

Checking In? (Part 2)



by Nick Airdo

Central Christian Church of the East Valley – Mesa, AZ

In [part 1](#) of “Checking In?” I provided an overview of the check-in system we developed for our Children’s Sunday school program. In this article I’ll describe the second check-in ‘component’ that we wrote for our Student Ministries and I’ll explain the hard costs for both systems.

Students Too

Our Student Ministries (7th-12th grade) liked the idea of automated check-in, but they wanted to do some things differently. Of course the look-and-feel would need to be changed, but they also did not want to use a barcode/key-tag that would eventually be lost by a student. In addition, they wanted a wearable nametag to print out right at the check-in kiosk and also wanted various administrative attendance reports that could be broken out by city/school.

Design and Reuse

Our custom check-in software is an ASP.NET application written in C# (C# is a programming language developed in part by Microsoft.) Our application has three tiers: a presentation/UI layer, a logic layer, and a data/object layer. Because of this we only needed to add some presentation code, modify some logic code and add new label code to create the new functionality. The entire data object layer (and database) was reused, and as a result, the development time was reduced. As for hardware, only a few more touch screen kiosks and label printers would be needed. The existing server would serve both the children and student check-in systems.

With this release, we also decided to phase out our initial administration console which was written as an Microsoft Access application. The administration console is used by the department assistants to create and define classes as well as change the status of a particular class on the weekend (i.e. open or closed). Since we had already been using the [ASP.NET Portal Starter Kit](#) for another project, I decided it would be a nice application framework to build a new administration console to meet the needs of our new console.

Walkthrough

We began drawing up some draft screens and we eventually came up with the logical flow the student check-in system would use.

Students walk up to the kiosk and type the last four digits of their phone number on the touch screen (Figure 1). If multiple matches exist, a list of names is presented (Figure 2).



Figure 1 - initial screen



Figure 2 - multiple matches

Next, if more than one student ministries event is open, a list is presented (Figure 3).



Figure 3 - multiple events

Otherwise, the system simply records their attendance and prints out a nametag (Figure 4 and Figure 5).



Figure 4 - final screen

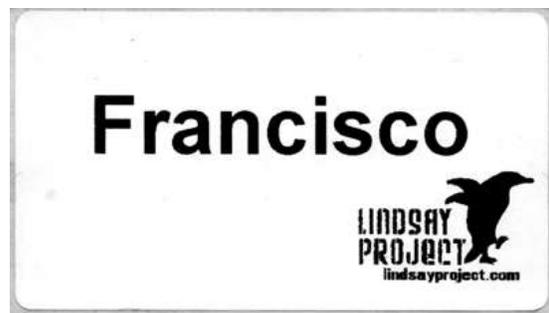


Figure 5 - sample nametag

Depending on how well someone knows the last four digits of their phone number, checking in generally takes between 3-10 seconds.

Our new administrative console houses the functionality to manage the open/closed status of any classroom (Figure 6); add, edit, and delete classes (Figure 7); and view various attendance reports (Figure 8).

