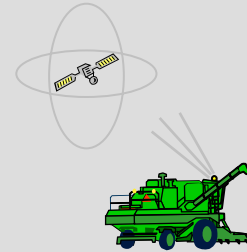# UT Extension

Precision Agriculture

Mapping Points Using ArcPad

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ArcPad can be used to capture a single x, y coordinate that represents a geographic feature (i.e. point) such as a house, farm shop, grain bin, etc. from the incoming GPS coordinate. You can assign various attributes that describe the points you capture. For example, the attributes of a house might include the owner's name, street address and phone number.

1. With AcrPad open, Tap the dropdown arrow to the right of the Open Map button on the Main toolbar.
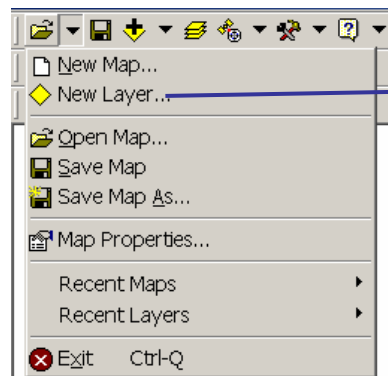
2. Tap New Layer from the dropdown list. The New Shapefile window appears on the screen
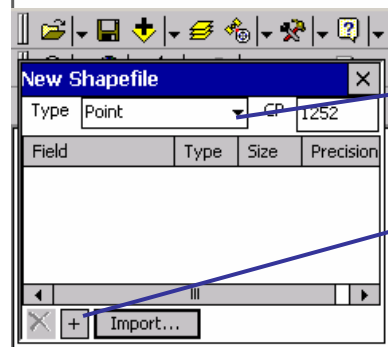
3. Select Point from the Type dropdown menu

4. Tap the plus sign button at the bottom of the New Shapefile window. A Field dialog box appears. The Field dialog box allows you to define the fields and their corresponding attributes for your shapefile's attribute table. Fields can be any type of information such as the landowners name, type of point mapped, the date and who mapped the point, etc.
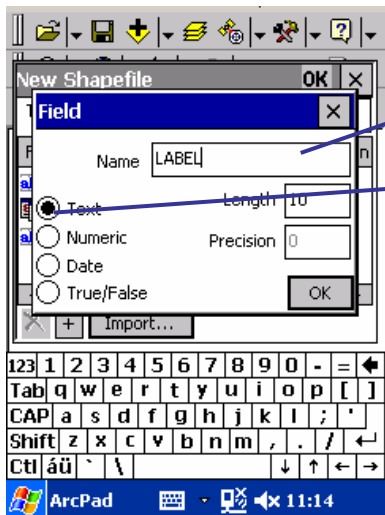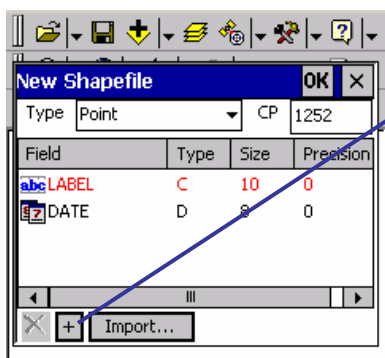
5. Using the keyboard and stylus, type LABEL for the Name.

