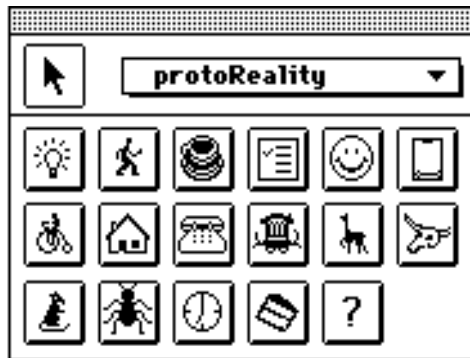


# protoReality

The North Atlanta Newton Users Group Newsletter



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January 22nd, 1994

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(404) 814-8360 7 AM to 4 PM    weekdays  
(404) 565-5718 7 PM to 9 PM    weekdays

Below is a membership application to join NANUG. There is currently no membership fee.

The benefits of joining, as opposed to just reading the newsletter? Well, you get on our exclusive mailing list ;-)  
and can take advantage of our user group discounts on hardware and software (soon to be published). Even  
better is the general idea of belonging, don't you think? ;-)

NANUG Membership Application Form

Name:

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You can:

- Print this page and mail (or e-mail) it to:

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- NewtMail your personal Names card to "MarkU" with a subject of "NANUG Membership"
- E-mail your personal Names card to "mau@sun1.ema.com" (be sure to check 'text only') with a subject of "NANUG Membership"

Welcome to **\_protoReality!**

*Mark Underwood*

Yes, I know that sounds like you've stepped into one of those virtual reality games (slipped into, more like), but as Newton developers will tell you, a "\_proto" models a program object that can be used over and over again--like a scrolling field, a cluster of radio buttons, and so on.

Our newsletter certainly falls into that descriptive category, in that we hope you will refer to it over and over again for news, reviews, interviews, opinions, gossip, facts and fiction (we'll try to keep them straight), and more. And oh, yes--it's a newsletter--which means you'll get to read what goes on at our NANUG meetings.

This is a highly experimental newsletter, befitting the nature of the beast it monitors. It is distributed in **three** forms on all of the major on-line services (such as AppleLink, CompuServe, and so on):

- A Newton Book Reader package
- A "rich binary" text edition (this version)
- A "plain" text edition

To get the most out of our newsletter, grab a Newton and download the "Book Reader" format, which includes all sorts of goodies and uses Newton technology to the hilt. If you don't have a Newton handy, download the "rich binary" version, which won't have all the bells and whistles, but will have the essentials. Last (but not least) comes the "plain" text version, that anyone (with or without a Newton) can read and keep up. **The actual text contained in the newsletter will be the same in all three versions** so you don't have to get all three (unless you just want to).

What sort of things will we include as "goodies" in the Book Reader version? Well how about actual code snippets that, when tapped, show you what they do, instead of talk about it? How about programs that can you can install in your Newt after reading their reviews? Or being able to give us feedback via e-mail (if you have Newton Mail) while you're reading the newsletter? I could go on and on--interactive surveys, smart NANUG membership forms (that one's in this issue), product order forms...

Well, not to leave you "rich binary" people out--each application "bundled" in the Book Reader edition will be "bundled" with the "rb" version, but you'll have to handle the installation yourself, using one of the commercial or shareware utilities.

Honestly, "plain text" readers, we're not trying to leave you out of the fun--but there's only so much you can do with flat text ;-) We'll at least include text frame versions of those things we can, so if you get the chance to buy a Newton in the future (which we strongly suggest you do), you can save some time in getting your own code development started!

Before I close, it's important to us what you think about the newsletter. NANUG's goals (which you can read for yourself later on) aren't limited to the people who walk into our meetings--we'd like to think that anyone who owns a Newt (or wants to) is an honorary member, and therefore has some say in what we do (if you want to become a real voting member, you'll find the application later on). Please send us e-mail, phone mail, or even old fashioned ground mail and let us know what you think!

Founded in October of 1993, NANUG was created with these ideas in mind:

- To provide timely and correct information about the Newton and all of its accessories, software packages, and other Newton-related products
- To assist new and experienced Newton users in getting the most out of their purchase
- To provide a (hopefully) un-biased forum for the exchange of user tips, hints, and suggestions
- To provide free or low-cost resources for small to medium Newton development projects

There is currently no membership fee to join NANUG. Meetings are held the second Tuesday of the month. Future plans include an "on-line" conferencing system to allow our remote members interactive access to the meetings.

**\_protoReality**, our newsletter, is published one a month (normally on the 15th) in three formats: a Newton Book Reader package, a "binary enhanced" text document, and a "plain" text document. Each format strives to convey as much information as possible within the constraints of the media. The "plain" text version, for example, is posted to InterNet, while the "binary" and "book reader" formats are posted to on-line forums that support binary up/down loads (AppleLink, CompuServe, America On-Line, etc.).

