SkySafari 6 Plus Tutorial

The following pages are a *brief* introduction to basic setup & use of *SkySafari 6 Plus*. The instructions provided are *NOT* meant to be an exhaustive list of all the features that *SkySafari* offers, so DO experiment with the program after reading through this - the best way to learn *SkySafari* is to use it! If you have follow-up questions beyond the presented basics, peruse *SkySafari's* excellent built-in Help and Tutorials or ask me. PLEASE NOTE: while NOT all of the instructions below apply to the base version of *SkySafari*, the basic functionality is identical.

**** Please see the separate Observing Project handout for class project details. ****

Where to obtain SkySafari

SkySafari 6 is available via Apple's *App Store* or Android's *Play Store* for *iOS*, *MacOS*, and *Android*. SkySafari is available in a base, 'plus' and 'pro' version. The main differences are the included stars/deep sky objects, display options & features, and telescope control (see **https://skysafariastronomy.com**). This guide is based on *SkySafari 6 Plus* for iOS; included features in other versions of *SkySafari* vary a little but the core functionality is identical. For ASTR 111/112 *SkySafari 6 Plus* is recommended but the base version will do about 90% of what is needed. There are also other planetarium programs available at little or no cost or bundled with textbooks (e.g. *Starry Night*, *Stellarium*, *Kstars*, etc.).

SkySafari 6 Plus Instructions

- **Verify that your mobile device or Mac has the date & time set *correctly***
- Open the *SkySafari* app; *dismiss* any pop-up informational or event windows which may appear but DO watch the brief automated demonstration of *SkySafari's* features
- The main *SkySafari* window displays your **location** in the top left corner, the **date & time** in the top right corner, and the **Toolbar** along the bottom. You can hide or show the Toolbar using the $\overline{\vee}$ or $\underline{\wedge}$ control near the bottom left. The **Toolbar** gives you access to commonly-used functions and other informational & display options for *SkySafari*
- The default **Toolbar** displays **Search, Selection, Settings, Observe, Time, Scope, Tonight, Compass, Night, Calendar, Share, LiveSky and Help**. The **Toolbar** is customizable under **Settings** → Appearance & Behaviour (except in the base version)
- **Search** allows you to find astronomical objects by name. **Selection** operates on objects that you have selected in the main window; it will provide detailed information on the

object and the option to (re)center the object on your screen. **Settings** provides access to various application settings (more on this shortly). **Observe** provides access to observation lists, planning tools and customizable field-of-view (FOV) displays. **Time** sets the date, time and the rate at which time flows. **Scope** is for (wireless) telescope control. **Tonight** offers a short list of celestial events for the current evening. **Compass** toggles SkySafari in/out of *augmented reality* mode; when compass is on, you can hold up your mobile device and SkySafari will render in realtime what is in the part of the sky that the device is pointed at. This can be very useful to find a particular object in the night sky or to identify an (unknown) constellation, star or planet. **Night** puts the app into red 'night mode' to help preserve your night vision while observing. **Calendar** provides a summary of upcoming celestial events. **Share** allows you to, well, share observational lists and items with other users. **LiveSky** is an optional online feature for storing and synchronizing settings and lists between devices. Finally, **Help** provides access to very useful built-in tutorials and detailed descriptions of *SkySafari* features

- Let's adjust a few settings to help make the app more usable (modify these settings to work best on your device). Select **Settings**. Under Location, set your observing position. You can type in coordinates manually, use your device's GPS location or choose locations from a preset list or map. Use **<Settings** in the upper left to return to the **Settings** page. Under Appearance & Behaviour you adjust the appearance of the skychart. Try out 'Monochrome' or 'Inverse Monochrome' charts for fun, adjust screen brightness and font size, and turn on/off ambient sound and sound effects. I suggest *disabling* 'Tilt to Use Compass' (some devices' built in accelerometers can accidentally and unexpectedly trigger *augmented reality* mode) and *enabling* 'Show coordinates & FOV' (on the main window this will display compass direction & height of the point at the center of the screen and the amount of sky currently being viewed horizontally & vertically). Select Configure Toolbar and *enable* 'Info' and 'Center'; *disable* 'Scope Control', 'Share', and 'LiveSky' (to start). You may also 'Reorder' items in the **Toolbar**. See what works for you - it is useful to have essential tools available but not 'clutter' the **Toolbar**

- Return to the **Settings** page. Under Horizon & Sky you can toggle daylight on/off ('Show Daylight') and alter the appearance (but NOT the location) of the observing site; select any horizon panorama EXCEPT 'Translucent Earth', (which dimly displays the sky normally hidden beneath the horizon and may be visually confusing). Return to the **Settings** page. Explore and adjust the settings under Stars, Deep Sky, Milky Way and Constellations. For some of these you can adjust 'Magnitude Limit', 'Intensity', 'Name Density' and other attributes to make the screen more legible or to find fainter objects, etc. Experiment with these settings. Under Deep Sky, it can be useful to *enable*

'Show in Wide Fields' and 'Show Names' (*disable* these or adjust the 'Name Density' if your display becomes too busy). Under Milky Way, increase intensity to 75% or higher as necessary for your device to make it more readily visible. Under Constellations, *enable* 'as Traditional Lines', *disable* 'as Mythical Figures' and adjust the intensity to an acceptable level. Toggle 'Show Asterisms' and 'Show Names' on/off as required

- Return to the main window by clicking 'Done' and select **Time** from the **Toolbar**. 'Now' (re)sets the date & time to the current device date & time. You may manually adjust the Month, Day, Year, Hour, Minute, or Second by clicking on the desired value and using the $\triangleleft|$ and $|\triangleright$ buttons. Adjust the 'flow' of time by tapping on the 'unit' (eg. 1 Second, 1 Minute, etc.) on the bottom left and then using the $\triangleleft$ and $\triangleright$ buttons. You may also adjust the date & time under **Settings** $\rightarrow$ Date & Time. If you need to stop at a fixed date and time use the above menu to toggle 'Use Current Time' off OR set the time flow units to seconds and select either of the $\triangleleft$ and $\triangleright$ buttons twice in a row

- Return to the main window. The letters along the horizon are compass directions (N, S, E, W, etc). Change the direction you are facing by **clicking and dragging the sky** in whatever direction is desired. If enabled as instructed previously, the compass direction & position values in the upper left corner of the window will change as you drag. Adjust your view until you are facing north ('N') and looking about 45° degrees above the horizon. Click on the brightest star near the center of your view; its name (Polaris) should appear next to it. While it is selected, click on **Selection** in the **Toolbar** and select Center Object. Click on **Selection** again and select Object Info. This brings up a window with detailed information on the object; swipe left or right to switch between a general description and a more detailed quantitative summary of the object's attributes (brightness, alternative names, catalog number(s), etc). Select 'Done' when finished

- If enabled as previously instructed, numbers indicating the current horizontal x vertical field-of-view (FOV) of the main window appear in the upper right (*eg. 165°x82°*) (ie. how much of the sky is visible) reported in degrees (°), arcminutes (′), or arcseconds (″) depending on how magnified the view is. At bottom right are $\oplus$ and $\ominus$ symbols which control zooming the view in / out; try them, noting the change in the FOV that result. **Before zooming in on an object, *select* and *center* it first** (as detailed previously). You can display FOV indicators using **Observe** $\rightarrow$ Scope Display in the **Toolbar** by *enabling* 'Show Even if Not Connected to Telescope' and one (or more) 'Custom Field of View' indicators

- Use **Settings** $\rightarrow$ Save and Restore Settings to save current settings or reset to default

- Experiment & have fun!