6. Tap inside the circle next to Text.
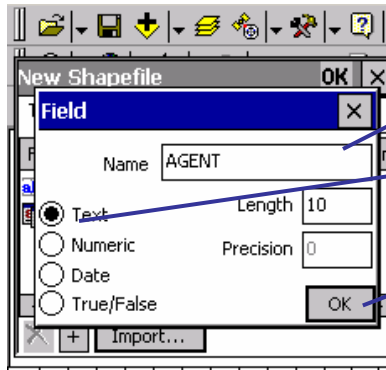
7. Tap OK
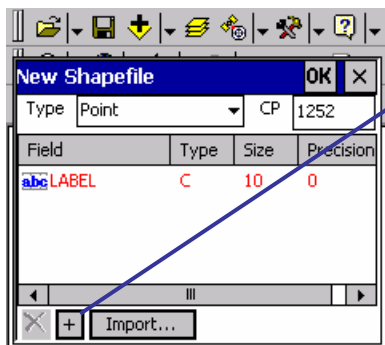
8. Tap the plus sign button at the bottom of the New Shapefile window to add another field to your Shapefile, for example the date you captured the point.
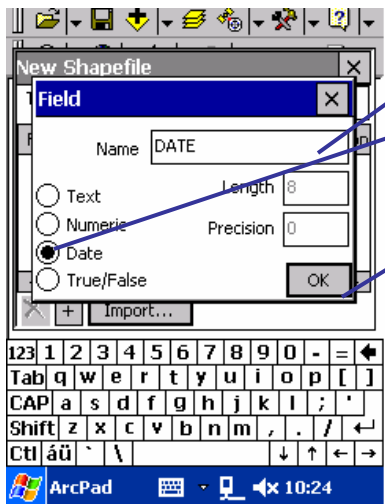
9. Using the keyboard and stylus, type Date for the Name.

10. Tap inside the circle next to Date.

11. Tap OK. The New Shapefile dialog box appears with the newly created Date field.


12. Tap the plus sign button at the bottom of the New Shapefile window to add another field to your Shapefile; for example the person collecting the point.

13. Using the keyboard and stylus, type Agent for the Name.
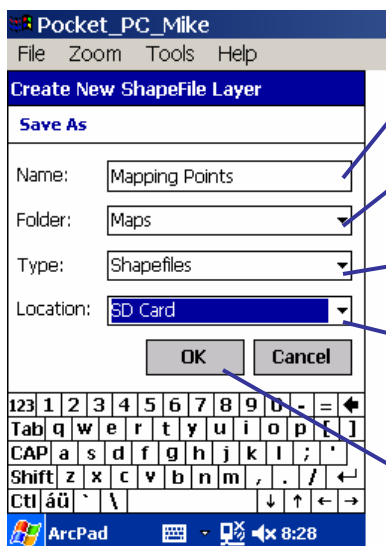
14. Tap inside the circle next to Text.

15. Tap OK. The New Shapefile dialog box appears with all the fields and their corresponding attributes for your shapefile's attribute table.
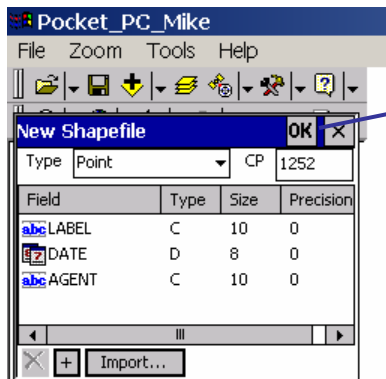
16. Tap OK. The Create New Shapefile Layer Save As Dialog box appears.

17. Tap inside the Name box. Name the shapefile, for example Mapping Points using the stylus to type on the keyboard.

18. Under Folder, tap the down arrow to obtain the dropdown menu, and select the Folder in which to store the shapefile (i.e Maps).

19. Under Type, tap the down arrow to obtain the dropdown menu, and select Shapefiles from the dropdown list.

20. Under Location, tap the down arrow to obtain the dropdown menu, and select the location of the Folder from the dropdown list (i.e. SD Card).

21. Tap OK when finished.
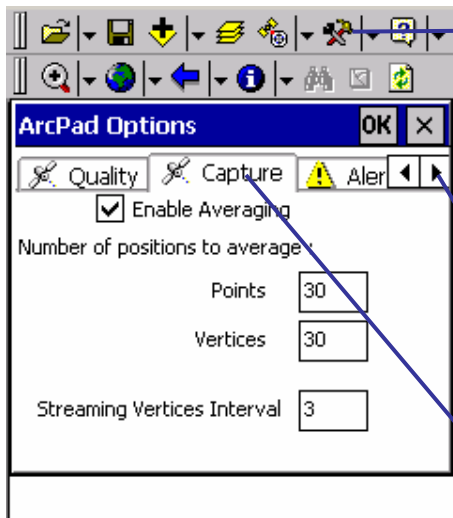
22. Averaging multiple GPS fixes over a period of time will improve the accuracy of the captured point. In order to average multiple GPS fixes, the Enable Averaging option must be set in the ArcPad Options dialog box. If you have already set ArcPad to Enable Averaging, proceed to step 28. If Enable Averaging has not been set, then tap the Tools button on the Main toolbar to open the ArcPad Options dialog box.

