MobileHMI
Kiosk Mode

APPLICATION NOTE

October 2015

Description: Guide to setting up MobileHMI in Kiosk Mode.

Introduction

In some situations it may be useful to have MobileHMI run in 'Kiosk Mode' on a client device. Running in Kiosk Mode means that you are not allowed to do anything with the device except use one specific application; in this case, MobileHMI.

Such situations may include:

- A mobile device on a plant floor intended to control some equipment
- Trade shows
- Wall-mounted devices that provide access to anonymous users

Windows 8.1 and 10 Assigned Access

In the past, an equivalent of Kiosk Mode was available in GENESIS32 by using automatic startup of a project along with the Secure Desktop feature. This would prevent system functionalities like closing the active application, using the Start menu etc.

Windows 8.1 and Windows 10 makes this task much easier on the client side, by providing the 'Assigned Access' feature.

Assigned Access is a Windows 8.1 and Windows 10 functionality that allows setting up Kiosk Mode with minimal effort, with the following characteristics:

- User is only allowed to use one App (from the Store) and nothing else
- Selected App will automatically start upon login
- User is not allowed to exit the App
- User is denied administrative actions including: opening Task Manager, accessing the Start screen, switching tasks, closing applications, closing windows, opening charm bar, swiping from left/right/top, etc.

Setting up Assigned Access for Windows 8.1

You will need to be logged in as an administrator on the device you want to configure for Assigned Access.

1. From "PC Settings" (Charm bar, Settings, Change PC Settings) click on "Accounts".
2. Select "Other accounts".
3. Click on "Add an account" if you wish to set up a brand new account to be used with Assigned Access.
4. A dialog will ask you for an email address of the user you want to create. **Do not enter any email address.** Pick "Sign in without a Microsoft account (not recommended)" from the bottom of the screen instead.
5. In the next dialog select "Local account".
6. Enter your desired user name and password. We selected 'kiosk' as the user name, but you can pick any name you wish.
7. Once the user has been created, you need to log in with it at least once before configuring it for Assigned Access. You can do this now.
8. Once logged in with the new user, go to the Microsoft Store and search for the application you wish to install (for example, ICONICS MobileHMI).
9. When you are about to install the application, Windows will try to force you to convert the Local Account into a Microsoft Account from the "Switch to a Microsoft account on this PC" dialog. **Don't do this!** Do not enter your password, select "Sign into each app separately instead (not recommended)" option on the bottom of the screen.
10. You may be asked to sign in with a Microsoft account. Use a valid Microsoft account to access the app and install it.
11. Your application will get installed and you can try to start it up to verify that it works fine.
12. Log out the Kiosk user and log back in with your administrative user.
13. Open the Accounts screen and select "Set up an account for assigned access" link just below the user list, as shown in the picture below.

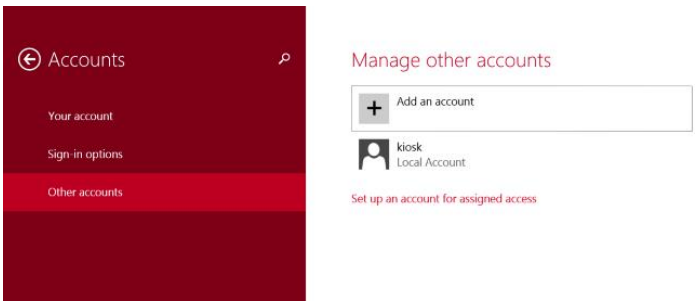

Figure 1 – Link to enable Assigned Access in Windows 8.1

14. From the dialog that opens, you will need to select a user to enable this feature on and an application (from the Store) this user is allowed to use. Pick your Kiosk user and MobileHMI. Your finished configuration should look like the following picture.

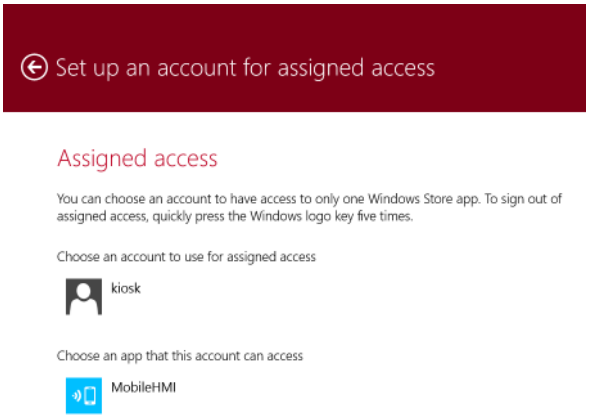

Figure 2 –Assigned Access feature configured in Windows 8.1

15. The configuration is completed. You can now log off your administrative user and try to log back in with the Kiosk user. MobileHMI will start right away and you won't be able to use anything else.

Setting up Assigned Access for Windows 10

You will need to be logged in as an administrator to setup Assigned Access for the device.

