

# **iPod Touch + Microsoft Office Software System Block Diagram, Version 2**

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## ***Purpose***

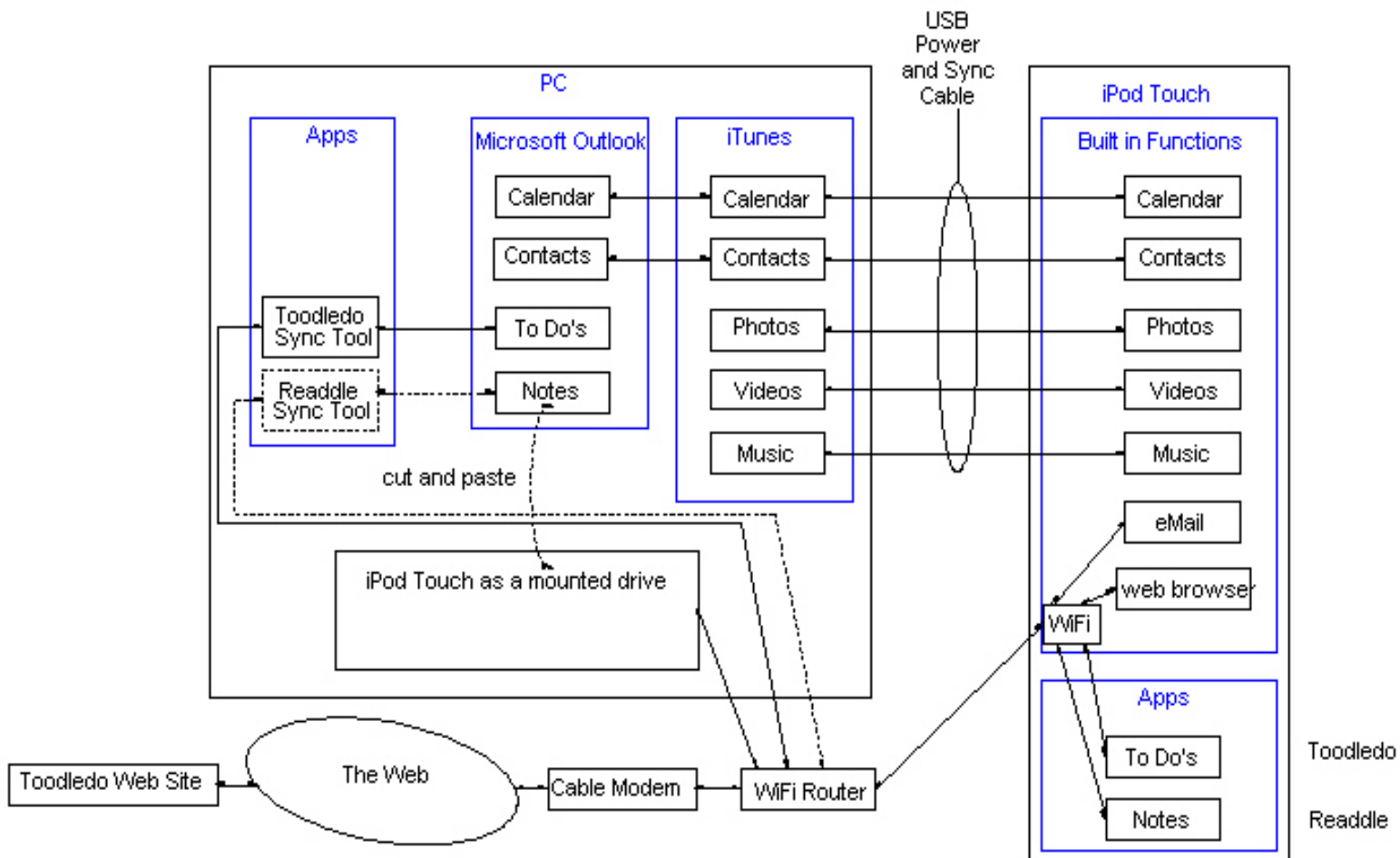
As I transitioned from my Zire 72 to my iPod Touch, I started to get confused on how the functions work. This article attempts to give you the high level view of how the functions “hang together”. Some debugging suggestions are also offered.

