, showing the "CPCECU Documents" folder. The folder contains several files, including PDFs, a docx, a mdb, and an xls. The "PRISM Doc.pdf" file is selected.

Name	Date modified	Type
Award Doc P18AC00883.pdf	2018-09-26 17:36	Chr
CESUPT_CoreFieldsRevised_20181210.docx	2019-02-04 10:45	Mic
CPCECU Database.ldb	2018-10-02 08:28	Mic
CPCECU Database.mdb	2019-04-10 16:02	Mic
CPCECU FY18 Project Log.gsheets	2019-04-15 09:35	Go
CPCECU FY18 Project Log.xlsx	2018-09-26 17:35	Mic
desktop.ini	2019-01-03 04:18	Cor
PRISM Doc.pdf	2018-09-26 17:36	Chr

The Windows taskbar at the bottom shows the system clock as 08:40 on 2019-04-26.

Validating user data to prevent fragmentation and assure data integrity

Home About Contact Your Dashboard Projects Personnel

Admin Site Documentation Notifications Welcome, jlr545

Quick Links

- CREATE PROJECT
- IMPORT PROJECT
- YOUR DASHBOARD
- ALL PROJECTS
- ALL CONTACTS
- ALL ORGANIZATIONS

Statistics

(last 30 days)

- Projects closed: Unknown
- Projects executed: Unknown
- Projects drafted: Unknown
- Total money budgeted: Unknown

Create Project Form

NOTE: If you leave this tab you will lose progress.

General Information:

Fiscal Year:

Agency:

Award #:

Partner:

Place:

Project title:

Project Type:

Discipline:

Youth/Veteran:

Description:

Enter Abstract here...

Administration:

Status:

Sensitive:

Deliverable(s) Received?

Notes:

Need more details for project such as personnel and abstract

Personnel:

Agency Project Manager:

Agreements Tech Representative:

Award Amount:

Initial:

Modifications:


Tracking and searching for projects; Exporting project data

The screenshot shows a web browser window displaying a dashboard for CPCECU. The page title is "Your Dashboard | CPCECU Project". The navigation menu includes "Home", "About", "Contact", "Your Dashboard", "Projects", "Personnel", "Admin Site", "Documentation", "Notifications", and "Welcome, jlr545".

Statistics

(last 30 days)

- Projects closed: Unknown
- Projects executed: Unknown
- Projects drafted: Unknown
- Total money budgeted: Unknown



All Recent Projects

A table of all of the projects that have been created in the last 30 days


Show entries Search:

EXPORT	P-Num	Status	Title	Federal Agency	Partner	Staff	View Details
<input type="checkbox"/>		Drafting	Project about Measuring Colorado River Water Quality for Quarter 3, 2019 at Grand Canyon	National Park Service	Northern Arizona University	Joseph Remy	DETAILS
<input type="checkbox"/>	F18-abc-123-def	Closed	Monitoring and Data Development for Special Status Plants and Pollinators in Mesa Verde National Park, Montezuma County, Colorado-2018	National Park Service	Colorado State University	John Public	DETAILS
<input type="checkbox"/>	F18-ghi-456-jkl	Executed	Project for Using Plant Functional Traits to Predict Native and Non-native Species Success According to Soil Type in Restoration	U.S. Forest Service	Northern Arizona University	John Public	DETAILS

Showing 1 to 3 of 3 entries Previous **1** Next

08:56
2019-04-26

Easier access to project data to decrease overhead and increase efficiency

Home About Contact Your Dashboard Projects Personnel Admin Site Documentation Notifications Welcome, jlr545

Quick Links

- CREATE PROJECT
- IMPORT PROJECT
- YOUR DASHBOARD
- ALL PROJECTS
- ALL CONTACTS
- ALL ORGANIZATIONS


EDIT PROJECT ADD MODIFICATIONS

Project about Measuring Colorado River Water Quality for Quarter 3, 2019 at Grand Canyon

Statistics

(last 30 days)

- Projects closed: Unknown
- Projects executed: Unknown
- Projects drafted: Unknown
- Total money budgeted: Unknown