NANUG also distributes a "best of" Macintosh-format (and soon DOS-format) diskette of free or shareware applications, books, and other Newton files that are posted on commercial services for the benefit of those who do not subscribe to them. We also provide a software "kiosk" at the meeting to allow our members who don't have a Macintosh or PC to download these files to their Newton.

The meeting was called to order (so to speak) about 7:10 PM. New members exchanged name cards and introduced themselves (in that order).

Under the general heading of "old business", we discussed the newsletter and solicited last minute submissions from the new members. In deference to their schedules, the cut-off date was moved to the 22nd of January.

Discussion of the 1.05/1.12 OS upgrade was brought up. Tom White had called the 1-800-SOS-APPL line and received a general confirmation that it was "soon", and that there would only be "one" upgrade, probably numbered 1.12 to bring the old ROM and new ROM versions into line. Other sources, such as InterNet, CompuServe, etc. seem to confirm this as the "party line" from Apple Support. Chief benefits from the upgrade will be increased user memory (fewer "out of memory" dialogs) and the repeating event bug fix.

New members discussed the events of the Newton Developer's Conference of December--Jeff Hendricks, one of the new members, had attended the Marketing track, and gave us some insight to the current licensing agreement and StarCore.

Under the "new business" category, we discussed Erica's idea of a group programming project, proposed at the December meeting. Everyone seems interested in doing one, both to provide some "hands-on" NTK work, as well as making NANUG more visible to the Newton community. After some discussion, six ideas were generated:

- A general Newton utility
- A IR-based, "ping-pong" style game (such as chess, checkers, etc.)
- An adventure-style game
- A business application
- One or more "drop in" functionality modules
- A PIM (personal information management) add-on or utility

Members will vote on project selection at the February meeting.

There being no other new business, members broke off into discussion groups. The meeting was adjourned at 9 PM.

The next meeting will be held on February 8th, 1994.



PR: Kent, thanks for taking the time to answer a few questions. On behalf of the North Atlanta Newton Users Group (NANUG), a big thank-you to you and all of the PIE/DTS support staff for their awe-inspiring efforts. I don't think I've ever seen such a Herculean effort as what you and Maurice Sharp and Bob Ebert have done--scanning the realm of Cyberspace in search of the elusive (not!) Newton question and taking the time to answer it. First, can you tell us a little bit about your background, and how you came to work for Apple?

KS: I joined Apple in Australia of all places, leaving Sperry to join Apple Australia as the first UNIX support engineer responsible for launching A/UX support in Australia. As part of my job responsibilities I got more and more involved with Developer Technical support, MacApp, Macintosh toolbox, comms--actually anything related to Macintosh programming. This was a very interesting experience, taking over a lot of the support responsibilities with near zero experience in MacOS programming. Anyway, my wife was young and we had no kids, so I could spend a lot of time at the office. The position at Apple Australia was a very educational experience, because we all had to do many tasks instead of specializing in one single role.

Anyway, after 3 years in Australia my wife wanted to move back to the northern hemisphere, so we looked around, and MacDTS needed an OOP DTS engineer, so I got a new assignment in Cupertino. I spent two years in DogCow land working mostly with MacApp, C++ and finally with PowerPC compilers and the PowerPC runtime. Yet another good experience. Actually now looking backwards I've mostly worked in developer support roles, which is both a good and a bad thing. Staying in same position stagnates you, but I've moved between various countries and products, so I've tried to make the job as varied as possible.

PR: How did you come to work on the Newton project?

KS: Well, I always wanted to be involved in a support group with a brand-new product line from day one. Zz (Scott Zimmerman, PIE/DTS - Ed.) was actually the first Newton DTS engineer, so all I could claim is that I was the second. Anyway, ten years from now I could go around and say that 'oh, we did things very differently the first year we supported Newtons, sonnies'.

The early days were really crazy in DTS; (Lawrence) Tesler was my manager, and while he was traveling Mr. (John) Sculley was in principle my manager. Hmm, anyway, it was just to sit down and start developer support processes from zero.

I think they needed a crazy and wild person who would jump into the chaos, start designing order, and see how much work it would take to reinvent a support group from scratch. Now afterwards it feels like I've been involved in the Newton project for years, instead of one year. This because we had two pre-kitchens (developer workshops), about ten kitchens--one in Germany that I visited and one in Japan (done by other DTS engineers, phew)--endless nights hacking code, writing temporary documentation, meetings from morning to evening, and so on.

Otherwise, being involved in the creation of a brand-new support group, including creation of new mythologies, strange habits, weird recreational sports in our group, being the first who dared to write certain code using the toolbox, and so on, has been a strange and grateful journey, indeed. And the journey is the, eh, journey.

PR: I understand you recently had a vacation in Hawaii, and during that time, still somehow managed to find time to answer developer's questions! How was the vacation, otherwise?

KS: The vacation was nice--actually paid by a bonus for the 12-14 hour a day work week last summer! And the phone lines in Maui worked fine.



Sandvik and Son  
Kent and Jeff enjoy a Day At The Beach

PR: Do you find the process of dealing with developer's questions via e-mail, rather than phone calls or face-to-face, works better?