## ***Background***

One the Zire 72 it is all rather simple because the Palm Desktop is well integrated. Each built in function (Calendar, Contacts, To Do's, and Notes) on the Zire is managed by a part of the Desktop. I do have a few add on functions like AOL mail, music, and video. They interface to a plug-in WiFi card or to an SD card and do not connect to the PC at all. Before I could let go of my beloved, but out of date, Zire 72, I wanted to be sure that my shiny new iPod Touch would have the same functionality.

## System Block Diagram

I will start with the simple functions and then get into the more complex ones.



On the left is the PC. Over on the right is my iPod Touch. The two are connected together in two ways. At the top you can see the USB cable. Near the bottom is WiFi<sup>1</sup>.

Within the PC is iTunes. The name is a bit outdated since it doesn't just handle music anymore. It also handles the Calendar, Contacts, Photos, and Videos.

The big shock for me was discovered that it does *not* handle To Do's or Notes. My first order of business was therefore to get that functionality back on my PDA. On the positive side, it was a delight to see a great email handler, web browser, plus modern WiFi interface which includes the latest security protocols.

Next to iTunes is Microsoft Outlook. It can directly interface with iTunes in support of the Calendar and Contacts functions. You will later see that the To Do's within Outlook can also be made to interface with the iPod. At the present time, Notes has a manual step

<sup>1</sup> I discovered that if I use WEP, it must be 64 bit.

but I have been assured that it will be automated within the next month.

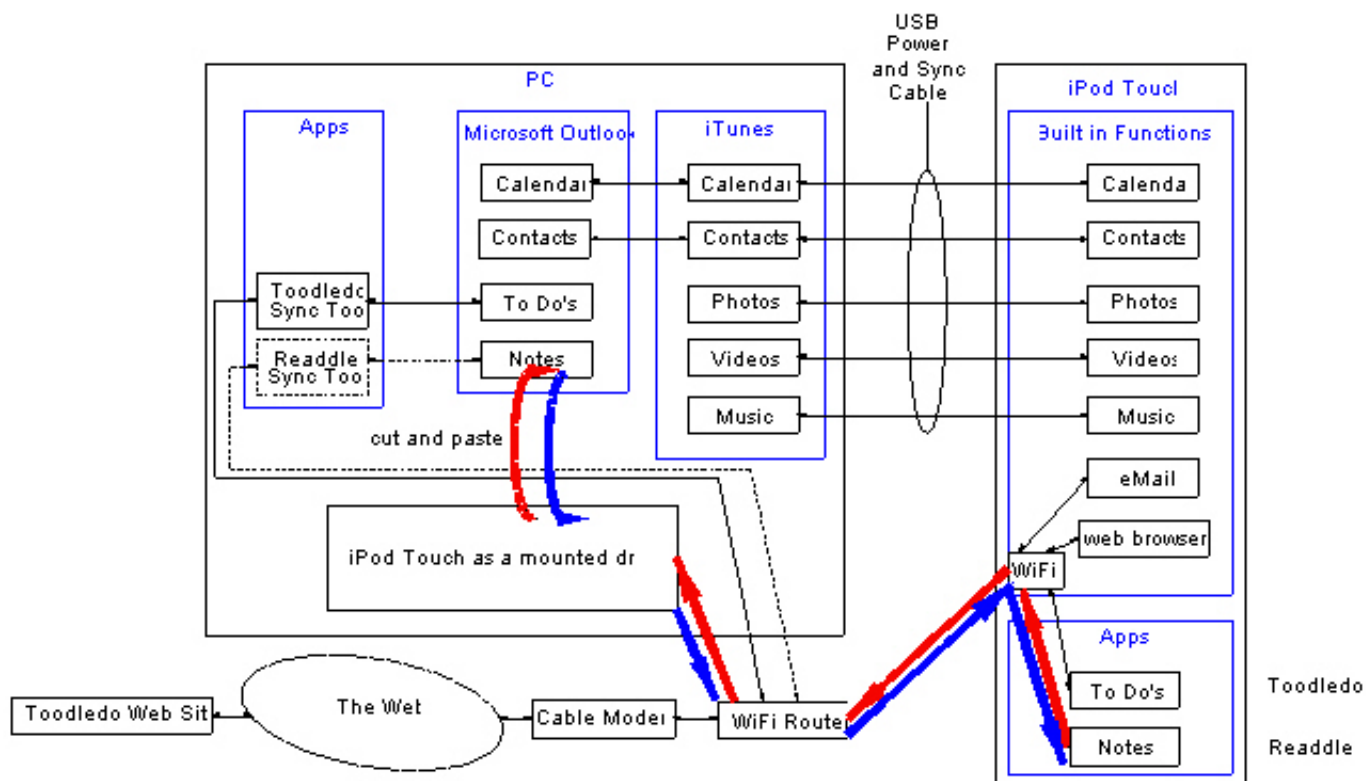
The key thing to understand in the above diagram is that Calendar and Contact functionality within the iPod are synced with Outlook over the USB cable. The sync is initiated either automatically or manually from within iTunes.