Details

General Information: <p>Fiscal Year: 2019 Federal Agency: National Park Service Award #: ADD Awarding Office: Northern Arizona University Partner: Grand Canyon Location: Grand Canyon Title: Project about Measuring Colorado River Water Quality for Quarter 3, 2019 at Grand Canyon Type: Research Discipline: Natural Vet Support: None</p>	Description: <p>Lorem ipsum dolor sit amet, consectetur adipiscing elit. Vivamus semper mauris nisi. Maecenas vulputate hendrerit fringilla. Aliquam porttitor quis libero eget luctus. Ut sodales mollis est at finibus. In ante mauris, rhoncus sit amet enim eu, porttitor facilisis turpis. Integer aliquam rhoncus vestibulum. Pellentesque eu felis a lacus laoreet aliquam sit amet sed libero. Integer mollis, risus ut egestas iaculis, neque lectus dapibus risus, non dapibus elit massa eu est. Sed tincidunt a orci et rutrum. Nam mollis, nisi vitae fringilla facilisis, velit lorem placerat ex, nec bibendum turpis ante quis quam. Aliquam ornare nisi ac eros aliquam ullamcorper. Proin viverra eget massa id finibus. In turpis dolor, rutrum nec velit nec, feugiat feugiat elit. Morbi at egestas felis. Praesent at felis nulla. Integer luctus ipsum non quam dapibus, et hendrerit nunc faucibus.</p>	Administration: <p>Status: DRAFT Sensitive: No Deliverable(s) Received? No</p>
Personnel: <p>Agency Project Manager: Joseph Remy (jlr545 <remy@nau.edu>) Agency Agreements Tech Rep: Joseph Remy (jlr545 <remy@nau.edu>) Partner Principal Investigator: Joseph Remy (jlr545 <remy@nau.edu>)</p>	Award Amount: <p>Budget: 10000.00 Total Award Amt: 11000.00</p>	Notes: <p>None</p>
Dates:	Research & Development:	File(s):

Projects can be **modified** in real-time using **one consolidated application**

The screenshot shows a web application interface for CPCE SU. The top navigation bar includes links for Home, About, Contact, Your Dashboard, Projects, and Personnel. On the right, there are links for Admin Site, Documentation, Notifications, and a user welcome message. The main content area is titled "Project Modifications" and features a "Create Modifications" form. The form includes a required "Modification #" field with the value "F18-ghi-465-jkl", a "Modification Type" dropdown menu set to "Funded", and a "Description" text area containing the text: "Federal partner is extended project duration and funds to allow for project to continue to collect and analyze more data." Below the description is a "Mod amount" field with the value "10000" and an "Approved" section with dropdown menus for the month (April), day (26), and year (2019). On the left side of the interface, there is a "Quick Links" section with buttons for "CREATE PROJECT", "IMPORT PROJECT", "YOUR DASHBOARD", "ALL PROJECTS", "ALL CONTACTS", and "ALL ORGANIZATIONS". Below this is a "Statistics" section for the last 30 days, listing: "Projects closed: Unknown", "Projects executed: Unknown", "Projects drafted: Unknown", and "Total money budgeted: Unknown". A logo for CPCE SU is located at the bottom left of the page.

CPCE SU Home About Contact Your Dashboard Projects Personnel Admin Site Documentation Notifications Welcome, jlr545

Project Modifications

Quick Links

- CREATE PROJECT
- IMPORT PROJECT
- YOUR DASHBOARD
- ALL PROJECTS
- ALL CONTACTS
- ALL ORGANIZATIONS

Statistics

(last 30 days)

- Projects closed: Unknown
- Projects executed: Unknown
- Projects drafted: Unknown
- Total money budgeted: Unknown

Create Modifications

Modification #: **(Required)**

F18-ghi-465-jkl

Modification Type:

Funded

Description:

Federal partner is extended project duration and funds to allow for project to continue to collect and analyze more data.

