



Using Excel to Design a Role Play Simulation

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In this discussion, we will show how we:

- Used Excel in the design phase of a role-play simulation.
- Used Excel to organize a video shooting script.
- Converted the Excel design to structures that generated HTML code.
- Developed the simulation in a cost-efficient way

Overview

An elearning course was developed for Jiffy Lube store managers to train them how to sell Jiffy Lube services to businesses that had fleets of vehicles to maintain. At the end of the course, managers had to complete an online role-play simulation in which they sold Jiffy Lube services to Ms. Williams, who owned a landscaping business and had a fleet of vans.

Simulation Design Principles

The role-play simulation practiced a sales model that had been taught in the elearning:

1. Establish rapport
2. Identify needs
 - a) Gather information
 - Open-ended questions
 - Closed-ended questions
 - Probing questions
 - b) Repeat / confirm
3. Solve
 - a) Present 10-second attention getter
 - b) Match benefits to needs
4. Close
 - a) Ask for the sale
5. Thank

The role play used the terminology above to practice which step in the sales process was appropriate at each point during the sales call.

The role play has over 100 nodes and over 300 possible choices. The simulation is designed to move students forward even after they make mistakes:

- Students can make several mistakes and still recover by selecting the correct choice.
- When students get too far off the path, the "coach" (who guided them through the initial training) intervenes and gets them back on the right path.

The example used in this presentation begins at Step 2: after rapport building is completed and when the sales person should begin identifying the customer's needs.



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Designing the Role Play

Step 1: Define the correct path

The correct path was defined in the Excel spreadsheet below. This example shows 5 nodes (or screens) in the simulation, and the correct path has been colored green to make it easier to distinguish later.

	A	B	C	D
1	ID	Go To	Go To Formula	Simulation Text
2	100			Ms. Williams: Hmm, I got the idea from the dealership that I had to bring the vans back to them.
3		200	=a5	Gather information / Open-ended question - Have you had any other problems servicing your vans?
4				
5	200			Ms. Williams: Not really ... but last week we had had a van come free because the nursery didn't have the plantings ready so we couldn't do the job. The driver called but couldn't get an appointment until the following day – but that was the day we really needed the van so we could catch up.
6		300	=a8	Repeat - Did you ever get that van serviced?
7				
8	300			Ms. Williams: Not yet. We'll get it in because I want to keep my warranties up to date. But it is sort of a hassle.
9		400	=a11	Probing question - Anything else?
10				
11	400			Ms. Williams: Not that I can think of. The dealership has done a good job keeping my vans running.
12		500	=a14	Solve - Well, Ms. Williams, let me describe how Jiffy Lube can offer you some better options for some of the things we talked about.
13				
14	500			Ms. Williams: Okay...

Column A: ID - This is an arbitrary but unique value. We have used numbers from 100 to 500 so we can insert new values in between them. The purpose of this value is so that this node can be uniquely identified during the design phase.

Column B: Go To - This column is used for the choices under each node. For example, in row 3, choosing the "Gather Information" choice will go to node 200 on row 5.

Column C: Go To Formula - This is NOT a column in the actual design. It has been added here to demonstrate how column B is set. For example, cell B3 is really the formula "=a5", which is "200." The use of the formulas instead of the actual value allows us to add rows with more choices while maintaining the original links. This will be more obvious in the next step.

Column D: Simulation Text - This is the actual text that will appear in the final simulation either as the video script for Ms. Williams, or as choices the student can make.

Note that since this is the correct answer path, only one choice is under each node.

Also note how each choice begins with a step from the sales process followed by the verbiage that executes that step. The primary goal of the simulation is to practice when to use the steps, not to interpret what the verbiage means.



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Step 2: Add wrong answers one node at a time

In the example, wrong answers have been added in red on rows 4 and 5.

	A	B	C	D
1	ID	Go To	Go To Formula	Simulation Text
2	100			Ms. Williams: Hmm, I got the idea from the dealership that I had to bring the vans back to them.
3		200	=a7	Gather information / Open-ended question - Have you had any other problems servicing your vans?
4				Solve - Dealerships like to do that because they make a lot of money in their back-room shop.
5				Close - Now that you understand about the warrantees, can I fill out an application for a Jiffy Lube Fleet Card with you?
6				
7	200			Ms. Williams: Not reallybut last week we had had a van come free because the nursery didn't have the plantings ready so we couldn't do the job. The driver called but couldn't get an appointment until the following day – but that was the day we really needed the van so we could catch up.
8		300	=a10	Repeat - Did you ever get that van serviced?
9				
10	300			Ms. Williams: Not yet. We'll get it in because I want to keep my warrantees up to date. But it is sort of a hassle.
11		400	=a13	Probing question - Anything else?
12				
13	400			Ms. Williams: Not that I can think of. The dealership has done a good job keeping my vans running.
14		500	=a16	Solve - Well, Ms. Williams, let me describe how Jiffy Lube can offer you some better options for some of the things we talked about.
15				
16	500			Ms. Williams: Okay...

