Week 9 Progress Report: Comprehensive Testing Suite

- Dates: 11/9 - 11/16

Week 9 Goals:

✅ Polish UI for both preview and pause features
✅ Write comprehensive unit tests for pause/resume functionality
✅ Finalize preview integration and edge case testing

- **LoC**
  - Test code:
    - `tests/unit/test_pause_unit.py` : 214
    - `tests/unit/test_next_piece_preview_unit.py` : 252

Summary of changes

- Files created:
  - `tests/unit/test_pause_unit.py`
  - `tests/unit/test_next_piece_preview_unit.py`
  - `tests/integration/test_pause_and_preview_comprehensive.py`

Major Changes

1. `tests/unit/test_pause_unit.py` (20 tests)

   - **Pause State Management Tests (6 tests)**

     - Initial state verification

     - Pause toggling on/off

     - Multiple consecutive pause intents

     - Click-to-resume functionality

     - Click behavior when not paused

   - **Movement Prevention Tests (7 tests)**

     - LEFT, RIGHT, DOWN, SOFT_DOWN movements blocked when paused

     - ROTATE and DROP intents blocked

Test Results

✅ **All 44 tests passing**

- 20 unit tests for pause functionality

- 12 unit tests for preview rendering

- 12 comprehensive integration tests

Other Notes

- Complete test coverage for pause/resume feature including edge cases and state preservation
- Comprehensive renderer testing for next piece preview with different piece types and rotations
- Integration tests verify both features work correctly together
- All tests use proper mocking to avoid pygame dependency issues in unit tests
- Test suite validates game state consistency and feature robustness