Mod amount:

10000

Approved:

April 26 2019

Easier access to project data to decrease overhead and increase efficiency

The screenshot displays the CPCESU Project Management System interface. At the top, a navigation bar includes the CPCESU logo, a menu with 'Home', 'About', 'Contact', 'Your Dashboard', 'Projects', and 'Personnel', and a user profile section for 'Admin Site', 'Documentation', 'Notifications', and 'Welcome, jlr545'. The main content area is divided into three columns: 'Agency Project Manager' (Joseph Remy), 'Budget' (10000.00), and 'Total Award Amt' (21000.00). Below this, there are sections for 'Dates', 'Research & Development', and 'File(s)'. The 'Dates' section lists key milestones from April to September 2019. The 'Research & Development' section lists funding and monitoring details. The 'File(s)' section is currently empty. A 'Modifications' section follows, with a note and an 'ADD MODIFICATIONS' button. Below this, two project entries are shown, each with a blue highlighted 'Number' (F18-qhi-465-kl and 7897) and associated details like 'Type', 'Amount', 'Approved', and 'Executed' dates. The footer contains 'ABOUT CPCESU' and 'ABOUT SUMMIT' sections, along with a copyright notice and a Windows taskbar at the bottom.

CPCESU Home About Contact Your Dashboard Projects Personnel Admin Site Documentation Notifications Welcome, jlr545

Agency Project Manager: Joseph Remy (jlr545 <remy@inau.edu>)
Agency Agreements Tech Rep: Joseph Remy (jlr545 <remy@inau.edu>)
Partner Principal Investigator: Joseph Remy (jlr545 <remy@inau.edu>)

Budget: 10000.00
Total Award Amt: 21000.00

None

Dates:
Received: April 10, 2019
Reviewed: Jan. 1, 2019
Approved: Jan. 1, 2019
Executed: Jan. 1, 2019
Start: June 10, 2019
End: Sept. 28, 2019

Research & Development:
Funding Source: None
Monitoring: False
Scientific Method: False
Field of Science: None

File(s):

Modifications

To view or edit modifications, click the blue highlighted 'Number'.

ADD MODIFICATIONS

Number: **F18-qhi-465-kl**
Type: Funded
Amount: 10000.00
Approved: April 26, 2019
Executed: Jan. 1, 2019

Number: **7897**
Type: Funded
Amount: 1000.00
Approved: Jan. 1, 2019
Executed: Jan. 1, 2019

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© 2019. 2010 Copyright: Colorado Plateau Cooperative Ecosystem Study Unit

09:44 2019-04-28

Website is **accessible** across numerous platforms and browsers.

The desktop screenshot shows a web browser window with the CPCESU logo and navigation menu at the top. The main content area is titled "Create Project Form" and includes a "Quick Links" sidebar on the left with buttons for "CREATE PROJECT", "IMPORT PROJECT", "YOUR DASHBOARD", "ALL PROJECTS", "ALL CONTACTS", and "ALL ORGANIZATIONS". Below the sidebar is a "Statistics" section. The main form area contains a "NOTE: If you leave this tab you will lose progress." and several sections: "General Information" with fields for Fiscal Year (2019), Agency (U.S. Forest Service), Award # (DRAFT), Partner (Northern Arizona University), Place (Arizona), Project title (Project for Using Plant Functions), Project Type (Education), Discipline (Natural), and Youth/Veteran (None); "Administration" with Status (Drafting), Sensitive (checkbox), and Deliverable(s) Received? (checkbox); "Description" with a text area containing "Enter Abstract here..."; "Notes" with a text area containing "Need more details for project such as personnel and abstract"; "Personnel" with Agency Project Manager and Agreements Tech Representative dropdowns; and "Award Amount" with an initial value of 100000. A "Modifications:" section is also present.

Desktop

The mobile screenshot shows the same "Create Project Form" but with a simplified layout. The CPCESU logo and a hamburger menu icon are at the top. The "NOTE: If you leave this tab you will lose progress." is at the top of the form. Below it is the "General Information:" section with dropdown menus for Fiscal Year (2019), Agency (U.S. Forest Service), Award # (DRAFT), Partner (Northern Arizona Univer), Place (Arizona), Project title (Project for Using Plant F), Project Type (Education), Discipline (Natural), and Youth/Veteran (None). The "Administration" section is partially visible at the bottom.

