In this document, we will be primarily be dealing with the local time and world time.

Case 1: Local Timezone retrieved from the system (default case)
This is the most basic case which is presented to the user when he opens the clock app for the first time. The clock app should get the user's system timezone to show the correct local time. This is done in a simple manner by,

currentTime = Qt.formatTime(new Date());

Case 2: Local Timezone changed by the user manually through the terminal or the GUI
This case also deals with the local timezone with the only difference being, the timezone has been changed elsewhere by the user. In this case, the user **must restart** the clock app to get the updated local time in the clock app.

There is no other way other than restarting since new Date() needs to be refreshed which is done only at launch.

Case 3: Local Timezone changed by the user in the clock app
Here is the difficult case. The proper way of doing this would be to change the system timezone if the timezone has been changed by the user in the clock app. However changes done in the clock app **do not** propagate upstream to the system settings. This is because the clock app does not have the permissions or an API to achieve this.

If user changes timezone in the system **outside** the clock app, does the clock app show the changed system timezone still or show the timezone which was set through the clock app? It has been decided to show the system time if it has been changed **outside** the clock app since it would be wierd if the user changes system time and opens the clock app to find that it still shows the old time.

Bug https://bugs.launchpad.net/ubuntu-clock-app/+bug/1191291 is precisely due to this case. -- NEEDS FIX

Case 4: User moves timezone
Assuming clock app is off during the transition, so we are talking from cold-starts of the app, not while running.

User had phone displaying a default clock of the current timezone. When the timezone changes the clock should reflect that.

User powers on phone in new timezone. Phone should get new time from the network (need to confirm this is the case with platform). Phone system time changes. Time in welcome screen and indicator will reflect “local” time.

User opens clock app. On load clock detects that the timezone we're currently in is not the one we were in previously, updates display to show local time.

User may want to override the local timezone display (e.g. to keep a device on home timezone for phoning home and not waking kids) and so can set the clock to show a different time than "local".