Column C: Go To Formula - Notice how inserting rows 4 and 5 automatically changed the links for all the other choices. For example, cell B3 used to point to A5, but now points to A7.

Column C will be removed from future steps. We will also stop showing rows below the current row 7 (ID #200) because the additional work will build paths only under the first node (ID #100).

The choices come from other steps in the sales process and represent common mistakes in a sales call.

The choice on row 4 (Solve) is the most common mistake sales people make: trying to sell their solution before they understand the customer's needs.

The choice on row 5 (Close) is probably too premature at this point, but during the rapport building phase, Ms. Williams volunteered that keeping her vehicles under warranty is a primary concern so it's conceivable that the sales person might try to close on that.



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Step 3: Add new nodes for wrong answer paths

Rows 6, 7, and 8 have been inserted. Row 6 is just a divider between nodes to make the page more readable.

	A	B	C
1	ID	Go To	Simulation Text
2	100		Ms. Williams: Hmm, I got the idea from the dealership that I had to bring the vans back to them.
3		200	Gather information / Open-ended question - Have you had any other problems servicing your vans?
4		105	Solve - Dealerships like to do that because they make a lot of money in their back-room shop.
5			Close - Now that you understand about the warrantees, can I fill out an application for a Jiffy Lube Fleet Card with you?
6			
7	105		Ms. Williams - That's not really very fair. I've had good service from my dealership and I trust them.
8		200	Gather information / Open-ended question - You're right. I shouldn't talk about my competitors that way. Can I ask whether you have had any other problems servicing your vans?
9			
	200		Ms. Williams: Not really ...but last week we had had a van come free because the nursery didn't have the plantings ready so we couldn't do the job. The driver called but couldn't get an appointment until the following day – but that was the day we really needed the van so we could catch up.

Row 7 is a new node and was given the arbitrary ID of 105. The B4 cell has the formula "=a7" to keep the choice connected to this node. This node shows what Ms. Williams will say when the student chooses to bad-mouth car dealerships.

Row 8 is the first choice under the new node and is the student's way of getting back on the correct path. Notice how the step, "Gather information /Open-ended question," is the same as row 3, but the text is rephrased so that it flows in the context.



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Step 4: Add wrong answer nodes until we get back on the correct path

Rows 9 to 21 have been inserted adding nodes 110, 115, and 120.

	A	B	C
1	ID	Go To	Simulation Text
2	100		Ms. Williams: Hmm, I got the idea from the dealership that I had to bring the vans back to them.
3		200	Gather information / Open-ended question - Have you had any other problems servicing your vans?
4		105	Solve - Dealerships like to do that because they make a lot of money in their back-room shop.
5			Close - Now that you understand about the warrantees, can I fill out an application for a Jiffy Lube Fleet Card with you?
6			
7	105		Ms. Williams - That's not really very fair. I've had good service from my dealership and I trust them.
8		200	Gather information / Open-ended question - You're right. I shouldn't talk about my competitors that way. Can I ask whether you have had any other problems servicing your vans?
9		110	Probe - But don't you feel they've taken advantage of you?
10			Close - But if you'll just fill out this application for a Jiffy Lube Fleet Card, you'll keep your warrantees and save time.
11			
12	110		Ms. Williams: No I don't. In fact I know them a whole lot better than I know you.
13		200	Gather information / Open-ended question - I understand that. Let me get back to your business. Have you had any other problems servicing your vans?
14		115	Solve - I'm just trying to show you how Jiffy Lube can give you better service than your dealership.
15			Close - Well, that's just because you've been doing business with them for so long. Now, if you'll just fill out the Jiffy Lube Fleet Card application you'll get to know me better!
16			
17	115	120	Ms. Williams: Look, as I said, I've got to get ready for my meeting. Why don't you leave some materials with Mel and we'll get back to you. [Coach] - Okay, you lost that sale when you started criticizing the competition. You don't build trust for yourself by criticizing others. Let's go back to where you made your first mistake and see if you can do better.
18			
19	120		[rewind] Ms. Williams: Hmm, I got the idea from the dealership that I had to bring the vans back to them.
20		200	Gather information / Closed-ended question - Have you had any other problems servicing your vans?
21			Close - Now that you understand about the warrantees, can I fill out an application for a Jiffy Lube Fleet Card with you?
22			
23	200		Ms. Williams: Not reallybut last week we had had a van come free because the nursery didn't have the plantings ready so we couldn't do the job. The driver called but couldn't get an appointment until the following day – but that was the day we really needed the van so we could catch up.