Mobile

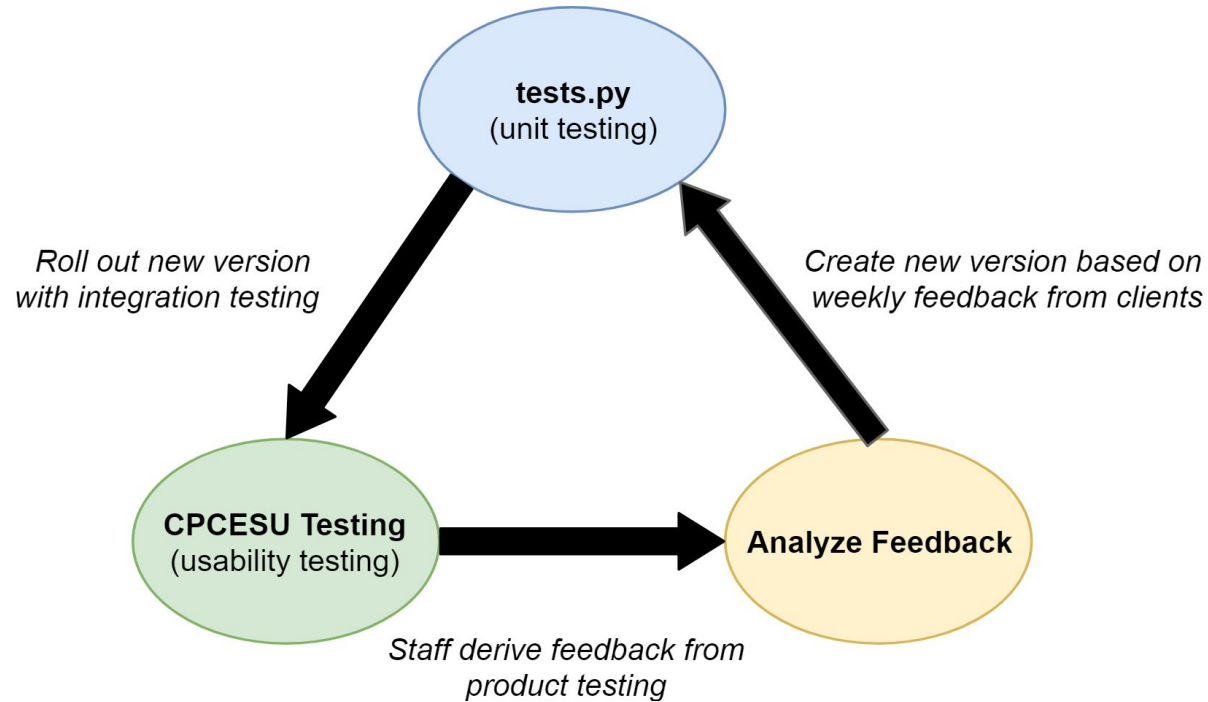
Early Risks and Feasibility

- **Learning curve too high** | 25% | *High*
 - Overcome with early prototypes
- **Unknown or overlooked requirement** | 10% | *Mid to High*
 - Procedures to modify the SRS after it is signed
- **Security breach** | 5% | *Mid to High*
 - Overcome with security testing

Development Challenges and Resolutions

- **Expectation Gap** | 20% | *High*
 - Overcome with frequent meetings and communication and user testing
- **Autofill with PDF** | 5% | *Low*
 - Asynchronous processing using Celery
- **Deployment Issues** | 5% | *Low*
 - Early and constant communication with ITS