In theory, you just install Outlook and iTunes and away you go. In practice, it took a bit of luck and a lot of work to make them talk to each other. I had data in Outlook but iTunes would not recognize it. In the end I located the file “mapi32.dll” and renamed it “mapi32.dll.old”. I then power cycled the PC and attempted to bring up Outlook. It complained that it could not find this file. I then went back to “mapi32.dll.old” and restored its original name. For reasons that I may never know, that fixed my problem. I have no way of knowing how long it will stay fixed but so far, so good. No problems for almost a week now.

Clearly there are a few interface bugs yet to be fixed. As with all interfaces, at least two parties are involved and both must be responsible. In this case we are talking about a shared responsibility between Microsoft and Apple. I'm not going to hold my breath waiting for that collaboration.

## Implementing the Notes Function

I chose to buy the Readdle software to accomplish the notes function.



At the present time, this is a semi-automatic transfer of data between the Readdle app on the iPod and the Outlook on the PC.

Before the data transfer can take place, the iPod must be defined as a mounted drive on the PC. I used NetDrive to perform this action. When operational, the iPod acts as an external hard drive on the PC. For this to all work, Readdle must be running on the iPod, the WiFi connection must be working, and NetDrive must be accessed to reestablish the connection. The order matters. You must first power up the iPod, start Readdle, and then power up the PC. Assuming NetDrive is configured to start up this mounted drive at log in, no further manual operations are needed.

I move files and folders into the iPod mounted drive and they “magically” appear in the iPod. Files created in Readdle on the iPod will appear on the PC in this mounted drive.

Say I want to take a note resident in Microsoft Outlook and have it accessible on the iPod Touch. I must open the note in Outlook and do a select-all followed by a copy. I then Open a text processor, like Notepad, and do a paste. The file is then stored in .txt format.

By the way, this does not mean you can store the file in .TXT format. That is fine for the

PC but it turns out that Readdle was written in UNIX and, at the present time, is case sensitive. It must have a .txt extension. I used “Bulk Rename Utility” to changing the case of the extension because I had 1713 file name extension to fix.

The text file is then placed in the folder shows as the iPod Touch mounted drive. The system will then move the data through the WiFi router, over to the iPod's WiFi function, and into the Readdle app. Note that if the router is down or Readdle is not running, this data transfer cannot take place.

Next, say I want to create a note on my iPod and get it into Outlook. I start up Readdle on the iPod Touch and create a note. The next time the iPod appears as a shared drive on the PC, the file will be transferred. You then open the file with a text editor, do a select-all, copy, followed by a paste into a new note from within Outlook.

It will be a fine day when this is all automated.

Having so many notes brings Readdle to its knees. At best it takes about 8 seconds to respond to the first character in a search. At worst, the app crashes and sends me back to the home screen. I played around with fewer notes and found that at around 500 notes it starts to suffer. It really does not seem to matter how many notes I have but rather the total number of bytes involved. My 1713 notes take up 1.5 MB of memory.

PocketCopy<sup>2</sup> did a fine job of moving those 1713 notes from my Palm Desktop to Outlook but that was the easy part. You may ask how I moved this ugly mass of notes from Outlook into the iPod. The short answer is “it was not pretty”.

If you are not interested, just skip to the next section.