23. Tap the forward arrow until the Capture page appears in the ArcPad Options dialog box.
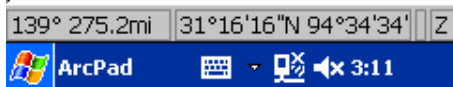
24. Tap the Capture page to display the Capture page. The Capture page is used to set data capture rules for your GPS receiver.
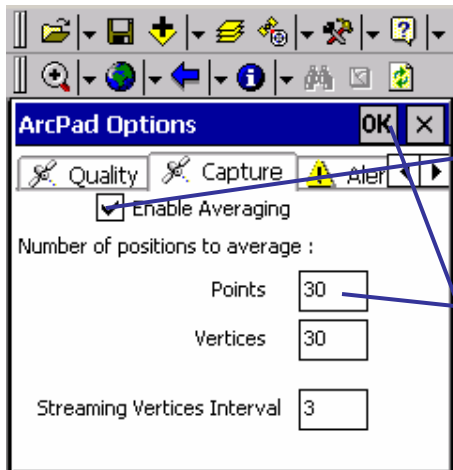
25. Tap inside the box to the left of Enable Averaging. When checked, averaging is enabled for the GPS capture of points and vertices.

26. Tap inside the box to the right of Points to enter the number of continuous GPS fixes you want to average when capturing a point feature with your GPS receiver. It is recommended that at least 20 and up to 180 GPS fixes be used when averaging points. Using the stylus and the provided keyboard, type a value; for example, 30.
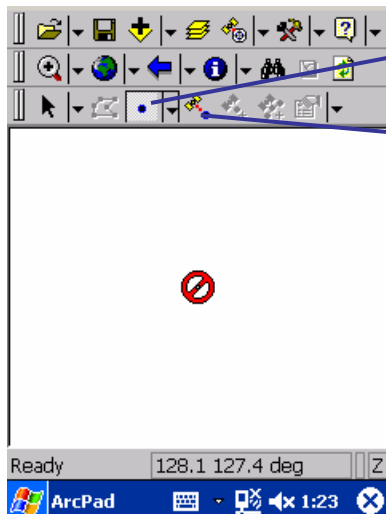
27. Tap OK. ArcPad saves this communication parameters internally and you should not have to reset them again unless you want to change the setting.

28. Tap the GPS Position Window button to activate the GPS receiver.
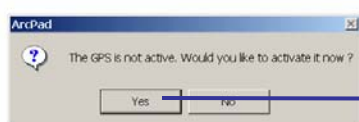
29. A message box will appear indicating that the GPS receiver is not active. Tap Yes to activate the GPS receiver.

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30. Tap the point icon to activate the Editing/Drawing tool bar

31. Go to the point of interest and tap the Capture Point Using GPS button. When the Capture Point Using GPS button has been activated, ArcPad starts averaging the incoming GPS fixes.

32. During the process of capturing the point, the Feature Properties dialog box will appear. You can type in the attributes without waiting for the position averaging to be completed. ArcPad will stop averaging once the set number of GPS positions has been received and averaged.
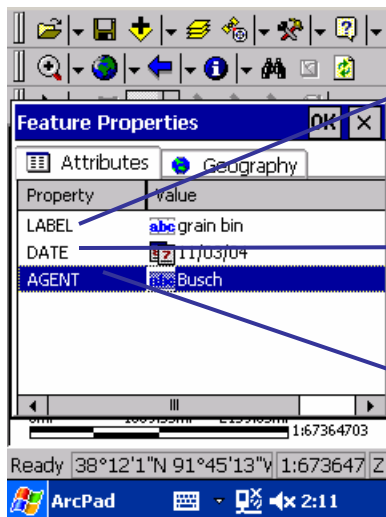
33. With the stylus, tap and hold on the word, LABEL, and then release. Using the stylus and the provided keyboard, type a Value (i.e. description), for example grain bin for the point.