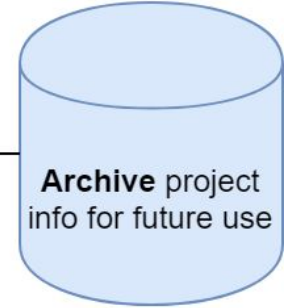
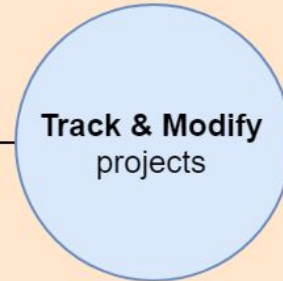
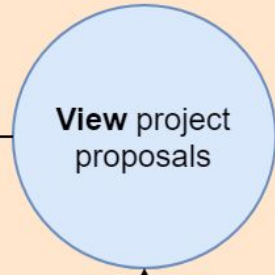
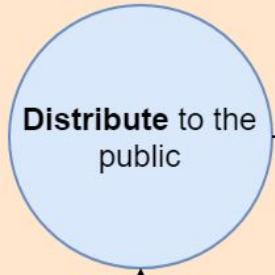
Testing Plan Overview



Testing Results: **Decreased clicks** and **less time spent on data entry**

Conclusion

Web Application



Public

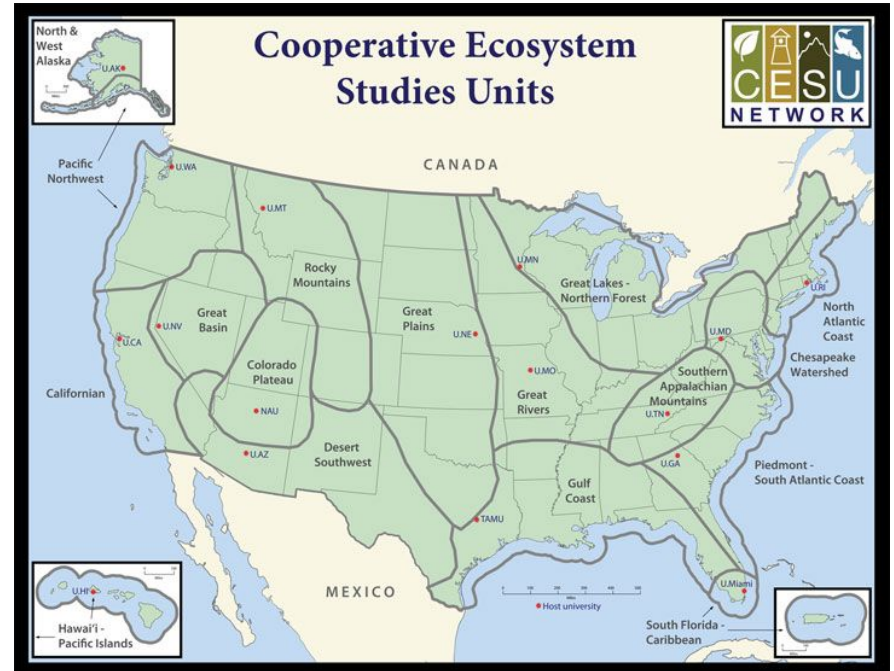


Organizations



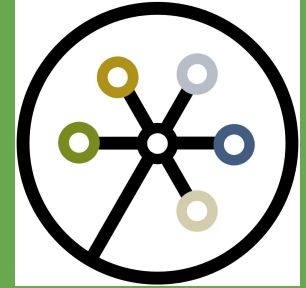
Broader Impacts

- Better reporting to NAU and other organizations
- Future Development
 - Can become the national network's system
 - Searchable experts for easier project assignments
- Aiding conservation projects and the environment





CPCESU Project Management System



Joseph Remy

*Team Lead
Editor-in-Chief
UI Designer Lead*

remy@nau.edu

Colton Nunley

*Architect
Customer Communications
QA Manager*

crn79@nau.edu

Jasque Saydyk

*Business Analyst
Recorder
Release Manager*

jrs496@nau.edu

Poster Presentation: Space 18C, Union Fieldhouse, 2pm to 4pm
<http://bit.ly/ECODers>



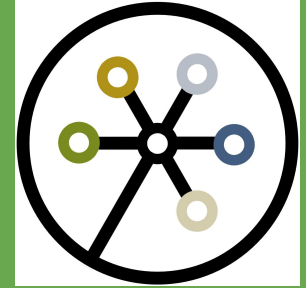
Welcome to ECOdgers and Our Capstone Project Website