I will just give an overview and not detail every keystroke.

## **Moving Notes from the Palm Desktop to Individual Text Files**

From within the Palm Desktop application, I exported all public and private notes into a “.csv” format file. I now have one massive file that can be opened by Notepad. Given a lot of time, I could manually copy and paste out of this file to create 1713 separate “.txt” files. No thanks.

Instead, I was lucky enough to find a simple tool called TXTSPLIT which is extremely well documented by the author Bruce Sharp. This tool can take one large text file and break it up into many smaller text files. It must find a unique string of characters at the start of a line of text. It then looks to see if the second line of text has a similarly defined unique string of characters. This double check minimizes the chances that the random content in a note will trigger the split action.

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<sup>2</sup> See the last section of this article for more about PocketCopy

When the tool is satisfied that it has found the start of a new block of text, it puts that first line and all subsequent lines into a new text file. When it hits that unique set of strings again, it closes the new text file and starts another one.

For example, I can have:

Qaz This is my first line of my first note.

Wsx And this is my second line of my first note.

Qaz This is the first line of my second note.

Wsx And this is the second line of my second note.

TXTSPLIT will generate two text files. The first one will contain

Qaz This is my first line of my first note.

Wsx And this is my second line of my first note.

And the second text file will contain

Qaz This is the first line of my second note.

Wsx And this is the second line of my second note.

So how do we inject these unique strings into the massive .csv file? Well, using two different tricks. I use Excel to place the first unique string in front of the first line of text for each note. I then use a very ugly and cobbled together set of tools to add the second unique string. More on that later.

Starting up Excel, I opened the massive .csv file. The first column is my text. Subsequent columns have things like category and priority. I only cared about the text but with a bit more effort could have done multiple passes and generated a set of text files for each category.

I chose to make my unique first string be “+note++” without the quotes. This string must be at the start of the first line. To accomplish this task, I inserted a new first column and populated it with my string. The files is then written out as a .csv file again. Wasn't that easy?

OK, so I now have a .csv file where each note has a unique string of +note++ at the start of the first line. If I run TXTSPLIT on it set to match on this string and a “don't care” for the second unique string, I will get two notes in each file. Maybe that is not so bad for you. Readdle will still find any text you feed into its search window. I wanted one note per file. I just need to add a hard line feed after my unique string. Then TXTSPLIT will see the line feed as the don't care second unique string and grab only one note to put into

each text file.

I could not figure out how to add a hard line feed to a text entry within Excel. In the end I brought the file into Notepad. There I added a hard line feed after the first occurrence of +note++.

+note++

This is my first line of my first note.

I then did a select-all and copy. Opening Open Office Writer, I did a paste. My first note has the proper first and second unique string. The unique first string is “+note++” and the unique second string is my hard line feed.

I just need to make that change to the remaining 1712 entries. I wrote a simple script using Quickeys that did a find and replace “N” number of times. The script worked with find and replace to find “+note++” and replace it with “+note++” followed by a hard line feed. In order to put this replacement string into the replace window, I had to copy it from the file and do a paste. I could not see any way to enter a hard line feed directly into that window.

Quickeys lets me repeat a script up to 999 times. I learned the hard way that if I just ran it twice, it would run from the top of the file, down to the bottom, and then start again at the top for a total of 1998 changes. That meant that the top 286 had two hard line feeds which would screw up TXTSPLIT. On my second try I was careful to change the repeat number so each note was only touched once.

The files was then written out of Open Office Writer in .txt format.

It was time to fire up TXTSPLIT. This tool uses a file called txtsplit.ini to hold key parameters. The first line is the count parameter. I chose to start the count at 0. The second line is the first part of the name of each outputted text file. The full file name will be this second line plus the count. I chose to use the name “note” so my output files were “NOTE0.TXT”, “NOTE1.TXT” etc. The capitalization was not in TXTSPLIT so I had no way to make it lower case by changing the script.

The “Bulk Rename Utility” was then used to change the case of the extensions so I would get “NOTE0.txt”, “NOTE1.txt” etc.

