LARANA, INC.

# INTERNSHIP PROJECT

# INSTRUCTIONS

CERTAINLY! HERE ARE SIMPLIFIED INSTRUCTIONS FOR IMPLEMENTING DARK MODE IN A WEB APPLICATION :

**HTML STRUCTURE**:

ENSURE YOUR HTML FILE IS STRUCTURED WITH SEMANTIC TAGS LIKE <HEADER>, <SECTION>, <FOOTER>, AND INCLUDES ELEMENTS FOR NAVIGATION AND CONTENT SECTIONS (E.G., ABOUT, PROJECTS, CONTACT).

**CSS STYLING:**

DEFINE CSS STYLES USING VARIABLES (--BACKGROUND-COLOR, --TEXT-COLOR, ETC.) FOR BOTH LIGHT AND DARK MODES. ENSURE READABILITY AND ACCESSIBILITY BY ADJUSTING CONTRASTS APPROPRIATELY.

# INSTRUCTIONS

**JAVASCRIPT FUNCTIONALITY:**

IMPLEMENT A JAVASCRIPT FUNCTION TO TOGGLE BETWEEN LIGHT AND DARK MODES. USE LOCALSTORAGE OR COOKIES TO REMEMBER THE USER'S PREFERENCE ACROSS SESSIONS.

**TESTING AND ACCESSIBILITY**:

TEST YOUR DARK MODE IMPLEMENTATION ACROSS DIFFERENT BROWSERS AND DEVICES TO ENSURE CONSISTENT FUNCTIONALITY. VERIFY ACCESSIBILITY BY CHECKING CONTRAST RATIOS BETWEEN TEXT AND BACKGROUND COLORS.

**DOCUMENTATION AND SUBMISSION:**

DOCUMENT YOUR IMPLEMENTATION IN A README.MD FILE, PROVIDING INSTRUCTIONS FOR USERS TO TOGGLE DARK MODE AND ANY SPECIAL CONSIDERATIONS (E.G., BROWSER COMPATIBILITY). PACKAGE ALL FILES (HTML, CSS, JAVASCRIPT) FOR SUBMISSION

# PROBLEMS

**IMPLEMENTING DARK MODE IN A WEB APPLICATION CAN POSE SEVERAL CHALLENGES, WHICH INCLUDE:**

**COLOR CONTRAST AND READABILITY:** ENSURING THAT TEXT REMAINS READABLE AND ACCESSIBLE IN BOTH LIGHT AND DARK MODES. ACHIEVING SUFFICIENT CONTRAST RATIOS BETWEEN TEXT AND BACKGROUND COLORS IS CRUCIAL FOR ACCESSIBILITY.

**CONSISTENCY ACROSS COMPONENTS:** MAINTAINING A CONSISTENT COLOR SCHEME ACROSS VARIOUS ELEMENTS (TEXT, BACKGROUNDS, BUTTONS, LINKS) IN BOTH MODES. INCONSISTENT STYLING CAN DISRUPT THE USER EXPERIENCE AND AESTHETIC APPEAL.

**IMAGE AND MEDIA COMPATIBILITY:** IMAGES AND MEDIA CONTENT MAY NOT ADJUST WELL TO DARK MODE WITHOUT PROPER ADJUSTMENTS. THIS INCLUDES ENSURING IMAGES MAINTAIN VISIBILITY AND COHERENCE WITHIN THE CHOSEN COLOR SCHEME.

**DYNAMIC CONTENT HANDLING:** CONTENT LOADED DYNAMICALLY THROUGH JAVASCRIPT OR SERVER-SIDE RENDERING MAY NOT AUTOMATICALLY ADAPT TO DARK MODE SETTINGS. ENSURING ALL DYNAMICALLY GENERATED CONTENT ADHERES TO THE CHOSEN COLOR SCHEME CAN BE CHALLENGING.

**BROWSER COMPATIBILITY:** DIFFERENT WEB BROWSERS MAY INTERPRET CSS STYLES AND TRANSITIONS FOR DARK MODE DIFFERENTLY, LEADING TO INCONSISTENCIES IN APPEARANCE AND BEHAVIOR ACROSS BROWSERS.

# PROBLEMS

**ACCESSIBILITY CONSIDERATIONS:** DARK MODE SHOULD NOT COMPROMISE ACCESSIBILITY FOR USERS WITH VISUAL IMPAIRMENTS. ENSURING PROPER CONTRAST RATIOS AND READABILITY IN BOTH MODES IS ESSENTIAL FOR COMPLIANCE WITH ACCESSIBILITY STANDARDS.

**PERFORMANCE IMPACT:** IMPLEMENTING COMPLEX CSS CHANGES FOR DARK MODE, ESPECIALLY ON LARGER WEBSITES WITH NUMEROUS ELEMENTS, CAN IMPACT PERFORMANCE. OPTIMIZING CSS AND MINIMIZING REPAINTS AND REFLOWS IS NECESSARY TO MAINTAIN SMOOTH USER INTERACTION.

**USER PREFERENCE PERSISTENCE:** STORING AND REMEMBERING USERS' DARK MODE PREFERENCES ACROSS SESSIONS USING COOKIES OR LOCAL STORAGE. ENSURING THIS FEATURE WORKS RELIABLY ACROSS DIFFERENT DEVICES AND BROWSERS IS CRUCIAL FOR A SEAMLESS USER EXPERIENCE.

**TESTING AND DEBUGGING:** THOROUGHLY TESTING DARK MODE IMPLEMENTATION ACROSS VARIOUS DEVICES, SCREEN SIZES, AND BROWSERS IS ESSENTIAL TO IDENTIFY AND ADDRESS ANY ISSUES RELATED TO FUNCTIONALITY AND APPEARANCE.

# CHALLENGES AND RESOLUTIONS

## USER PREFERENCE PERSISTENCE

**CHALLENGE:** STORING AND REMEMBERING USERS' DARK MODE PREFERENCES ACROSS SESSIONS USING COOKIES OR LOCAL STORAGE.

**SOLUTION:**

USE LOCALSTORAGE OR COOKIES TO STORE THE USER'S PREFERRED MODE (LIGHT OR DARK). RETRIEVE THIS PREFERENCE WHEN THE PAGE LOADS AND APPLY THE CORRESPONDING STYLES

## TESTING AND DEBUGGING

**CHALLENGE**: THOROUGHLY TESTING DARK MODE IMPLEMENTATION ACROSS VARIOUS DEVICES, SCREEN SIZES, AND BROWSERS TO ENSURE CONSISTENT FUNCTIONALITY AND APPEARANCE.

**SOLUTION:**

USE DEVELOPER TOOLS TO INSPECT CSS STYLES AND DEBUG ANY ISSUES RELATED TO DARK MODE

## IMPLEMENTATION.

CONDUCT USABILITY TESTING WITH REAL USERS TO GATHER FEEDBACK ON ACCESSIBILITY, USABILITY, AND VISUAL APPEAL IN BOTH LIGHT AND DARK MODES.

# LINKS:

LINKEDIN LINK:https://www.linkedin.com/posts/aruba-khan-58aa65316_started-internship-at-a-d-tech-completed-activity-7213099426456707072-igSM?utm_source=share&utm_medium=member_desktop

Github link:https://github.com/ArubaKhan23/Coding