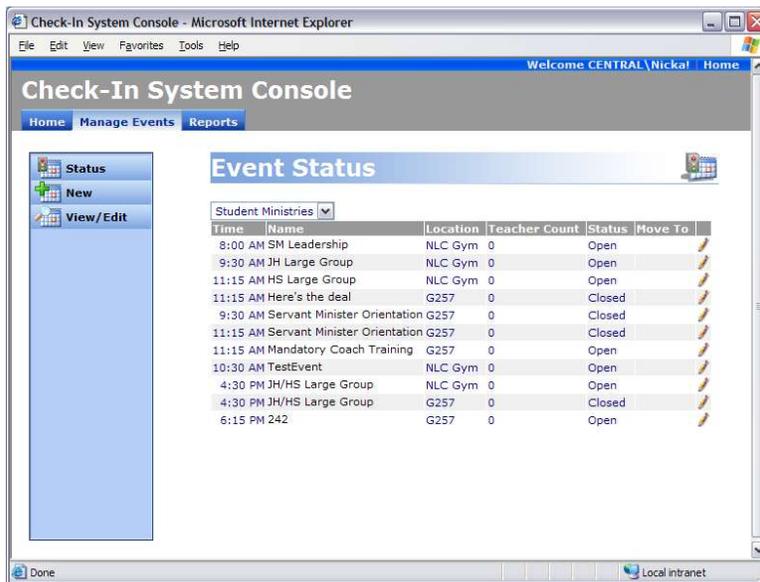


Figure 6 – administrative console

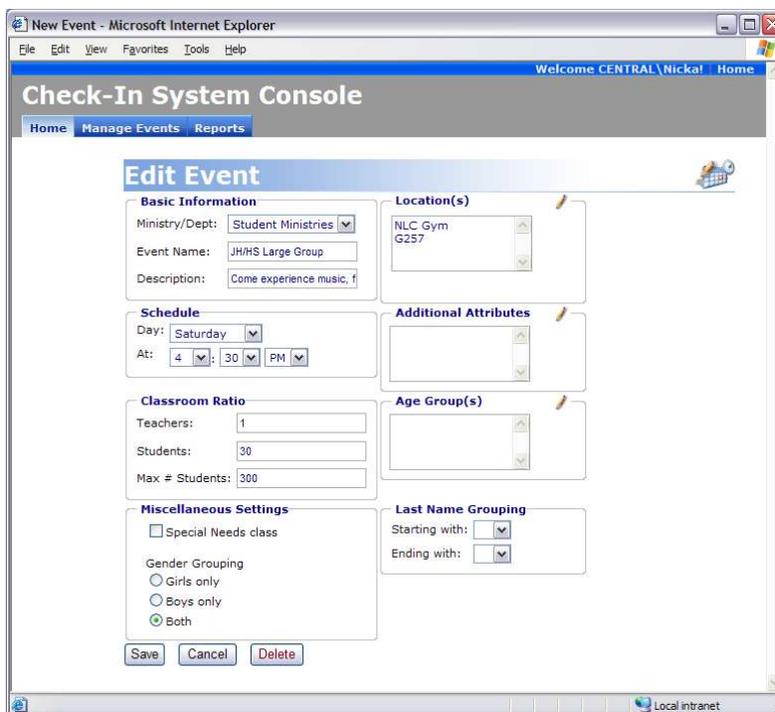


Figure 7 - editing an event

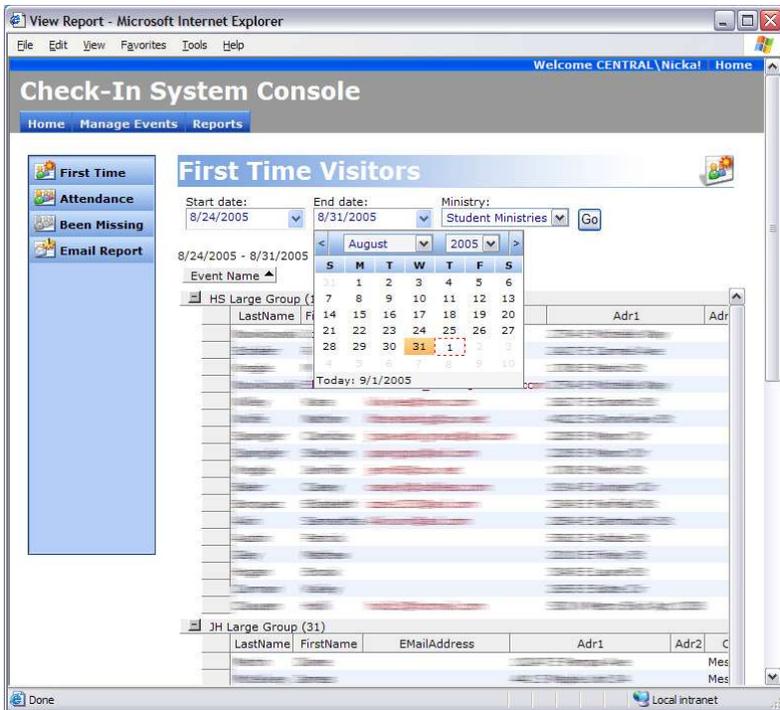


Figure 8 - viewing an attendance report

Costs

Below is a breakdown of the hard costs associated with the check-in system (at the time of our installation). If you are planning your own system keep in mind your costs will vary depending on the options you choose (printers in each room vs. printers at kiosk, key tags with barcode and key tag printer, etc) and the number of kiosks/printers you need. Since the time we purchased our touch screens Dell has introduced a model for only \$479. Also since the kiosks are really just dumb web terminals and require no real horsepower, you can reuse any old PC you have and with touch screen overlays (\$150 for 14") for use with a regular monitor you can save some money (written about in [Jason Powell's blog](#)).

Item	Cost
Pentium 4 server w/1Gig RAM, 30 Gig hard drive	varies
MS SQL Server	**
Zebra model LP2824 label printer	\$299
12" LCD touch screen monitor	\$552
Label media (\$4.82 /roll; 735 labels/roll; 12 rolls/case)	\$231
Zebra P320i barcode card printer (for printing key tags)	\$2,500
1000 preprinted plastic cards (3 key tags per card)	\$750
Symbol LS2208 barcode scanner	\$220
4 digit UHF LED display (for guardian notification system)	\$371
Network cabling/wireless infrastructure, etc. (if needed)	misc.

** call your software vendor to obtain not-for-profit discount pricing

Summary

Writing a custom check-in system does require a software developer and some time. This is the minimum. For our initial children's check-in system we also tapped into the expertise of several servant ministers (other churches may call them volunteers) including a Microsoft SQL DBA, a Microsoft Access programmer, and a programmer who took the task to figure out how to generate labels and print to the Zebra label printers. Implementing the changes needed to create a new

student check-in system only required a single programmer.

It is our vision that we will partner with other similar churches to collaborate and share wherever possible. We'd like to share – for free – the fruit of our labor with any other Christian church that has a programmer (versed in C# .NET). Depending on how much a church wanted to vary from our baseline, the implementation time for a check-in system could be significantly reduced. Contact [Nick Airdo](#) at [Central Christian Church of the East Valley](#) if your church qualifies for this offer and you want more information.