The 1713 text files are finally ready to be shipped to Readdle on the iPod. Select all of the text files and move them to the iPod external drive. It took many minutes for this move to complete but it was lightning fast compared to doing individual copy and pastes from the Palm Desktop to Notepad and then moving the file to this drive.

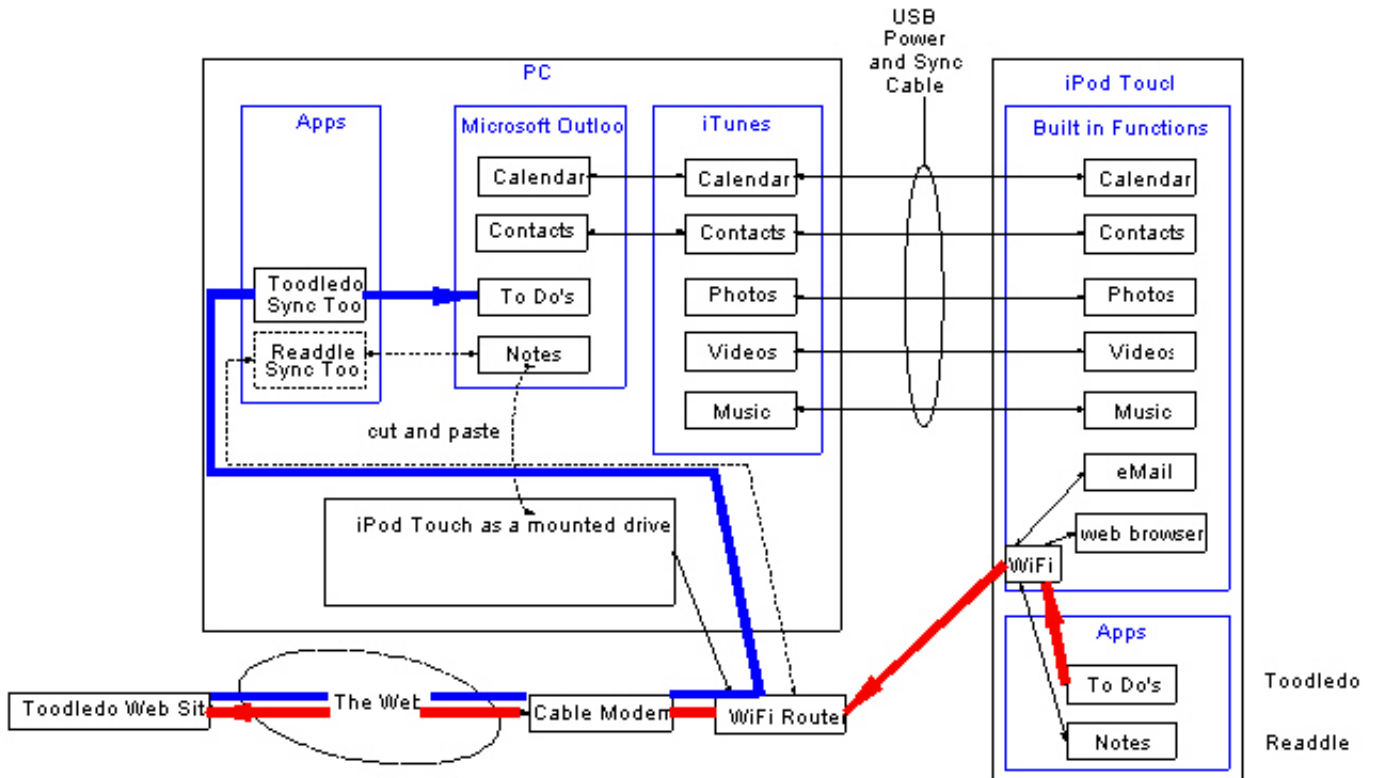
I know enough about programming to say that someone could write a very simple script that would , take the original .csv file from the Palm Desktop and generate those

individual text files for Readdle. It sure would be great if some kind soul wrote such a script. This script would make the lives of those that want to port notes from the Zire to the iPod much easier. Of course, if Readdle developers come through as promised, there will be no need to make this conversion.



## Implementing the To Do Function

I chose to buy Toodledo as my To Do list software because it can interface with Outlook. You will see that the data path is rather complex but at least it is automatic. The downside is knowing where to look when data fails to flow correctly.



