

A practical guide to creating learning scenarios

A learning scenario consists of a description of a realistic situation (usually fictional), accompanied by one or more questions that challenge the learner to respond to some aspect of that situation. At its simplest, a scenario could consist of a single description followed by a single question, but it could also develop in stages with one or more questions at each stage. In the case of a *branching scenario*, the information depicted at each stage will vary depending on the answers the learner made at previous stages.

The information that describes a scenario could be presented using a wide range of media elements, including text, images, animations, audio and video, in various potential combinations. What is more important than the media mix is that the situation described to the learner seems relevant and authentic.

Although, in theory, a variety of different question formats could be employed to challenge the learner about aspects of the situation, the most common and the most versatile is the simple multiple-choice question:



This simple scenario is presented as a short text statement with an accompanying picture. The learner then has three options from which to choose. Feedback is provided simply in text depending on the option selected.

Note that scenarios can be presented in the *third person*, as in the example above, where you are an observer to the situation, but they can also be delivered in the *first person*, with you as an active participant in the situation:

What would you do first?

Feedback plays a very important role in a learning scenario. This could be explicit and immediate, as in the example above. However, in a branching scenario, the feedback occurs implicitly, by what happens next – you learn by seeing the potential results of your decisions.

In this guide, we'll be exploring scenarios in all of these forms.

Media elements

As we have seen, a scenario has three core components:

1. A description of a situation
2. A question with various options
3. Feedback on the options selected or, in the case of a branching scenario, a jump to the next stage in the scenario

The first and third of these could be presented in a wide variety of forms:

- Simple text
- Text with one or more images
- Audio with images or animations
- Video

The question and options will normally be presented textually, to provide the learner with as much time as they need to reflect on their decision.

Interactive capability

A learning scenario is by nature interactive – a case study with questions built in. Although, in this Practical Guide, we are focusing on fully-interactive scenarios, it is worth mentioning that very similar results could be obtained by combining a more conventional case study with some means for collaboration, such as a forum, a blog or a classroom discussion.

Applications

Principle-based tasks: A learning scenario is most commonly used to help a learner gain insight into key principles that influence the problem-solving and decision making elements of their work. The focus here is on tasks that cannot always be accomplished through the application of a few simple rules – there is a need for critical judgement to be applied. In these cases, a strategy of *guided discovery* is usually applied. The scenario is positioned early in the solution, before the formal presentation of learning material. It provides a chance for the learner to experiment with different approaches and to reflect upon the possible outcomes.

Rule-based tasks: However, a scenario could also be used as a means for practising a simpler, rule-based task. Here the strategy is more likely to be *instructional*, with the scenario coming later in the solution, after the rules have been explained.

Scenario-building tools

Scenarios can be produced quite simply in tools such as PowerPoint, using hyperlinks to jump from slide to slide depending on the learner's selections. Further functionality can be added by converting the slides into Flash, using tools such as [Articulate](#) or [Adobe Presenter](#).


Justin decides that his only practical option is to create an e-learning module. The next problem is deciding how.

So, how should Justin go about creating this e-learning module?

Put the work out to a contractor

Use the in-house training team

Do it himself



This might be possible, if the training team had the necessary skills, was available to do the work and was capable of both learning what they needed to about the new product and turning the job round in such a short time.

Unfortunately they fall down on all these counts (although you weren't to know).

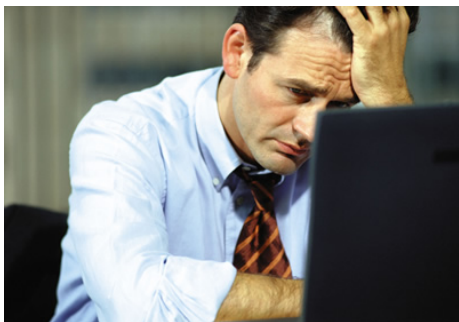
So what else can Justin do?

This scenario was created using [Microsoft PowerPoint](#)

For maximum flexibility, use a fully-fledged desktop e-learning authoring tool, such as [Adobe Captivate](#) or [Lectora](#) or an online equivalent, such as Rapid Intake's [Unison](#). There is talk of Articulate having a specialist scenario-building tool, called Storyline, in the pipeline for later in 2011.

Designing simple principle-based scenarios

We move on now to look in more detail at the steps involved in creating simple scenarios to support learners in understanding the principles underlying everyday problem-solving and decision making. Scenarios are well suited to this type of learning problem, because they provide learners with the opportunity to experiment with different responses to the sorts of situations that they could encounter in their jobs and to gain insights into the dynamics that can determine success and failure.