The wrong answer path is pursued until it terminates back in the correct answer path. In this example, Row 21 still has a way for the student to avoid getting back on the correct answer path.

Row 17 shows how making too many errors causes Ms. Williams to terminate the sales call and the coach intervenes with feedback. Row 19 shows a "rewind," which is a video effect to imply that the student is going backwards in time to get back on the correct path. Row 19 ends with a Next button that goes to ID 120; it does not have choices.

Pursuing each wrong answer path until its termination allows us to maintain context. After this path is terminated, we go back to Row 5 at the top and begin building that wrong answer path.

The next page shows all the paths completed under the first correct answer node, ID 100.



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	A	B	C
1	ID	Go To	Simulation Text
2	100		Ms. Williams: Hmm, I got the idea from the dealership that I had to bring the vans back to them.
3		200	Gather information / Open-ended question - Have you had any other problems servicing your vans?
4		105	Solve - Dealerships like to do that because they make a lot of money in their back-room shop.
5		125	Close - Now that you understand about the warrantees, can I fill out an application for a Jiffy Lube Fleet Card with you?
6			
7	105		Ms. Williams - That's not really very fair. I've had good service from my dealership and I trust them.
8		200	Gather information / Open-ended question - You're right. I shouldn't talk about my competitors that way. Can I ask whether you have had any other problems servicing your vans?
9		110	Probe - But don't you feel they've taken advantage of you?
10		125	Close - But if you'll just fill out this application for a Jiffy Lube Fleet Card, you'll keep your warrantees and save time.
11			
12	110		Ms. Williams: No I don't. In fact I know them a whole lot better than I know you.
13		200	Gather information / Open-ended question - I understand that. Let me get back to your business. Have you had any other problems servicing your vans?
14		115	Solve - I'm just trying to show you how Jiffy Lube can give you better service than your dealership.
15		125	Close - Well, that's just because you've been doing business with them for so long. Now, if you'll just fill out the Jiffy Lube Fleet Card application you'll get to know me better!
16			
17	115	120	Ms. Williams: Look, as I said, I've got to get ready for my meeting. Why don't you leave some materials with Mel and we'll get back to you. [Coach] - Okay, you lost that sale when you started criticizing the competition. You don't build trust for yourself by criticizing others. Let's go back to where you made your first mistake and see if you can do better.
18			
19	120		[rewind] Ms. Williams: Hmm, I got the idea from the dealership that I had to bring the vans back to them.
20		200	Gather information / Closed-ended question - Have you had any other problems servicing your vans?
21		125	Close - Now that you understand about the warrantees, can I fill out an application for a Jiffy Lube Fleet Card with you?
22			
23	125		Ms. Williams: Hold on a second. I still don't understand all this and I have no idea what this Jiffy Lube Fleet Card is.
24		200	Gather information / Closed-ended question - You're right. Sure, so have you had any other problems servicing your vans?
25		130	Solve - Jiffy Lube offers businesses like yours a Jiffy Lube Fleet Card that gives discounts on services, let's you control your expenses, and provides detailed accounts showing everything you spend on each vehicle.
26		135	Close - Of course, you'll learn all about it when you sign up. Now if you could just fill out this application...
27			
28	130		Ms. Williams: That's fine if I want to go to Jiffy Lube, but I'm not sold yet on switching from my dealership.
29		200	Gather information / Closed-ended question - Well, let's get back to that. Have you had any other problems servicing your vans?
30		135	Close - But isn't it obvious that the Jiffy Lube Fleet Card can save you time. Can we just fill out the application together?
31		140	Probe - What is it that you don't like about Jiffy Lube?
32			
33	135	200	Ms. Williams: Look, as I said, I've got to get ready for my meeting. Why don't you leave some materials with Mel and we'll get back to you. [Coach] - You lost that sale because you pushed too soon and too hard for a close. You weren't listening to Ms. Williams. Let's get you back on track. What you needed to do was gather more information by asking something like, "Have you had any other problems servicing your vans?" We'll pick it up from there.
34			
35	140	200	Ms. Williams: Who said I didn't like Jiffy Lube? You just haven't given me a good-enough reason to switch from my dealership. [Coach] - Okay - you're way off track. What you need to be doing is gathering more information with a question like, "Have you had any other problems servicing your vans?" We'll pick it up from there.
36			
37	200		Ms. Williams: Not really ...but last week we had had a van come free because the nursery didn't have the plantings ready so we couldn't do the job. The driver called but couldn't get an appointment until the following day - but that was the day we really needed the van so we could catch up.