KS: It depends--phone and face-to-face support is more social; you meet people and can discuss other things than nerdy techie issues. Also personal contacts are good because you don't lose the customer focus; people use our documentation, examples and tools, and we need to know what they think about the products, and also what is missing and what is wrong.

E-mail and BB (bulletin board) support is perfect for a quick dispatch of knowledge, dispatched to as many developers as possible. Maybe this is the future of developer support, because unfortunately, direct support is extremely expensive for both companies and the supported developers.

Another interesting notion about Cyberspace is that the Net is blind concerning race, color and religion. People that have met me are usually

confused because they expect a Californian Apple hacker--instead they hear this hyperactive Finnish-Swedish person jumping up and down when talking about programming. Then again I'm also confused when I meet other programmers and I have pre-defined conceptions about who is actually typing on the other end.

PR: How much weight did you lose running the microphone around to members of the audience during the Question and Answer portions of the recent Newton Developer's Conference? ;-)

KS: My jeans actually fit much better, so I really lost weight that week.

PR: What sort of things do you like to do in your spare time?

KS: Mostly spend time together with my son and wife--kids grow so fast so one could never spend too much time with them. Other interests, well, I'm trying to finish all current five books in the Wheel of Time series by Robert Jordan, 3000+ pages, phew. I'm trying to change my guitar playing style from a classical Van Halen clone to something more Seattle oriented, so I had to purchase a lot of old and rusty distortion pedals. Recently I've also had visions about becoming the Orson Welles of QuickTime movie directors; anyway I'm afraid developers will see strange things on the forthcoming PIE Developer CDs...

PR: To set it straight, is it Reg or Ned the Llama?

KS: Our DTS group is actually divided about this thing, one half says Redge, the other Ned. I belong to the Ned political wing.

PR: Care to let our readers in on the whole story about Reg/Ned? Or as much as we can print? ;-)

KS: Let's say that in order to protect the persons that inspired the llama story we can't publish it until the year 2020, so until then the case is closed. Anyway, check out the beginning of Monty Python's Holy Grail for more clues.

PR: Did you get any of those "virtual pizzas" promised to you on the InterNet?

KS: No. Hmm, then again I want to lose weight.

PR: Having worked on large-scale, "crunch-mode" project myself, my first reaction to the recent front-page *Times* article on the Newton's development was "they're (the *Times*) making some of this up, right?" There has been a lot of negative press (in general) directed towards the Newton, Apple, and the whole concept of PDAs, and I wondered what your thoughts on the matter were.

KS: This always happens when someone releases a new concept--this is especially true of Apple, who usually gets a lot of attention in the press. The idea of a PDA is very much over-hyped to the degree that many assumed that the first PDAs would have the functionality and performance of a high-end workstation. And this will actually happen, but as with any evolving technology, we had to start from one point. Most of us don't know the future, but we all--including our

developers--are keen on inventing the future, because this is the way to create products instead of predicting what PDAs look like ten years from now.

The first time I saw a Mac 1984 I laughed--a typical reaction from a UNIX hacker used to Megabytes of hard disk and memory. This time I don't want to do the same mistake.

PR: Do you feel like the Newton was released "too early"? Personally, I don't, but the subject has been brought up time and time again.

KS: This all is subjective; our competition certainly didn't think we launched the product too early, quite the contrary :-). Looking at the general press we now have the conception that Apple invented the PDAs. This might be true or false, but being in the front certainly established Newton as the product people think of when talking about PDAs--including cartoons and Saturday Night Live. And while others have to start from a certain point we are now in the position of refining and improving our product, and that's a very good position, because you never know what the product perception is until you release the first version.

PR: Is the often-cited parallel between the MessagePad and the Mac 128K (released in 1984) a fair comparison?

KS: It's not fair because Apple learned a lot about the launch of a new product with the 128k Mac. If we look at the way we started the (Newton) developer side, we had documentation, tools and support in place day one for the general public, and for a selected group of pioneers before that. Another more excellent example is training; two months after release we have a fully functional five-day training course that is used in Europe, Japan, US and Australia.

Finally we are more global concerning support and developer relations--the Apple subsidiaries have been connected to the project since the beginning. This is just in the area of the Developer Information Group, the department where I work.

PR: Marketing emphasis has been placed on the Newton's communication abilities, but when most people go to a store, the salespersons tout the handwriting recognition--not the idea of the "one stop inbox". Will we see a more "communications oriented" approach at the "point of sale"?

KS: This will happen, especially when we have a far better infrastructure concerning wireless communication, including IEEE standards for office LANs and WAN wireless protocols (CDPD for instance). The fortunate fact is that the wireless future is months from now, not years. And that means that we are ready to create solutions based on Newtons as the premier interface to wireless applications.