Principle-based tasks require you to make judgements rather than simply follow rules

When we talk about ‘principle-based tasks’ we mean those jobs that cannot be accomplished by following simple rules – ‘if this happens then do that’. Principle-based tasks require you to make judgements on the basis of the particular situation you happen to be facing. They require you to understand cause and effect relationships, i.e. principles:

- Projects with unclear objectives are more likely to fail.
- Irritable behaviour can be caused by lack of sleep.
- You’ll find it easier to cope if you don’t look at each email as soon as it comes in.
- An impolite greeting will turn the customer against you before you’ve begun.

Principles such as these are relevant to just about any job you can imagine, although clearly some more than others. They are rarely black and white – in fact they are often the subject of differing opinion. Principle-based tasks, therefore, require a very different treatment and this is where scenarios come into their own.

Step 1: Decide what principles you want to bring out through the scenario

A scenario needs a clear purpose – don’t use it just to lighten up what would otherwise be a boring piece of e-learning. Be realistic about what you can achieve in one scenario. You may be able to tackle a simple principle with a single question, but often a whole series of questions will be required to bring out all the elements and to compare different perspectives. A lot depends on your learner. Novices will want to look at a single issue at a time, whereas more experienced practitioners may feel comfortable immersing themselves in a complex situation with all sorts of competing pressures. If in doubt, keep it short and simple.

Step 2: Develop a storyline

Your next task is to develop a storyline that will bring out the principles you have chosen to focus on. It is really important that this storyline is credible with your audience. They must be able to relate to the situation and the characters. If you are struggling for ideas, ask a sample of your potential learners to describe the situations they face in their own day-to-day work. As with TV drama, be careful not to base your plot too closely on a real-life incident in case you reveal the identity of the protagonists.

The problems that you set should be challenging yet achievable. Remember that what is challenging for a beginner may be completely obvious to an old hand, so adapt your scenario to your audience. With beginners, it’s a good idea to start with relatively straightforward and routine problems, and move gradually to the more complex cases in which right and wrong is not so easy to establish.

Step 3: Develop your script

Use whatever media are necessary to convey the storyline. More often than not text will do the trick, but some situations will be hard to get across without richer media.

Armstrong Electronics



Charlene starts her review by reading through the e-learning strategy document put together by her predecessor, Doug Kwinn. The document focuses on the advantages that learning technologies could bring to the business in terms of lower training costs, a reduced environmental impact through a reduction in travel, and the provision of more flexible and accessible resources for learning.

All these are highly relevant given the organisation's increasingly international reach and the pressures being felt as a result of the financial downturn.

You can use any media to describe the situation, but text and graphics will often suffice



This scenario is presented as a dialogue shown as a series of pictures with speech bubbles

Without doubt, your hardest job will be to develop plausible options for your questions. Every option should be tempting to at least a minority of your target audience. Throwaway options, which are clearly not going to work, will devalue the whole process.



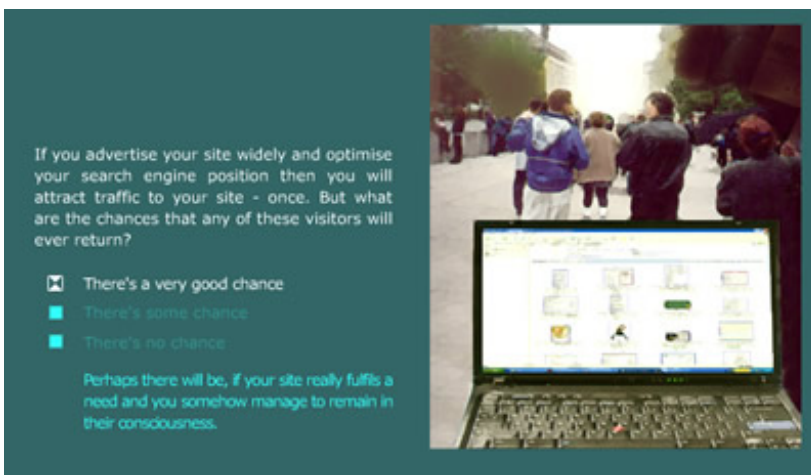
What would have made the interview go a little more smoothly?

- Marv didn't need to give all that background
- Marv should have just answered straight up front
- The interviewer should have asked much more direct questions
- The interviewer should have interrupted Marv rather than let him ramble

Each of the options you present needs to be plausible, at least to a minority of your target audience

Assuming this is not a branching scenario (and we'll be dealing with these later in the series), every option should have its own feedback. Writing this feedback will not be as simple as "Correct – well done" or "Sorry, incorrect." Every answer deserves a considered response, weighing up all the pros and cons. If the feedback won't fit on the same screen as the question, jump to a new screen where you have more room. Remember that this feedback will be the primary source of new learning, so it shouldn't be wasted.