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Notes on the previous page:

- Nodes can be reused. Notice how ID 125 is reused at rows 5, 10, 15, and 21. By working each path to its logical termination, it's easier to identify places where new paths can be merged with existing paths.
- Nodes can be copied. This is not shown in this example. Nodes can be copied and slightly modified because of the context of the path that leads to that node. For example, the video might have a different transition or choices might be changed because they are not logical on this path.
- Choices can be reused. Rows 5 and 21 are the same and there were many more examples in the full simulation.
- The number of choices can be varied. In most cases, we used three choices, but Row 19 shows a screen where only two choices were appropriate in that context.

Step 5: Assign final names to each node

The IDs in Column A have been changed to the names of the screens that will be used in the simulation. Renaming is done so that there is some logical numbering system in the final simulation; it could not be done earlier because we did not know how many nodes would be created.

Column B was automatically updated because of the formulas.

	A	B	C
1	ID	Go To	Simulation Text
2	e19		Ms. Williams: Hmm, I got the idea from the dealership that I had to bring the vans back to them.
3		e28	Gather information / Open-ended question - Have you had any other problems servicing your vans?
4		e20	Solve - Dealerships like to do that because they make a lot of money in their back-room shop.
5		e24	Close - Now that you understand about the warrantees, can I fill out an application for a Jiffy Lube Fleet Card with you?
6			
7	e20		Ms. Williams - That's not really very fair. I've had good service from my dealership and I trust them.
8		e28	Gather information / Open-ended question - You're right. I shouldn't talk about my competitors that way. Can I ask whether you have had any other problems servicing your vans?
9		e21	Probe - But don't you feel they've taken advantage of you?
10		e24	Close - But if you'll just fill out this application for a Jiffy Lube Fleet Card, you'll keep your warrantees and save time.
11			
12	e21		Ms. Williams: No I don't. In fact I know them a whole lot better than I know you.
13		e28	Gather information / Open-ended question - I understand that. Let me get back to your business. Have you had any other problems servicing your vans?
14		e22	Solve - I'm just trying to show you how Jiffy Lube can give you better service than your dealership.
15		e24	Close - Well, that's just because you've been doing business with them for so long. Now, if you'll just fill out the Jiffy Lube Fleet Card application you'll get to know me better!
16			
17	e22	e23	Ms. Williams: Look, as I said, I've got to get ready for my meeting. Why don't you leave some materials with Mel and we'll get back to you. [Coach] - Okay, you lost that sale when you started criticizing the competition. You don't build trust for yourself by criticizing others. Let's go back to where you made your first mistake and see if you can do better.

The frames in this example begin at e19 because the first 18 frames covered the rapport building step. There are a total of 127 screens in the simulation.



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Step 6: Use Excel formulas to export text to the format used by the authoring system

Excel cannot produce code that's ready to run, but it can help to create a text file that is easy to import into an authoring environment.

We use an XML structure that is transformed to HTML.

This Excel formula:

```
= "<frame>" & A2 & "<cr> <video>" & C2 & "</video>"
```

...creates this snippet of XML code:

```
<frame>e19<cr> <video>Ms. Williams: Hmm, I got the idea from the dealership that I had to bring the vans back to them.</video>
```

When the <cr> symbol is replaced by a carriage return and tab, the code looks like this:

```
<frame>e19
    <video>Ms. Williams: Hmm, I got the idea from the dealership that I had to bring the vans back to them.</video>
```

This is very close to the syntax used by our XML system and requires only moderate tweaking to make it operational.