The To Do functionality is spread across the iPod, a web site, a PC app, and Microsoft Outlook.

Maybe the best way to explain this system is to follow the data. Say I create a To Do item using Toodledo on my iPod. The app sends the new item through the WiFi interface to my WiFi router. From there it travels through my cable modem, through the web, and over to the Toodledo Web Site. After some processing, it goes back through the web, through my cable modem, through the WiFi router but this time goes into my PC to an app called Toodledo Sync Tool. This tool feeds the data into the To Do list within Outlook.

The same data path is used for To Do items created or changed in Outlook. We go from Outlook, through Toodledo Sync Tool, over to the WiFi router, out the cable modem, through the web, and into the Toodledo Web site. The data is then sent out of the web site, processed, sent back through the web, through the modem, through the router and over to the WiFi function within the iPod. It is then sent to the Toodledo app.

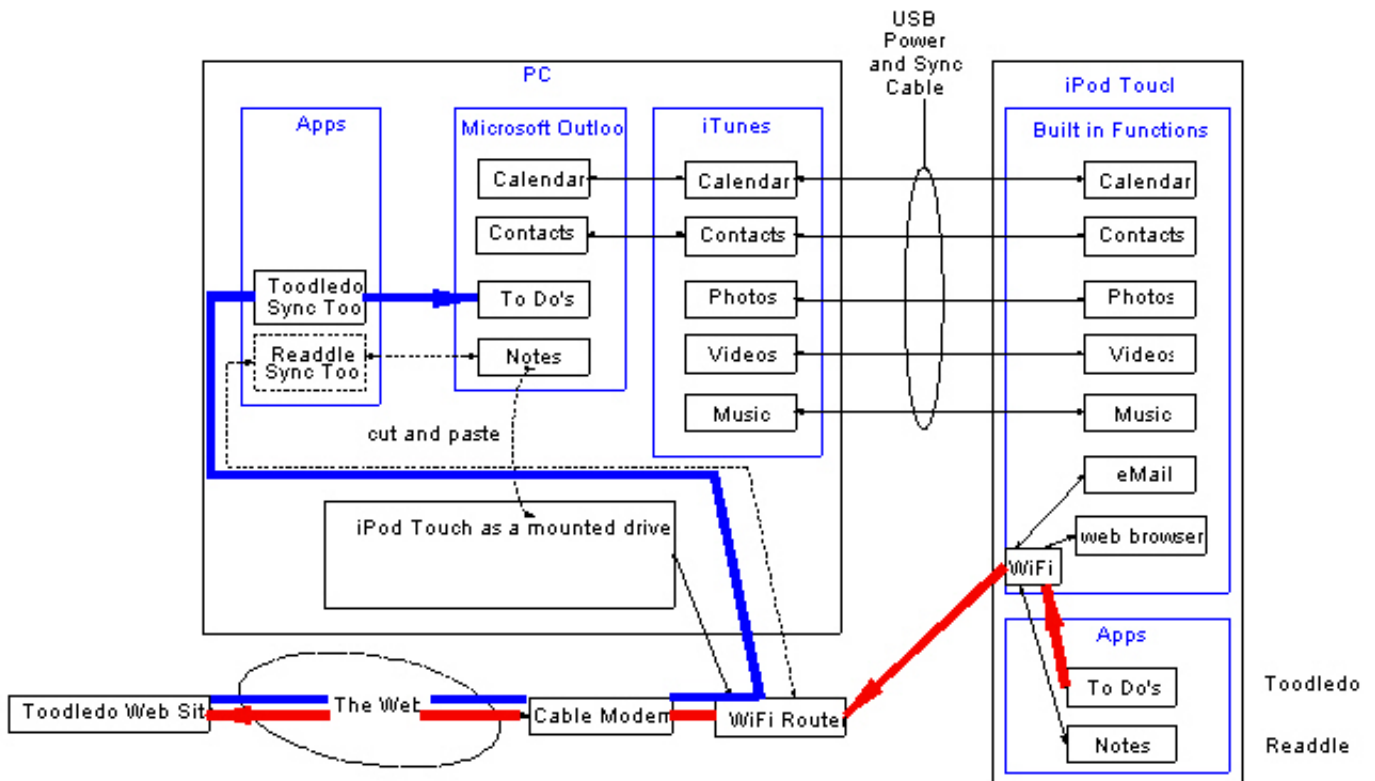
There is good news and bad news here. The good news is that as long as you have access to WiFi, the To Do items will flow between Outlook running on your home

computer and the iPod in your hand. That is cool! The bad news is that a lot of things have to work for the data to flow.