Again, assuming you are not creating a branching scenario, you should allow the learner to explore any and all of the options before moving on. A scenario is not an assessment, so don't follow assessment rules.



If you advertise your site widely and optimise your search engine position then you will attract traffic to your site - once. But what are the chances that any of these visitors will ever return?

- There's a very good chance
- There's some chance
- There's no chance

Perhaps there will be, if your site really fulfils a need and you somehow manage to remain in their consciousness.



Each option here has its own feedback, written to bring out the pros and cons of the learner's choice. Learners are free to select as many options as they like.

Step 4: Test and revise then do it again

You've probably got the message by now that a scenario needs to be authentic. The only way you will tell whether you've got this right is to try it out with typical learners. Bring them in early. Have them provide a verbal commentary to you as they attempt the questions. Act on their feedback and

then test again. You are not admitting a mistake by changing your script – you are showing how much you want to make it work.

Designing simple rule-based scenarios

Although scenarios are usually thought of as tools to support more complex problem-solving and decision-making, as we shall see, they can as easily be used as a technique for practising more routine, everyday tasks.



Rule-based tasks don't require you to make judgements, just to follow instructions

When we talk about 'rule-based tasks' we mean those activities that can be carried out repeatedly according to clearly laid-out instructions. The job holder is not required to make a judgement, just to follow the rules – if this ... do that. In the developed world, it would be fair to say that less and less tasks are of this nature, because routine tasks that obey strict rules can often be undertaken by robots or computers, transferred off-shore where the labour is cheaper or just looked up from some reference source as and when needed. Having said that, everybody's job involves some rule-based elements, and some tasks simply can't be carried out by a machine or at a distance.

Step 1: Teach the rules

Principle-based scenarios are typically used as an element in a process of *guided discovery*. The scenario brings out issues that can then be reflected upon and discussed, hopefully resulting in learner insights. A task-based scenario is much more likely to be used within an *instructional* strategy – you teach the rules, then have the learner practise applying them in realistic situations.

So, before building the scenario, be clear about what the steps are in the procedure you want to teach and the rules that need to be applied at each step. Then create some content to get all this across:

- provide an overview of the task and why it is important
- demonstrate each step, explaining the rules that need to be applied and why these are necessary

Don't over-teach. The idea is to provide the minimum information necessary for learners to be able to have a go themselves. The detail can be filled in later, either as feedback within the practise scenarios or as further reading.

Step 2: Develop a storyline

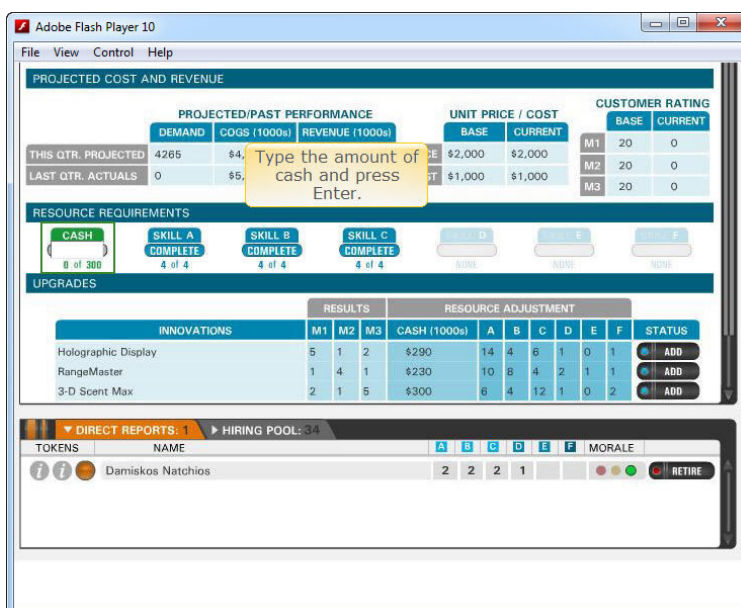
You can then set about designing your scenarios. The idea is to provide the learner with the most realistic experience of the task that you can. For more difficult tasks, start with a simple initial practice that will allow the learner to build their confidence by applying the most basic rules. Then move on to provide more difficult scenarios that require the learner to apply more complex rules. Aim to provide enough opportunities for practice that any learner will be able to gain confidence in applying the rules to real tasks.

You will not always be able to provide completely authentic practice opportunities. Sometimes your scenarios will be just a first step to be followed up by more realistic practice away from the computer.