34. With the stylus, tap and hold on the word, DATE, and then release. Using the stylus and the provided keyboard, type a Date, for example 11/03/04.

35. With the stylus, tap and hold on the word, Agent, and then release. Using the stylus and the provided keyboard, type your name, for example Busch.
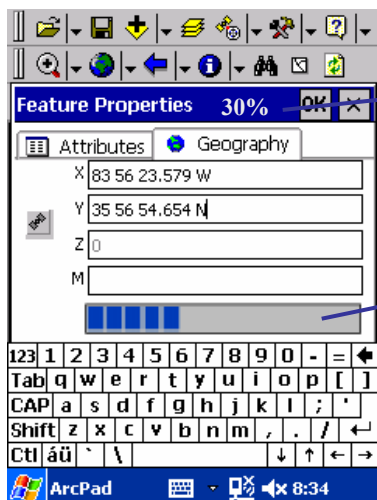
36. Tap on the Geography Page of the Features Properties dialog box. The GPS position averaging status is displayed in the title bar on the Geography page

37. The Geography page also shows a progress bar, which counts down from the specified number of GPS positions to average to zero.
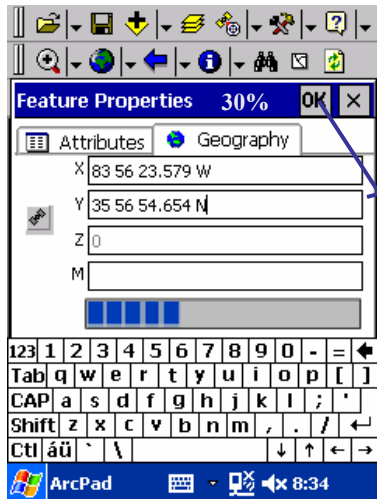
38. The Geography page displays the running average coordinate of the point you are capturing. ArcPad uses Latitude-Longitude WGS84 as the default projection anytime you open a new map. Therefore, the current position of the point shown in the Geography page is displayed in geographic coordinates in degrees-minutes-seconds (dd^{o}mm'ss.sss"). In this example, the Latitude (Y) of the current position is 35°56'54.654" N and Longitude (X) is 85°56'23.579" W.

39. Tap OK to save the attributes

40. If you tap OK before averaging has been completed, a message dialog box will appear asking whether you want to stop averaging now. Tap No if you want ArcPad to finish averaging or Yes if you want to stop averaging.
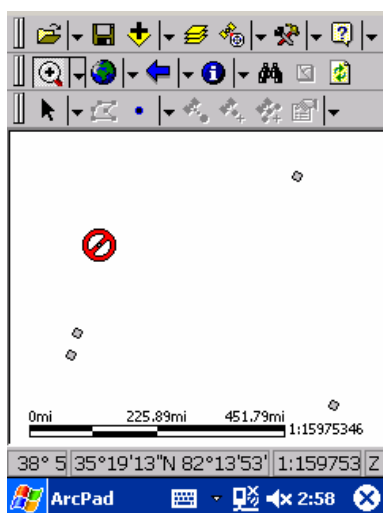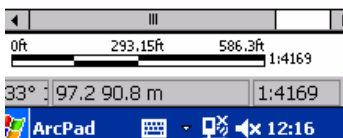
41. The screen should now show your map with the point that you just created. You can add more point(s) to your map by moving to your next point(s) of interest and tapping the Capture Point Using GPS icon. Each time you tap Capture Point Using GPS icon, the Feature Properties dialog box will appear. Again, enter the attribute information for the point feature you just created.

42. When you are finished collecting points, tap on the Disk Save icon to save your map. The Save As dialog box appears on the screen.

43. Tap inside the Name box. Using the stylus, type a Name for your map using the keyboard; for example, Riggs Farm Layout.

44. Under Folder, tap the down arrow to obtain the dropdown menu, and select the Folder in which to store the map; for example Maps.

45. Under Type, tap the down arrow to obtain the dropdown menu, and select ArcPad Map Documents from the dropdown list.

46. Under Location, tap the down arrow to obtain the dropdown menu, and select the location of the Folder from the dropdown list; for example SD Card.

47. Tap OK when finished to save your map.

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