1. From Settings (Start Button → Settings) click on "Accounts".
2. Select "Family & other users"
3. Click on "Add someone else to this PC" to add in your new user to be used with Assigned Access.
4. A dialog will ask for an email address, but do not enter any email address. Pick "The person I want to add doesn't have an email address".
5. In the next dialog select "Add a user without a Microsoft account".
6. Enter your desired username and password. For this setup, we chose "kiosk".
7. Now that your user has been created, we need to log in with it at least once before configuring it for Assigned Access. We can do this now.
8. Once logged in with the new user, go to the Microsoft Store and search for the application you wish to install (for example, ICONICS MobileHMI).
9. Enter in your Microsoft Account, but on the next window choose "Sign in to just this app instead" to keep using your local Windows User.
10. Your application will be installed, and you can start it up to verify that it starts correctly.
11. Log out of your Kiosk user and log back in with your administrative user.
12. Open up the Accounts screen and select "Set up assigned access" as in the screenshot below.

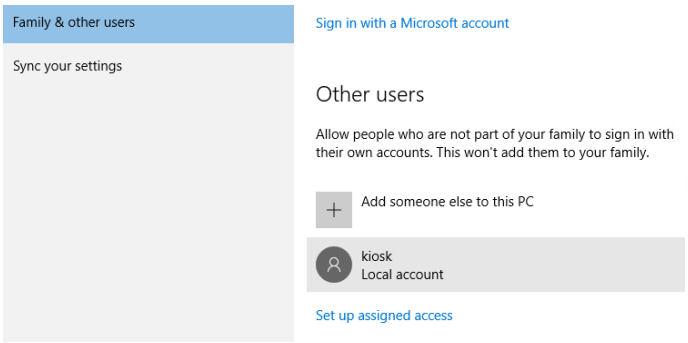

Figure 3 - Link to enable Assigned Access in Windows 10

13. From the dialog that opens, you will need to choose a user and an application (from the Windows Store) that this user is allowed to use. Pick your Kiosk user and MobileHMI. Your finished configuration should look like the following picture.

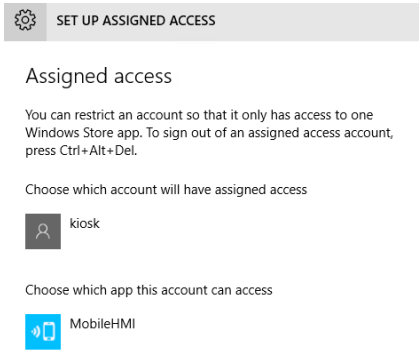

Figure 4 - Assigned Access in Windows 10

14. This is the last step in configuring Assigned Access. You will first need to reboot your machine before using Assigned Access, and then you can log into the Kiosk user. MobileHMI will start right away and you will not be able to use anything else.

Automatically log in the Kiosk user

If you want to lock down your device even further, you can also automatically log in the Kiosk user on startup. To do so, please follow these steps:

1. Press "Win+R" to open up the Run dialog box. Type "netplwiz" and press the enter button.
2. The Advanced User Accounts dialog will open (caption is "User Accounts" only). Uncheck the checkbox next to "Users

must enter a user name and password to use this computer" and click on OK.

3. An "Automatically sign in" box will appear, asking to enter credentials. Make sure you use your Kiosk user credentials.

You are all set, you can now reboot your system and it will automatically log in your Kiosk user and start MobileHMI.

NOTE: If you don't see the checkbox in the Advanced User Accounts dialog above in Windows 8.1, try opening the User Accounts dialog from Control Panel and click on Reset Security Policies option as shown in the following picture.

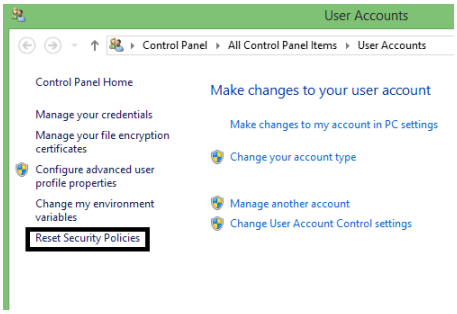

Figure 5 - Resetting Security Policies

Unlocking the device

If you've followed all the above steps and are now enjoying using MobileHMI as a Kiosk user you may be wondering: "How do I get out of here now?"

Because you are now operating in Kiosk mode, there is no obvious way to log off from the system.

For Windows 8.1 you will need to press the windows key 5 times the in order to get back to the login screen. However, because user is an Assigned Access user, the touch windows button is disabled. You will need to use a physical keyboard in this case (for example, on Microsoft Surface tablets).

For Windows 10, you would have to press CTRL + ALT + DEL to get back to the login screen.

Just note that the Kiosk user is not actually logged out (the behavior is the same as if the Kiosk user just locked the PC). If you need to log that user out, you will have to use your administrative user's Task Manager.

This "hidden" functionality is well documented online, so some smart users may find their way to log out of the device. In this case, either they know the Kiosk user password to get back to the application they are meant to use, or they won't be able to log in as any other users (i.e. an administrator user, just make sure to use a strong password for it).

It is possible to prevent users from logging out by using some special equipment. You can use special cases to wrap your mobile device that will prevent usage of external keyboards, or you can wall-mount your device in a frame with similar effect.

In most cases the Kiosk password can also be exposed to the users, because it only allows them to get access to MobileHMI (where you can then use project-based credentials to log into your application servers).

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