If you create a To Do on your iPod and it does not appear in Outlook, what do you do? This happened to me recently. Rather than entertain you with the false starts, I will present what I should have done in the first place.

## Toodledo Debug Suggestion for a new System

If you are just setting things up, the debugging approach is more involved than when it was working and is now dead.



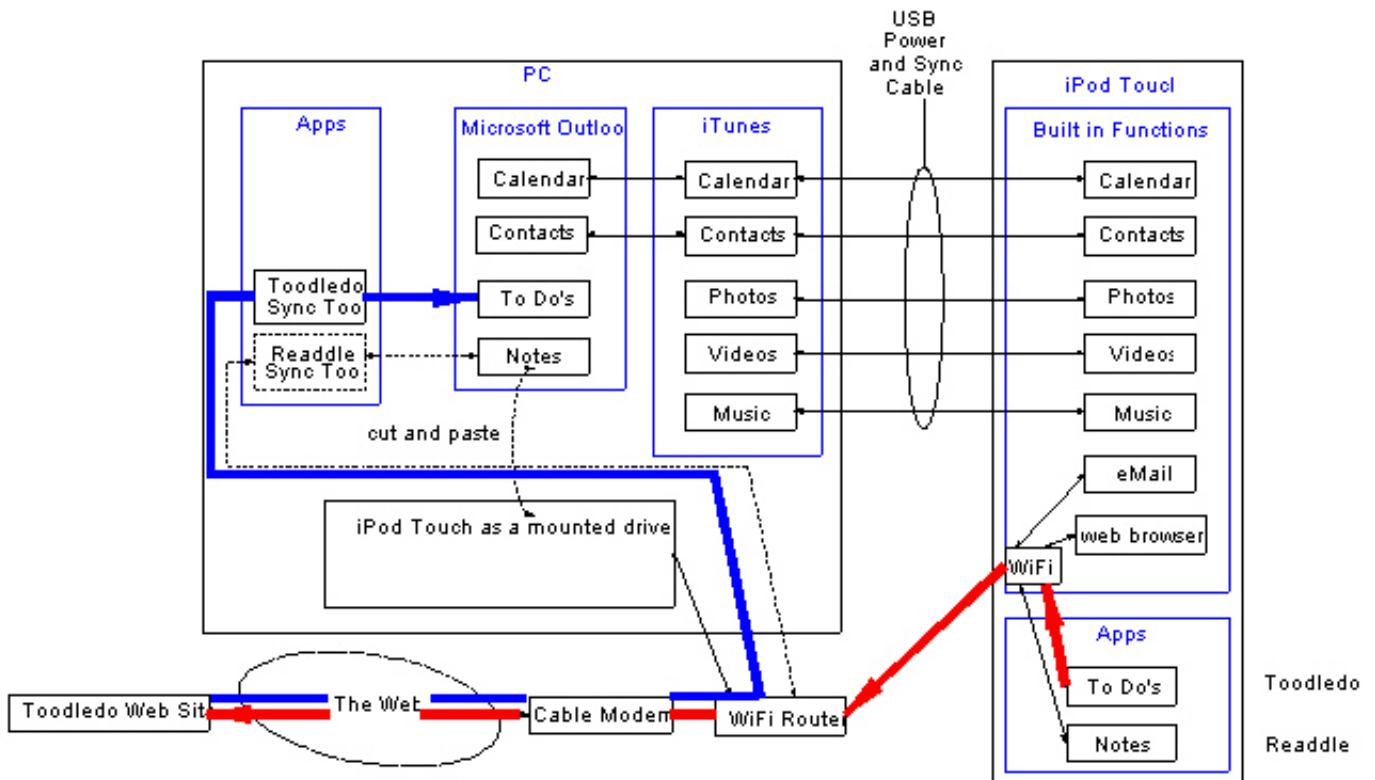
Start by verifying that you have installed the iPod Touch app, Toodledo. Then verify that you have installed Toodledo Sync Tool. As of 1/22/2009, I see a box in the lower right corner of my PC monitor. The box has a green check mark in it. Right click on this box to bring up a window. Clicking on Options will get you to a page of data necessary for it all to work. Be careful about the ID and password. The "Unique ID" is not your ID. The password seems to be case sensitive.