These three formulas were used for the choices:

```
Choice 1 = " <question>What would you say?<cr> <ungraded_answer>" & C3 &
           "</ungraded_answer><cr> <feedback>GO TO " & B3 & "</feedback>"
```

```
Choice 2 = " <ungraded_answer>" & C4 & "</ungraded_answer><cr> <feedback>GO TO " &
           B4 & "</feedback>"
```

```
Choice 3 = =" <ungraded_answer>" & C5 & "</ungraded_answer><cr> <feedback>GO TO " &
           B5 & "</feedback><cr> </question><cr></frame>"
```

So the final output (somewhat cleaned up) looked like this, which was very close to being ready to convert to HTML.

```
<frame>e19
    <video>Ms. Williams: Hmm, I got the idea from the dealership that I had to bring the vans back to them.</video>

    <question>What would you say?

        <ungraded_answer>Gather information / Open-ended question - Have you had any other problems servicing your vans?</ungraded_answer>
        <feedback>GO TO e28</feedback>

        <ungraded_answer>Solve - Dealerships like to do that because they make a lot of money in their back-room shop.</ungraded_answer>
        <feedback>GO TO e20</feedback>

        <ungraded_answer>Close - Now that you understand about the warranties, can I fill out an application for a Jiffy Lube Fleet Card with you?</ungraded_answer>
        <feedback>GO TO e24</feedback>

    </question>
</frame>
```



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Step 7: Sort the video into a video shooting sequence.

We sorted the Excel spreadsheet to find all of Ms. Williams' scenes, and then assigned a value from 1 to 5:

- 1 = Correct answer path
- 2 = Pleasant / patient - sales person may be off-track, but she's following along
- 3 = Confused - not sure where this is going
- 4 = Pushing back - letting sales person know they're on the wrong path
- 5 = Angry - terminates the sales call feeling it's been a waste of her time

	A	B	C	D
1	ID	Go To	Simulation Text	Rating
2	e19		Ms. Williams: Hmm, I got the idea from the dealership that I had to bring the vans back to them.	1
3	e28		Ms. Williams: Not reallybut last week we had had a van come free because the nursery didn't have the plantings ready so we couldn't do the job. The driver called but couldn't get an appointment until the following day – but that was the day we really needed the van so we could catch up.	1
4	e24		Ms. Williams: Hold on a second. I still don't understand all this and I have no idea what this Jiffy Lube Fleet Card is.	3
5	e25		Ms. Williams: That's fine if I want to go to Jiffy Lube, but I'm not sold yet on switching from my dealership.	3
6	e20		Ms. Williams - That's not really very fair. I've had good service from my dealership and I trust them.	4
7	e21		Ms. Williams: No I don't. In fact I know them a whole lot better than I know you.	4
8	e27	e22	Ms. Williams: Who said I didn't like Jiffy Lube? You just haven't given me a good-enough reason to switch from my dealership. [Coach] - Okay - you're way off track. What you need to be doing is gathering more information with a question like, "Have you had any other problems servicing your vans?" We'll pick it up from there.	4
9	e22	e23	Ms. Williams: Look, as I said, I've got to get ready for my meeting. Why don't you leave some materials with Mel and we'll get back to you. [Coach] - Okay, you lost that sale when you started criticizing the competition. You don't build trust for yourself by criticizing others. Let's go back to where you made your first mistake and	5
10	e26	e28	Ms. Williams: Look, as I said, I've got to get ready for my meeting. Why don't you leave some materials with Mel and we'll get back to you. [Coach] - You lost that sale because you pushed too soon and too hard for a close. You weren't listening to Ms. Williams. Let's get you back on track. What you needed to do was gather more information by asking something like, "Have you had any other problems servicing your vans?" We'll pick it up from there.	5

By having the actress do the correct answer path first, she was able to understand the complete flow of the interaction. Then we let her ratchet up her confusion and anger by gradually escalating the scenes.

Using this technique and working with a very good actress with a teleprompter, we were able to shoot about 110 scenes with Ms. Williams in about 90 minutes. The video shoot was part of a 1.5-day shoot that included all the video for the sales course.



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Development Costs

The cost to develop this simulation was about 90 hours, which included:

Writing	25 hours
Graphics, Layout, Video	24
Programming	25
Quality control	16

Total	90 hours

Part of the efficiency of developing this section was that it was part of a larger course that included the sales model. A totally stand-alone simulation would have involved more hours for the analysis and high-level design.

The average time to complete the simulation is about 15 minutes, with a range from 12 to 20 minutes, not including some students who repeat the simulation.

Summary

Excel facilitated the development of this role-play simulation by automatically updating the links between choices and nodes. By following each path to its termination, and by inserting rows into Excel, we were able to maintain a context so that all the choices and verbiage were consistent with previous choices. At the same time, we were able to connect new paths to existing nodes and reuse existing choices.