View Our Progress and Understand How We Are Making
an Impact





CPCESU Project Management System



Joseph Remy

*Team Lead
Editor-in-Chief
UI Designer Lead*

remy@nau.edu

Colton Nunley

*Architect
Customer Communications
QA Manager*

crn79@nau.edu

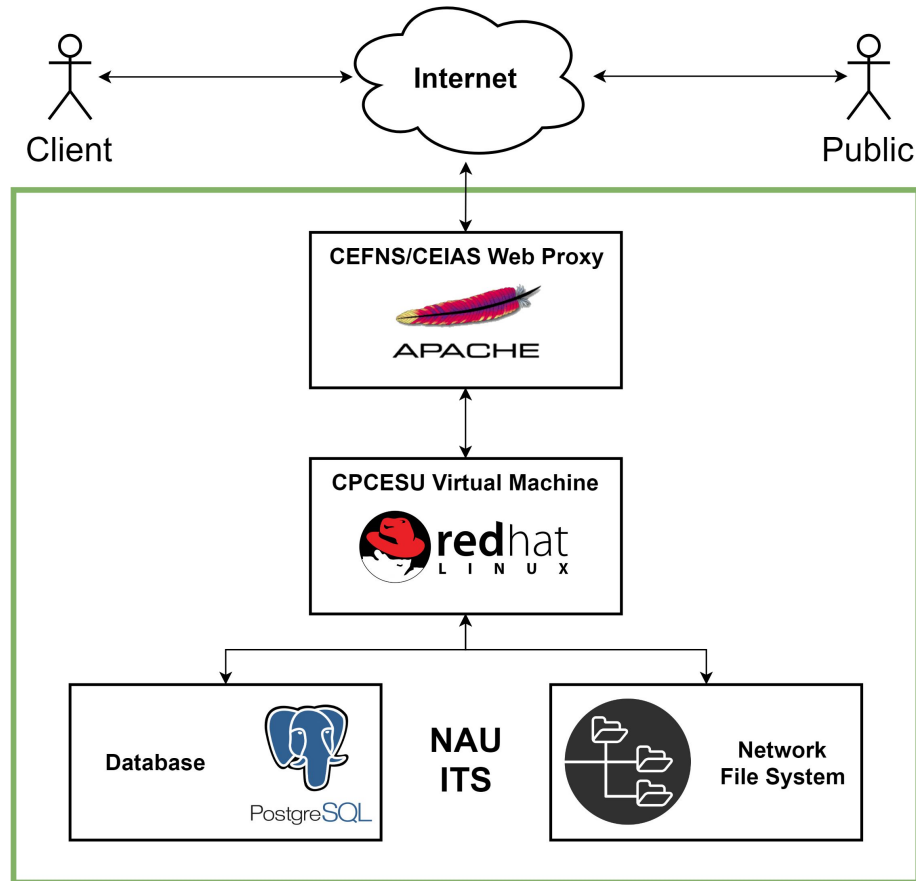
<http://bit.ly/ECODers>

Jasque Saydyk

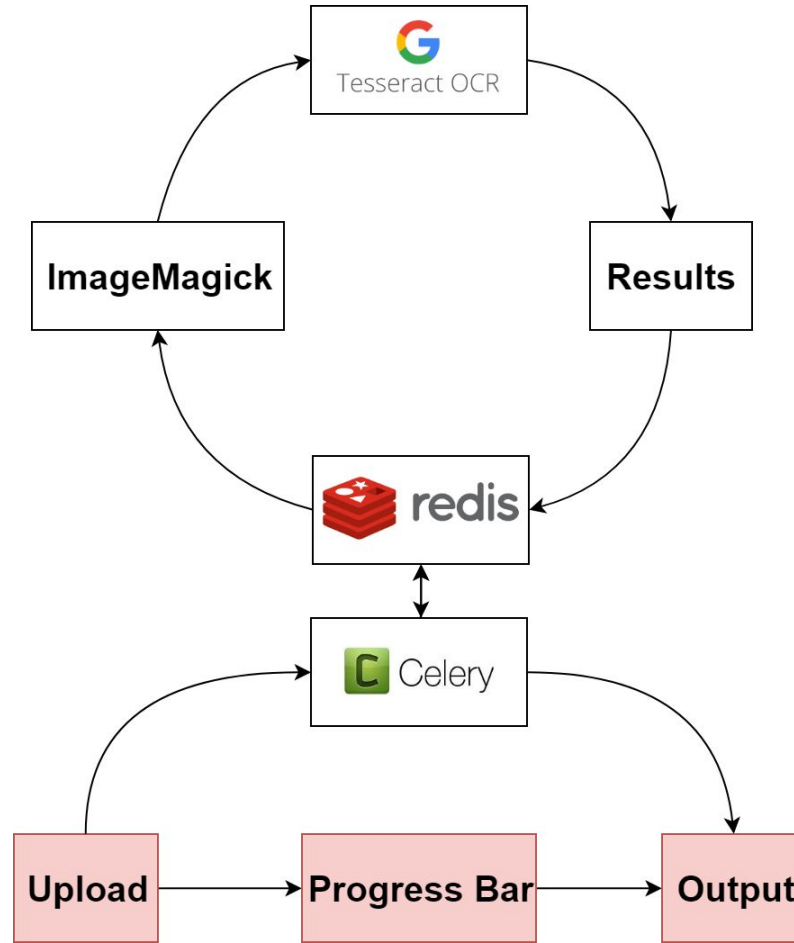
*Business Analyst
Recorder
Release Manager*