Verify that you have WiFi set up correctly on the iPod. Can you access the web? If not, fix this problem before proceeding. Next go out to the Toodledo Web site. You will need that password again but this time use your user name. Be sure that all is set up right there. Don't log off yet.

Create a To Do on the iPod and see if it appears at the web site. If it does not, check that the Toodledo app is set up correctly.

If the To Do does show up on the site, check for it on Outlook. If you don't see it on Outlook, verify that Toodledo Sync Tool is installed correctly and properly provisioned with data.

## Toodledo Debug Suggestion for a Previously Working System



Start with the really dumb questions. Is your WiFi really working? Can you access web sites from the iPod Touch? If you can, try logging into the Toodledo Web site. If it is down for maintenance, you will be down too. Are you sure Toodledo Sync Tool is running? I will assume you have checked that Outlook is running.

Create a test To Do on your iPod Touch and then close Toodledo. The act of closing the app will cause a sync. Verify that you see the test To Do on the web site. Then verify that it gets to Outlook.

If there still is no joy, recheck that the password, Unique ID, and user names are correct. A few fat finger moves can screw up critical data.

## ***PocketCopy With More than One User***

One unintended consequence of buying my iPod Touch was that my wife wanted one too. Besides the added expense, there were a few problems that had to be resolved. PocketCopy takes the contents of one user's data from the Palm Desktop and moves it into the default Calendar, Contacts, and Notes folders within Outlook. Given only one user it is a simple matter to look through the various folders until you find your data. But with two users you actually have to know what you, and PocketCopy, are doing. What I eventually figured out was that in Outlook you have a folder called Calendar. Unlike

Windows folders, this folder has built in to it a file. That file is the default target for the data sent from PocketCopy. It is essential that this file be empty before you move any data into it or you will have a mix of old data from the last port of data and the new data.

Create a new calendar within this Calendar folder and give it a unique name, say “Rick's Calendar”.

The trick is to let PocketCopy move the data from Calendar into the default file. After installing PocketCopy, you will find it in the Palm Desktop under tools/Addins. Run PocketCopy set to only move Calendar items. It should move all of your Calendar items to the default file.

Go to the default calendar file in Outlook and set the view to Current view/All appointments. Do a select-all and copy. Then go to your new folder and do a paste. Go back to the default file and do a select-all followed by Delete. I tried to just do a select-all and cut but it would not work for me. Anyway, the default file should be empty and your version of “Rick's Calendar” should have your data. Go back to PocketCopy and select your next user and repeat the procedure with a new calendar within the Calendar folder. In my case, I created “Donna's Calendar”. I then have a folder called Calendar that contains the folder “Rick's Calendar” and a second folder called “Donna's Calendar”.

When I first started up Outlook it had the Calendar folder, which you cannot rename or delete, and within it a folder simply called Calendar. Over on iTunes it showed that I had a choice of two calendar folders: Calendar, and.... Calendar. It took me a long time to realize how you can have two folders with the same name. The answer is that they are not at the same level. One was inside the other. What a terrible naming convention! I sure wish the developers of Outlook had named the parent folder “Calendar Folders” and then put the default folder inside of it. Such is life.

Anyway, in a similar fashion you do Contacts. I didn't bother with Notes since at the time of this writing, there is no way to automatically sync Notes within Outlook to the iPod Touch.

## ***What Next?***

Hopefully, if I have not addressed your particular problem you can at least look at these system block diagrams and data flow and come up with a debugging strategy that works for you. I invite you to email me what you did and I will add it to this article with the proper acknowledgement. It would be wonderful if someone would write a well documented script that will take the exported file from the Palm Desktop and generate a text file for each note.

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