Here's a good example. As a DTS lead I'm constantly worried about the email numbers-- how many emails are open in our email database. A simple Newton application would issue an SQL call over the ether, query for open emails in the database, and send me the results within seconds. And I would be reassured that we indeed do a good job. Same with phone numbers, how many times have I tried to find a phone number, no white pages around, and time is money. A simple query using the wireless services would have saved my day.

PR: I'd say a lot of us are looking forward to seeing some of these ideas become reality. Thanks for giving us some of your time, Kent.

KS: May the llama be with you.

Games on the Newt  
*Erica Sadun*

Although there is still not a lot of software available for the Newton, a few fine shareware games have shown up and a few not-quite-so-fine ones as well. My favorites among these rather sparse pickings include **Yahtzee**, **Black Box**, **24** and **Morphion**. All are freeware and available from most ftp Newton sites.

Both Yahtzee and Black Box are Newton versions of games originally published by game companies elsewhere. I expect to see other game transfers in the future--hopefully, someone will port Milles Bourne soon! Both of these programs rely on point and tap technologies which reduces the frustration level of trying to enter information strictly by writing. No matter how much we love our Newts, alternatives to writing are always welcome. (To be honest, I must point out that Yahtzee does let you write in scores, but you can achieve the same results by simply tapping on the text area next to the scoring sheet).

Yahtzee is the classic dice game which can be played anywhere you have five dice and a score sheet. It melds perfectly with the Newton notepad metaphor because it is essentially a pen-and-paper game to begin with. The rules are simple and the scoring is laid out for you as you go. The game runs solidly, takes up very little memory, and is infinitely playable as you sit at airports. The only bug I found is that the "upper score bonus" when you reach over 63 points is not shown explicitly (I suspect there was not enough screen space) but is added in correctly when running. So if you do get 5 sixes, it is sometimes better to take this as your "six" score rather than your "Yahtzee". On a score from one to five lightbulbs, Yahtzee rates a solid four (recommended).

Black Box can be a bit confusing at first, especially since I had never played the solid (three-space reality) version or the Mac version from which this was adapted. The idea of the game is to figure out where four balls are located by "shooting beams" through a black box and seeing how they reflect. If you infer all the locations of the balls correctly, you win. Options allow you to set the number of balls. The number of shots you have used are recorded to test your efficiency at problem solving. Once you get going, though, its a lot of fun to test yourself against the machine--I must admit I almost always miss the location of one or two of the balls but I'm getting better. When you think you have solved the puzzle, you will probably want to make your guess soon to minimize the number of shots--however the patient analytic types can ignore this sort of machismo mentality and work things out more systematically.

There is a lot of sound in Black Box and some of the sounds are pretty annoying--on the other hand, the sounds are helpful and positive so I don't recommend turning the volume down completely while playing. The interface is not always helpful in discerning which action you wish to do and sometimes (very rarely) it can refuse to shoot your beam at all for a few seconds of tapping and getting that awful error sound. I don't recommend this as an airport game because the sounds will probably disturb your compatriots and on the plane you will not be able to hear them. On the other hand, it makes a fine hotel game. Black Box is both challenging and fun and rates three lightbulbs (good).

I have to admit from the start that I wrote twenty-four myself. Its a car game I used to play in college where you try to figure out how four numbers can be added/subtracted/multiplied or divided to get twenty four. For example, if you are given the numbers 5, 5, 1 and 1, its pretty easy to figure out that  $5*5 - 1*1 = 24$ . But how about 7, 9, 1 & 8 or 7, 7, 1, & 2? Every puzzle has at least one answer and if you give up, the program will give you a solution. This game is lots of fun to play in competing groups or if you simply want to teach a child. Obviously, I would recommend it highly but your tastes may vary. So out of modestly, I would rate my game to be three lightbulbs (good).

Morphion is my favorite game among this crowd and rates the coveted five lightbulbs (must-have/highly recommended). Its a solitaire game in which you try to draw as many lines as you can. You can only draw lines along sets of five dots. So for example, you could connect (where o is a dot and \_ is a space)

```
o o o _ o  OR
o o _ o o  OR
_ o o o o
```

BUT NOT

```
o _ o _ o  OR
o _ _ o o
```

You can draw lines in any direction: up, down, diagonally--and you soon learn how wonderful it is to be able to turn the Newton screen to line things up to better see which lines are unconnected! To draw a line, just tap on the first dot of the line, drag to the final dot and release. Morphion does have some bugs about tapping existing lines and getting points, but you are not obligated to cheat. Playing by the rules yields its own reward.

Every time you connect a line, the missing dot is filled in and it gives you more dots that you can create more lines on. I tend to fizzle out in the mid-seventies of lines but I am told there people out there who have hit the hundred mark and some close to the two-hundred mark! Morphion is free, fun and highly recommended.

#### SUMMARY:

##### Yahtzee

Freeware, about 30k  
4 lightbulbs  
Author: S. Leifer

##### Black Box

Freeware, about 50k  
3 lightbulbs  
Author: C. Colapietro

##### 24

Freeware, about 40k  
3 lightbulbs  
Author: E. Sadun

##### Morphion

Freeware, about 20k  
5 lightbulbs  
Author: H. Lamiriaux

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**Do you have Newton software you would like to have reviewed?**

Send it to:

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One of this things I always thought the Newton should do is this: you write in an equation, select it, tap "Assist", and the answer gets filled in for you. Thanks to MobileMath, that is now a reality.