jrs496@nau.edu

Solution Server Deployment Diagram

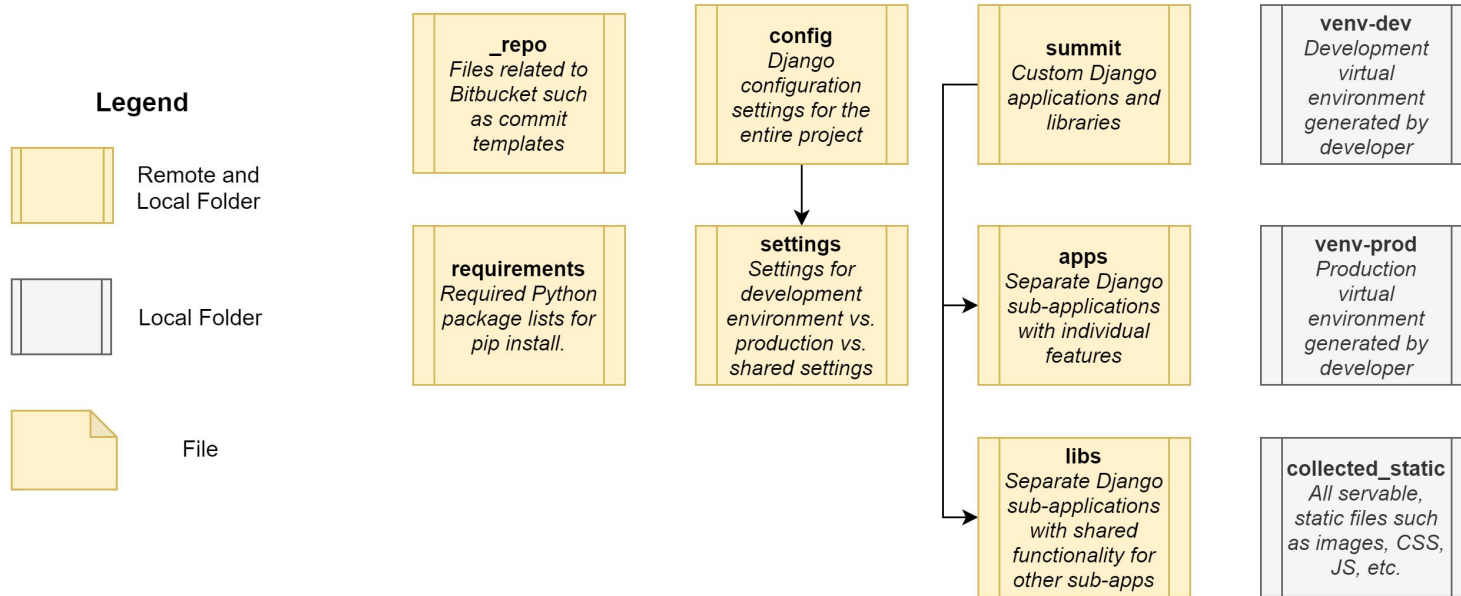


Autofill System Diagram

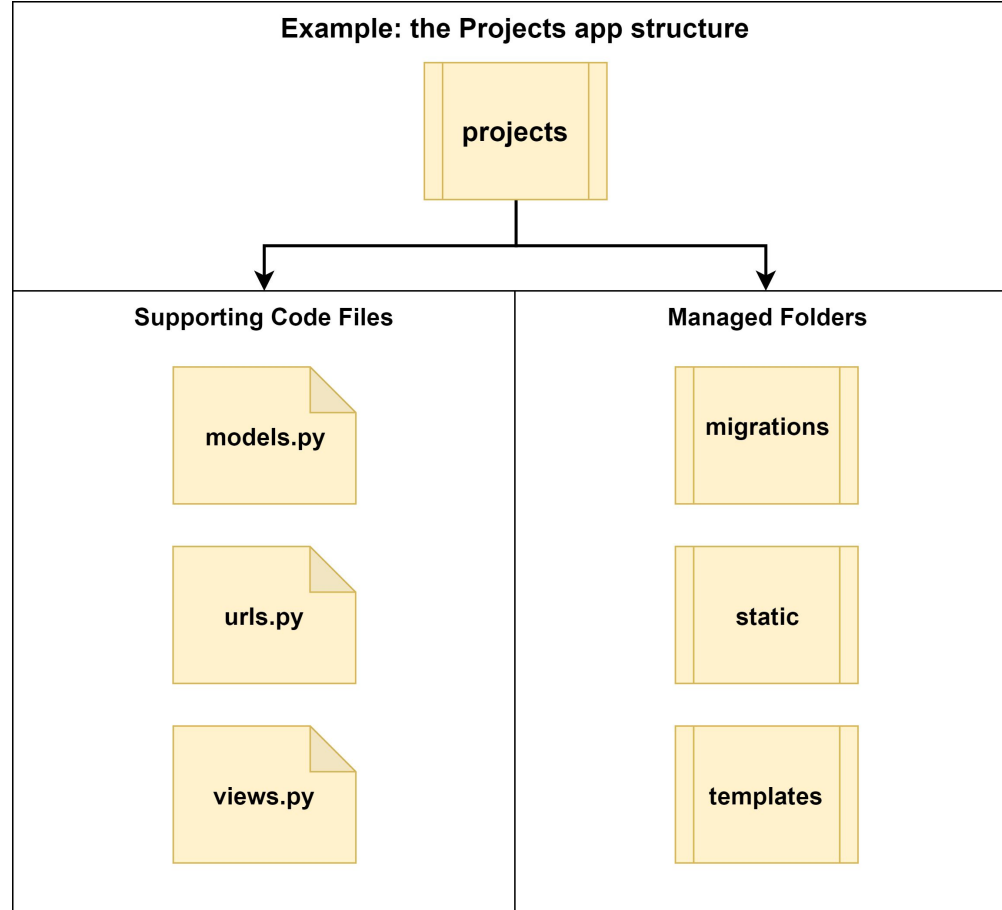


File System Tree

cpcesu-pm “Summit” General File Structure



Sub-application Structure



A Few Core Sub-app. Files

Ex: the projects app.

<u>submit/apps/projects folder</u>		
models.py	urls.py	views.py
Database Models	Route Controller	Generating Views
Project Modification Revision	Index "/projects" Add Project "/projects/add" Project Details: "/projects/detail/<id>" Edit Project: "/projects/edit/<id>"	Index - List View "templates/index.html" Add Project - Create View "templates/project_create.html" Project Details - Detail View "templates/project_list.html" Edit Project - Update View "templates/project_update.html"

Current Status - Autofill



Progress

The Task is **PROGRESSING!**

33%



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Usability Test Flow

Example Metrics:

- Timing how long it takes to create a project
- Counting clicks to create project

