**Phase 5-> Testing**

The **Testing** phase ensures the SkyLens application works correctly, performs efficiently, and delivers a smooth user experience. Multiple testing strategies were used to validate both individual components and their interactions.

**Unit Testing**

Each feature was tested individually to ensure accurate behaviour:

1. **projectfinal.html**: Checked for proper display of daily weather updates.
2. **searchfinal.html**: Verified that search inputs returned correct weather results.
3. **alertsfinal.html**: Tested for accurate and visible alert notifications.
4. **moonfinal.html**: Ensured correct lunar phase information was displayed.
5. **tendayfinal.html**: Confirmed all 10 days’ forecasts were accurately shown.

These tests focused on detecting bugs such as incorrect data rendering or layout issues.

**Integration Testing**

After individual testing, integration testing was done to ensure seamless interaction between all components. Navigation links were tested across pages, and consistent API behavior was verified. For example, weather data accessed in **searchfinal.html** was cross-checked with updates shown in **projectfinal.html** to maintain consistency.

**Performance Testing**

SkyLens was tested on various devices and browsers to assess loading speed, responsiveness, and visual performance. Optimization steps like reducing image size and refining scripts helped improve efficiency.

**User Acceptance Testing**

The application was shared with a small group of users for feedback. Comments regarding layout, ease of use, and clarity led to minor design and usability improvements, ensuring that the app met user expectations.

**Files Categorized**

All five files—projectfinal.html, searchfinal.html, alertsfinal.html, moonfinal.html, and tendayfinal.html—were thoroughly tested. Each file represents a vital part of the system and contributed to the overall functionality and stability of SkyLens.