MobileMath extends the Newton's Intelligent Assistant with over 80 new "verbs", such as "solve", "average", "multiply", "tax", "sin", and other mathematical chores. These verbs break down into five categories: General Arithmetic, Math and Trigonometric, Statistics, Financial, and Date/Time. Some examples:

solve 3 + 4  
multiply 23.45 by 56.78  
average 34 56 23 14  
npv 0.09 -1200 560 450 860      (net present value)  
weeks before 11/25  
days until 3/15/94  
tax 5% \$125.65      (gives total amount)

MobileMath is not just for the mathematically inclined, however. If you've ever tried to divvy up the cost of a meal with a group of people, you'll love the "tip" verb. Enter "tip 15 23.56 4" to find out how much each member of a party of four will have to pay on a \$23.56 meal, including a 15% tip! If you can't remember the order of the arguments for a problem, entering the verb alone makes MobileMath show them to you.

Once it finds a solution, MobileMath brings up a floating "answer" window that has the text of the answer already selected--you can then drag the text anywhere you like. You can move the answer window around to place it out of the way, as well.

An example I could never get to work was the simplest--according to the manual, you should be able to enter "3+2=", tap Assist, and get an answer. Doing this on my version (1.0) yielded a message "The Assistant cannot interpret this". So I always had to use the "solve" verb on simple math.

Another problem I had was if I did a synchronize using the Newton Connection software for the Mac, wiped the card, then restored it from the backup, the MobileMath application didn't come back! I had to re-install the app using the diskette.

Despite these problems, MobileMath is definitely worth a look if you do a lot of "on the fly" math, or just want to keep your power lunches straight. And if you haven't taken advantage of MobileSoft's offer for early Newton Adopters, now's the time! For just \$10 (in the US, \$15 in Canada, and \$30 overseas) in shipping and handling, you can get a copy of the \$79 product! The offer is supposed to last until 1/31/94, or until 5,000 of them are sold. Fax your name, Address, Phone, Fax Number, E-Mail address, Newton Serial Number (required), and diskette format (Mac or DOS/Windows), along with your credit card information, to the number listed below.

"Guided Tours" of MobileMath are available on the major on-line services, if you'd like to see it in action.

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### **Finding the Missing Formula**

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The press the Apple Newton MessagePad has received makes you believe that the product is the greatest thing since sliced bread. Ads for the Newton claim that it writes, it faxes, it organizes, it schedules, it reads mail and sends mail, and to top it all off it learns the way you think! But the engineers who developed the Newton failed to include the ginsu knives -- that one calculation that you as a user are unable to do on the Newton.

The current Newton MessagePad provides four built-in formulas to do financial calculations or to convert measurements. But if you need to something more than calculate a loan payment, convert Fahrenheit to Celsius, or figure the exchange rate for a foreign currency, this article is for you. I will show you how to write that elusive fifth formula that you wish the original Newton engineers had included but didn't.

### **The Formula**

To demonstrate creating a user-defined formula, I first needed a formula. The formula that I have selected calculates the number of days between two user-supplied dates. The two dates are entered in the format: MM/DD/YYYY. The formula used is:

DBD := ND2 - ND1;

ND1 := (Y1 - YB)\*365 + ( numDays MB to M1 ) + DT1 + (Y1 - YB) div 4 ;  
ND2 := (Y2 - YB)\*365 + ( numDays MB to M2 ) + DT2 + (Y2 - YB) div 4 ;

where:

M1	Month of the first date
DT1	Day of the month of the first date
Y1	Year of the first date (i.e. 1962)
M2	Month of the second date
DT2	Day of the month of the second date
Y2	Year of the second date (i.e. 1962)
MB	Base month (January)
YB	Base year (1st year after 1904)
ND1	Number of days in the first date since the base date (January 1, 1904 )
ND2	Number of days in the second date since the base date (January 1, 1904 )
DBD	Number of days between the dates

### **Creating the Formula Template**

To conform to the user interface design for formula templates, we will need to create a specialized version of the protoRollItem which will draw the rounded frame and title. Start by creating a new proto template (called protoFormulaRollItem) which

contains a protoRollItem and a single clParagraphView which will contain the title. For the protoRollItem add two evaluate slots called borderShape and borderStyle. Set borderShape to nil and set borderStyle to a style frame with a penSize of 2.

