Quality Assurance, Sprint 3

# Emulator Device Specification:

Resolution: 1280x800

CPU: Intel Atom (x86\_64)

Target: Android 5.1.1 - API Level 22

RAM: 1536 MB

SD Card: 1024 MB

Our user uses a Samsung Tab 4 – so the specs are as close as the actual device.

# Defects in Garden App

### Code refactoring is needed

**Status**: Open

**Reproducibility**: Always

**Priority**: Medium

**Description**: Found by code review. Unfortunately the code base has become a *big ball of mud*. As the deadline is approaching, many quick hacks were added. It needs to be refactored.

### Drawing the background caused out of memory exceptions

**Status**: Fixed

**Reproducibility**: Often

**Priority**: High

**Description**: Found by manual testing on emulator. Fixed using singleton: the background bitmap is loaded once and stored in the App so that switching between activities will use the already loaded bitmap.

### Minimizing the app in View Garden causes the app to crash

**Status**: Fixed

**Reproducibility**: Always

**Priority**: Medium

**Description**: Found by manual testing on emulator. To reproduce this defect, minimizing the app when the app is in View Garden. Trying to bring the app back up causes the app to stop. Fixed it by creating a new drawing thread if the thread was in the Terminated state when the GardenView surfaceCreated() method was called.

### App crashes on start after a change in garden engine

**Status**: Fixed

**Reproducibility**: Always

**Priority**: High

**Description**: Found by manual testing on emulator. App stops working on start. Fixed by replacing the hard-coded garden format string with code to generate the garden.

### Moving an existing plant around in the garden does not save the new position

**Status**: Fixed

**Reproducibility**: Always

**Priority**: High

**Description**: Found by manual testing on emulator. To reproduce this, move an existing plant in the garden, then back out of the garden view and open the view again. The plant returns to the previous position. Fixed in #63.

### A circle is drawn in the upper left hand corner if user presses confirm without tapping on screen when adding a plant

**Status**: Fixed

**Reproducibility**: Always

**Priority**: Medium

**Description**: Found by manual testing on emulator. When the user presses the confirm button when adding a plant without first select a position on screen, the plant is added to the origin of the map. Fixed by adding code to check if a position is selected first, before adding the plant to garden.

### Garden view appears to be in different sizes on different screen resolutions

**Status**: Fixed

**Reproducibility**: Always

**Priority**: Low

**Description**: Found by tapping the screen on the garden view on emulator in different resolutions. Low priority because it is not in the scope of the app yet (the app is designed for 1280x800). Fixed by adding code to scale the garden view based on the resolution of the device.

### The android back button causes issues with the app

**Status**: Open

**Reproducibility**: Always

**Priority**: High

**Description**: Found by manual testing on emulator. This is because the app keeps creating new activities whenever a button is pressed, e.g. “delete” and “back” in view species info activity, without popping any screens off the activity stack. When the android back button is pressed, it pops an activity on top of the stack, which is not necessarily the child activity of the next activity on stack. This is a big issue, similar to memory leak. Not fixed yet – need to change all the code where an activity is created. It will take some time.

### The view species info “error loading data” when app’s back button is pressed

**Status**: Fixed

**Reproducibility**: Always

**Priority**: Medium

**Description**: Found by manual testing on emulator. When using the app’s back button in the add plant activity, view species info shows an error message “error loading data”. Fixed by sending the correct intent to the species list activity.

# Defects in Garden Engine

### Garden.stringToGarden() throws an exception when there is a negative integer in the string

**Status**: Fixed

**Reproducibility**: Always

**Priority**: Medium

**Description**: Found by manual testing. When there is a negative integer in the format string, e.g. color as int, stringToGarden throws an exception. This is because the ‘-‘ char was used as a delimiter. Fixed by using a different delimiter char, ‘|’.

### Plant date and prune date should be part of the Plant.java and not the Species.java

**Status**: Fixed

**Reproducibility**: Always

**Priority**: High

**Description**: Found by code review. Plant date and prune date should be properties of a plant, not a species. Fixed by moving the two properties from Species.java to Plant.java.