Step 3: Develop your script

As with principle-based scenarios, use whatever media are necessary to convey the storyline. Text and images will often suffice, but if you need a more realistic experience, you have the option of richer media – perhaps even 3D graphics.

As ever, your hardest job will be to develop suitable questions. Where possible, these should match the real-life experience; so if the real task requires someone to type a code into a form field on a computer, then have them do the same thing in your scenario.




If you can, make the interaction match the task. Here the learner is required to complete a form field as they would in a real software application

What next?


The driver of the other vehicle gets out of his car and storms over to you. He accuses you of being responsible for the crash. He's right. Do you ...

- Say absolutely nothing
- Accuse him of being at fault
- Say that liability is for the insurers to decide



If you plan to use multiple-choice questions, then make sure that all the options are plausible

Ideally every option should have its own feedback. This allows you to correct any misunderstandings that might have led to an incorrect answer and to add little details that you might have held back from your initial demonstration.



You check and it seems the patient has a pulse but is not breathing.

What would you do first?

- Provide resuscitation
- Call for an ambulance
- Check whether anything is blocking the mouth or windpipe

That is important but you have a more urgent task to fulfil first. Feel inside the mouth with a finger to see if there is anything blocking it or the windpipe and remove any food or other objects. Provided that dentures are not broken, it is better not to remove them

The feedback you provide can be used to correct any misunderstandings and to add extra detail

Step 4: Test and revise

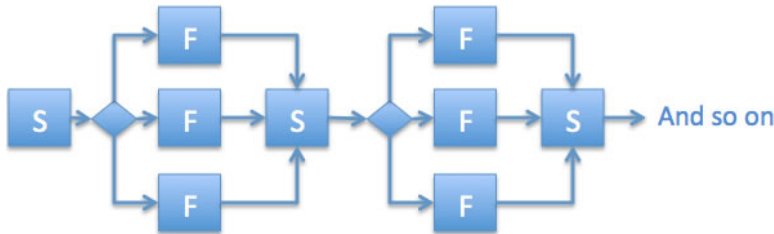
As early as you can, have some sample learners try out your scenarios. Find out from them whether the scenarios are sufficiently realistic, whether they understand clearly what they have to do, whether the questions are set at the right level of difficulty, and whether the feedback is helpful. Be prepared to make lots of refinements until you get it right.

Designing branching scenarios

We turn our attention now to branching scenarios, which provide a more immersive approach to learning principle-based tasks.

Why branching?

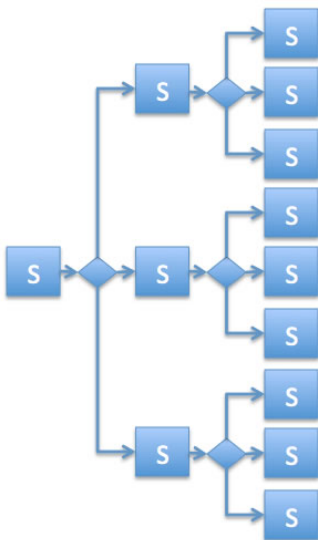
To understand the value of branching, you first need to understand how a scenario looks when it doesn't branch:



The diagram shows the learner being presented with a situation (S) and three choices. The learner is then immediately provided with feedback (F), related directly to the choice that they have made, pointing out positive aspects and correcting any misunderstandings or errors. All learners then proceed to the second stage of the scenario. Although the feedback can be considered to be branching, the overall path is linear.

While a linear scenario works well in many situations, it doesn't resemble real life, where you get to experience the results of your decisions, for better or for worse.

With a branching scenario, it will be possible for different learners to progress along different routes through the scenario and to experience different end points. Where you arrive depends on the decisions you make along the way.



The diagram shows only the initial two stages in the scenario – there could, of course, be many more. As you can imagine, if at every stage the scenario trebled in size (assuming three choices) it would soon become unmanageable. In practice, many branching scenarios return to a common narrative at key points or kick the learner out early if their initial choices represent fatal mistakes.