Drawing on the Newton is a simple two-part process. First you call a function (in this sample MakeRoundRect) to create a shape which returns a shape object. And then you call the method DrawShape() to draw the shape. In addition to the shape object, DrawShape() accepts a second parameter which is a style frame which we defined using the borderStyle slot. We will create the shape in the viewSetupDoneScript and then draw the shape in the viewDrawScript. The following are code snippets for the viewSetupDoneScript and the viewDrawScript:

#### **viewSetupDoneScript**

```
func()
begin
// make the shape used to draw the border
constant borderIndent := 4;
constant borderDiam := 10;
local bounds := :LocalBox();
borderShape := MakeRoundRect(borderIndent,
    borderIndent+2,bounds.right-borderIndent,bounds.bottom-1,borderDiam);

// use overview string for border text unless it's explicitly specified
if NOT self.text then self.text := overview;

if height<> bounds.bottom AND NOT IsReadOnly(self._proto) then
    self._proto.height := bounds.bottom
else
    self.height := bounds.bottom;
end
```

#### **viewDrawScript**

```
func()
begin
:DrawShape(borderShape,borderStyle);
end
```

### **Creating your own formula**

Once you have created the formula template you need to create a user proto with the just created protoFormulaRollItem as the main view. Create two text slots called overview and text. The overview slot displays the title shown in overview mode while the text slot contains the title shown when your formula is expanded.

Next add child views to customize the formula template as you need. For this example, create four evaluate slots (ND1, ND2, YB, dayArray) and set the value for each to nil. We will need to add a staticText which will explain to the user that the dates need to be entered in the format MM/DD/YYYY and three protoLabelInputLines called dayOne, dayTwo, and results.

### **Writing the formula**

To calculate the number of days between the two dates, you need to add a script called calculateDays. To make sure the user does not enter an invalid month or day create

another script called checkValues. The code snippets for these two scripts are listed below:

***calculateDays***

```
func()
begin
  if StrLen( dayTwo.entryLine.text ) = 10 and StrLen( dayOne.entryLine.text ) = 10 then
    begin
      DBD := ND2 - ND1;
      SetValue( results.entryLine, 'text',    NumberStr( DBD ) );
    end;
  end;
end
```

***checkValues***

```
func( month, day )
begin
  if ( month < 1 or month > 12 ) or ( day < 1      or day > 31 ) then
    begin
      GetRoot():SysBeep();
      return nil;
    end;
  else
    return 1 ;
  end
end
```

As the user inputs a date in either of the two fields, the textChanged Script parses the data into a month, day, and year and checks for valid entries. If a date has been entered in both fields then the number of days between the two is calculated and displayed in the results slot. The textChanged script for one of the dates is displayed below:

***textChanged***

```
func()
begin
  local m1, dt1, y1, count;

  SetValue( results.entryLine, 'text', "" );
  count := 0;

  if StrLen( self.text ) = 10 then
    begin
      m1 := Floor( StringToNumber( SubStr( self.text, 0, 2 ) ) );
      dt1 := Floor( StringToNumber( SubStr( self.text, 3, 2 ) ) );
      y1 := Floor( StringToNumber( SubStr( self.text, 6, 4 ) ) );

      if base:checkValues( m1, dt1 ) then
        begin
          if M1 = 1 then
            count := DT1;
          else
            begin
              for index := 0 to M1 - 2 do
                count := count + dayArray[index];
              end
            end
          end
        end
      end
    end
  end
end
```

```
    count := count + DT1;
end;

    ND1 := (Y1 - YB)*365 + ( count ) + 1 + (Y1 - YB) div 4 ;
end;
else
    SetValue( self, 'text, "" );
    base:calculateDays();
end;
end
```

### Installing the Templates

The formula template that you just created is installed in your InstallScript in your Project Data. The template is installed by adding it to the global array FormulaList. Once added to the global array, your formula will show up next time Formulas is opened. The following is the install script in the Project Data:

```
InstallScript := func(partFrame)
begin

    //install formula template in formulaList
    //global
    partFrame.formulaTemplate := Clone(partFrame.theForm.PT_DaysBetween    FormulaItem);
    AddArraySlot(FormulaList,
        partFrame.formulaTemplate);

    //if Formulas is open - force update to
    // show our entry
    if GetRoot().formulaRoll.viewCObject then GetRoot().formulaRoll:RedoChildren();

end;
```

### Conclusion

It is extremely easy to add your own customized formulas to the global array formulaList. The process involves three steps.

Step 1: Create a specialized proto using protoRollItem.

Step 2: Create a user proto with the specialized proto as the main view. Add child views to customize your formula.

Step 3: Install the formula in your InstallScript in your Project Data.

[Editor's note--Because of the way additions to the root view are handled, you need to keep the formula "installer" package in your Extras Drawer for as long as you want the new formula to be active. When a hard reset is done, additions to the root view are "lost"--but each package's Install script is then re-executed, which will add the new formula back. Deleting the installer package will cause an error (-10401) if you try to access the Formulas before doing a hard reset. Jennifer is looking into a way to avoid these restrictions, and we'll pass the revisions along when she has them!]

*Jennifer's full source and package for the "Days Between Dates" formula extension can be found on the NANUG "Best Of" Disk #5, or can be obtained by e-mailing the author or NANUG.*

**(Bio)**

Jennifer Minge is an independent consultant doing Newton programming in her hometown of Atlanta, Georgia. Previously she was a Network Engineer for Apple Computer working in Cupertino, California and later worked as a Systems Engineer in Nashville, Tennessee, and Atlanta, Georgia.

From *Tom White*: [white@cs.uga.edu]

- For the best Newton prices, try mail order. Often these are even lower than the educational discount. (Of course Developer discount seems to be the best but I don't know about it-Tom) (I do--it's about the same as the best educational for the Newton line-Mark)

- Several people have had good luck with other kinds of cases. A good place to look is in camera shops. Specifically, the Tamrac "Two Way Stretch Traveller" (Model 221) is supposed to provide a nice fit for the Newton and another pocket for accessories.

- There are many reports of increased performance in doing operations (searches, etc.) when NOT limiting the scope to certain folders, but instead searching all folders.

- Easter Eggs:

  - Find "Elvis" with Assist

  - Set your country to "Graceland". The next time you restart, or power up after a sleep, you'll get a different start-up screen. Remember to set your country back before you do any real work ;-)

  - Restart. Tap Undo. When you see the error dialog ("Nothing to Undo"), tap the Overview button, then on the first "Newton" entry. Now tap the Info button for the date: 7/20/69 2:35 am. That's Neil's first step.

  - Insert the "Getting Started" card. In the NotePad, write "schedule Happy Hour Fri", then tap Assist. Apple is notorious for their Friday "bashes".

From *Mark Underwood*:

[marku@online.apple.com]

- Best Handwriting Tip #1

Select either "cursive" or "printed" in the Handwriting style--not "both". Newt will still recognize the other kind of writing, but you should pick whichever style you use the majority of the time. Adjust the "recognize my handwriting" and "transform my handwriting" just to the left of mid-way, try a few sentences, and see what you think.

- Best Handwriting Tip #2

Go through **every** letter in the Letter Styles and watch closely how they're drawn on the screen. Mark those you don't use as "rarely". Now try a few sentences!

- Best Handwriting Tip #3

**Don't** use the handwriting "game" on the Getting Started card to improve your recognition, because it forces you to write too quickly as the game progresses. Your writing style is changed as you "bear down" on the screen to get a better looking word, and since the Newt uses strokes **and** the timing between them, you can actually ruin your settings! If you need word practice, use the Handwriting Practice in the Prefs.

- Best Handwriting Tip #4

If these tips seems to confuse your Newt instead of help, tap on "Configure for guest user" in the Handwriting Style, then try a few sentences. If you get **better** results this way, you need to reset the letter preferences, recognizers, and letter styles, then follow tips 1 - 3 again. Yes, it will take a little bit, but it's worth it!



- Word Recognition Tip #1

The Newt starts out with a 10,000 word dictionary that's more business oriented than technical, so you probably found a lot of "simple" words aren't known. Please take the time to add them as you run across them! **Always** tap on a "mis-read" word and see if the real one's in the alternates list--yes, the Newt **does** learn from you, but you have to teach it! It can't guess for you, or read your mind.

- Word Recognition Tip #2

There's nothing wrong with editing your word list (the default user dictionary) and tapping in words ahead of time, especially if you have a few frequently mis-read words, or if you have a couple of words close enough to each other that you consistently get them swapped in the recognition process. Tap on the small open book icon on the pop-up keyboard to view and change the word list.

- To copy text or graphics to the clipboard, but leave the original text in place, select the item, tap twice (leaving the stylus down on the second tap), and then drag the item up to the top.

The Newton MessagePad (MP) is now in the hands of more than 70, 000 users since its shipping in the fourth quarter of 1993. If you are reading this first issue of *\_protoReality*, your MP is probably an integral part of your every day life. Couldn't live without it. Can't see how you ever did. On the other hand, some of you may be dissatisfied. I have seen both -- even felt both.

Through user and developer feedback, improvements can continue to be made to the Newton concept. The ultimate success or failure of the Newton depends on how the public accepts it as a viable and useful personal productivity tool and on how well Apple listens and responds to the feedback.

*\_protoReality* is striving to create a monthly, electronic, worldwide information source on the Newton for developers and "power users." It is created and distributed freely by NANUG (North Atlanta Newton Users Group), from Atlanta, GA. This column, :Messages, is dedicated to making the Newton technology, and *\_protoReality*, better and more accessible. We want to hear your ideas, your gripes, your wishes. We want to show others what you have accomplished, and easier ways to get there. We want this publication to be both useful and interesting to you. We want the folks at Apple to have some feedback.

Letters may be sent to *\_protoReality* via the InterNet at:

SCOTT.PORTIS@APPLELINK.APPLE.COM

directly through AppleLink at:

SCOTT.PORTIS

or through the mail at:

Scott Portis  
C/O *\_protoReality*  
3044-C Spring Hill Rd.  
Smyrna, GA 30080

We cannot guarantee a response to every letter, but we will do our best. We will publish a subset of the letters that we receive in the :Messages column. A FAX telephone number may be provided in the future if there are enough requests for one.