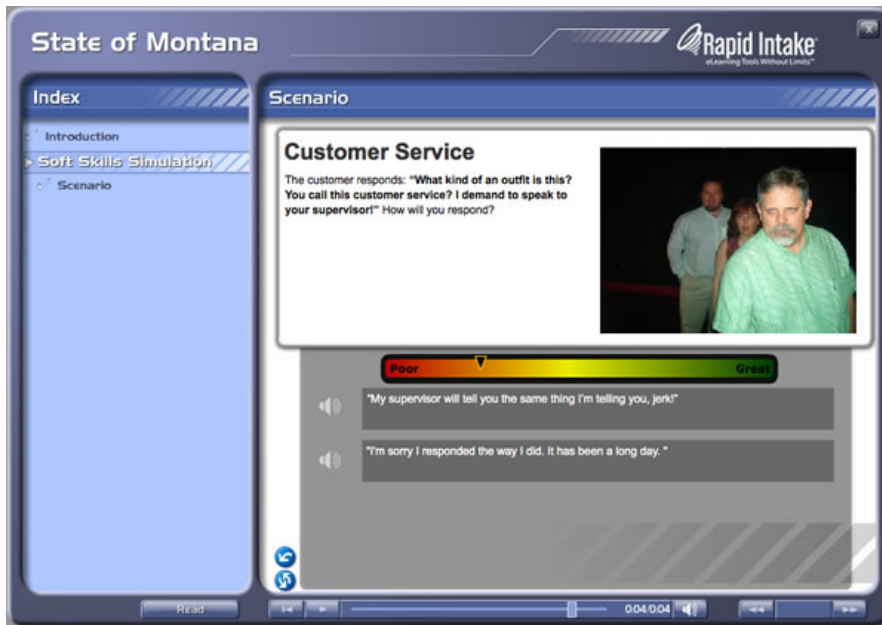
Providing the learner with feedback

Looking at the second flow chart above, you might wonder where all the feedback went! Well, first and foremost, feedback is implicit in the branching that occurs. If you shouted at the customer in situation 1, you'll get your payback in situation 2.

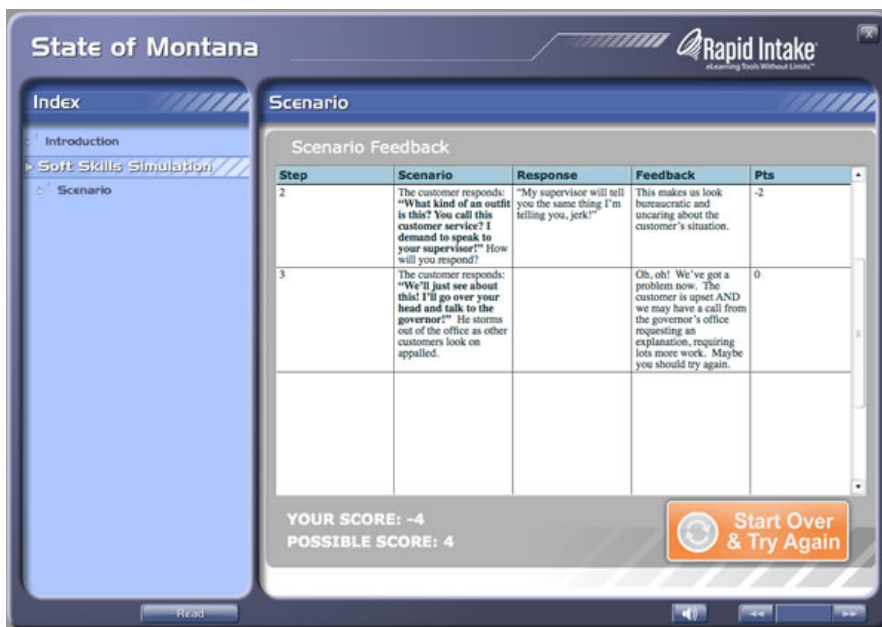
Another way that feedback can be provided is with some sort of visual indicator, as the following examples show:



This scenario aims to help you make the transition from order taker to instructional designer and the meter at the bottom left gives you an update on your progress. On the right is an example of the feedback the scenario provides. Thanks to [Cathy Moore](#) for this one. You should also check out the [flowchart](#) that Cathy created to help her design and test this scenario.



This scenario, produced using the [Rapid Intake](#) tool, provides you with a traffic light indicator of how well you are doing as you progress through.



At the end of the scenario, you are provided with detailed feedback on each one of your responses. You can then start again if you wish.

Deciding on the look and feel

You can use any combination of still images, text, audio and video to present the situations in your scenarios, although the evidence is stacked against using text and speech simultaneously. Your decision is likely to be made on the basis of (1) how much realism is needed to adequately convey the situation, and (2) how much time and money you have got available to you.

[Cathy Moore](#), along with her friends at [Kinection](#), turned to a comic book approach for the acclaimed Haji Kamal scenario:



This scenario uses an eye-catching comic strip approach, achieved by converting photographs into illustrations. This extract is part of the scene setting.



Still using the comic strip approach, the learner is presented with a situation and a number of options for action.

Enjoy your story-telling.