Since the arrival of the Apple Newton, we have heard all the great things it is capable of doing and other uses that will be available in the near future. There has also been a lot of talk about Apple doing a bad job with the Newton--and most of those giving the Newton bad press have not even *used* the Newton. How is someone able to say the handwriting recognition is bad if they have never used a Newton for more than a couple of hours?

You can't always believe what you read or hear. If you read a story in your local paper about someone having gone on a shooting rampage, injuring people right and left, you'd believe it. If that same article appeared in one of the Tabloids you would blow it off as just another bogus article. You have to watch who is giving you the information. They may be very reputable with other information but having never used a Newton puts them into the tabloid category.

Another type of people giving bad reviews are those going only by hearsay. You probably played the Rumor game when you were younger, where someone starts a phrase that gets spread around the room or group and most of the time, when the last person has gotten the message, it is not even close to the original.

Then there is another group--those that tried the Newton, didn't like having to teach it their handwriting style or take the time to learn how to unleash all of the Newton's power. Many of these people have already put their Newtons back on the market.

Suppose you have been looking at buying a truck and you have only owned cars in the past. You look around to pick the truck you want, then you buy it. You drive the truck for a couple of weeks, but bit by bit you realize that it drives like a truck (and not a car). If this new truck owner thought like a lot of those fair-weather Newton owners, he or she would promptly take the truck back, and (of course) complain to anyone who would listen. Most sane people would see the time needed to adjust to the way it drives as well-spent. But there are some people who, once they have gotten to know the truck and enjoy driving it, never go back to those they bitched to, to say that it was not the truck's fault, but the operator's? No, they let them think it's still a lousy product, so when they go to the dealer, they'll stay away from that model like the plague.

All current and prospective Newton owners should allow enough time to learn all there is to know before passing judgment. This isn't a Newton-only thing. It's more like a "new technology" thing. There was a vocal crowd about this size when the first IBM PC came out--and one about twice as large when the Mac debuted. When adopting new technology, the trade off is between the advantages of the increased productivity and the drawbacks of living on the cutting edge. Most of the time, if you have a little patience, you find the cutting edge isn't as serrated as you thought. Remember: all good things come to those that wait.

-\*-

The Manitoba Macintosh Developers Association is proud to announce that they are allocating a portion of their FTP server for Newton software, docs, source-code, etc. Since this is a brand new site, we have no software as of yet. So, if you are developing any Newton software, or have some favorite shareware, please upload it to:

ftp.cc.umanitoba.ca  
/Mac-Develop/Newton/Incoming

and please notify:

mac-developer-request@cc.umanitoba

This site is also used for Macintosh software development, so if you are interested, check it out as well. Please limit transfers to off peak times if you can!

--

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David\_denBoer@UManitoba.CA  
Micro Resource Centre Consultant

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*Along those same lines:*

Tom White [white@cs.uga.edu] adds these locations:

University of Iowa  
newton.uiowa.edu  
/pub/newton  
\*UPLOADS\* -> /submissions  
comments - ric-mommer@uiowa.edu  
(This one is very nice, with a FAQ directory full of goodies)

UIOWA MIRROR:  
ftp.uni-erlangen.de  
/pub/Newton  
(For those on the other side of the Atlantic)

sumex-aim.stanford.edu  
(The BIG Macintosh site!)  
/info-mac/nwt  
(Popular)

Free California Newton BBS:  
(310) 787-4540 3 lines 14.4 v32  
(????? - got me)

ftp.apple.com  
(Of course!)

information on PCMCIA card and other general stuff:  
csd4.csd.uwm.edu  
/pub/Portables  
(Nice info on PCMCIA stuff, and other 'portable' stuff)

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### !!! Newton & Sharp PDAs !!!

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-.-

Tom writes again:

--- Begin ramble ---

Has anyone but me wondered about some glaring omissions in the Newton dictionary? I am occasionally surprised when my Newton refuses to recognize a word after repeated attempts, finally typing it in, and then realizing it is because it is not in the dictionary. The dictionary does not seem to be one of the things that is expanding in the OS upgrades either - many glaring omissions remain in 1.11. Some of my favorite examples:

Many people have complained about how the Extras drawer has no hierarchical filing structure for storing applets. Apple took this one step further and completely left "folder" out of the dictionary! This came as a big shock to me since folders are actually part of the built in applications (with the painful exception of the ToDo list).

When I first got my Newton, I was desperate for text to test out my handwriting recognition, so I started to copy a random page from the built in "How Do I" help screens. I was very disappointed until I realized that my Newton wasn't recognizing "tap" because it too was omitted, even though it appears about three times on *each* help screen! I guess even if a word is in ROM a few hundred times, it's still not necessarily a safe bet.

After these experiences you may begin to think that the PIE folks just weren't doing their homework. Well, I can guarantee you that if they were, it never made their ToDo list since "homework" is also missing! ;-)

--- End Ramble ---