PAPER HOOPS

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Description

The goals in this activity are clear, but the task is challenging and there are several ways to succeed.

The task is to make a hoop of paper, only by tearing and folding one sheet of A4 paper, without using tools such as scissors, sticky tape or staplers. The hoop should be large enough to step through or to pass from head to foot.

Either the team may get to an ideal solution by taking a great deal of time, or an insufficient solution by working very quickly on the first available idea. Better than either of these two is to obtain the best possible result within the available time.

The activity can be presented as a two-step process: first define a solution – i.e. play around with different ideas; second, do the development. The goal can be explained with priorities: 'must' is a hoop big enough to go around one person, 'should' to go around two people and 'could to encircle the whole team.

It is in fact possible to make a circle large enough to go around six or seven people with space and room to spare. This requires a degree of patience and ingenuity to find the right product specification.
It is also possible to find a solution that takes about 30 seconds to produce. This implies a degree of inspiration and resourcefulness with regard to the process to develop the product.

Both product and process are necessary in product development and project management. Furthermore, there is an implicit service requirement in the sense that the result should be usable, resilient and convivial, but within the comfort zone.

Learning Messages

This is a creative exercise, in teams, with a tight deadline, and there are many possible ways to reach the objective. At the same time the objectives and the priorities can be made clear enough. Thus the exercise provides practise in how to meet a fixed deadline, in how to adapt to a fixed constraint on material resources, and in how to work as a team to satisfy prioritised requirements within a tight timescale.
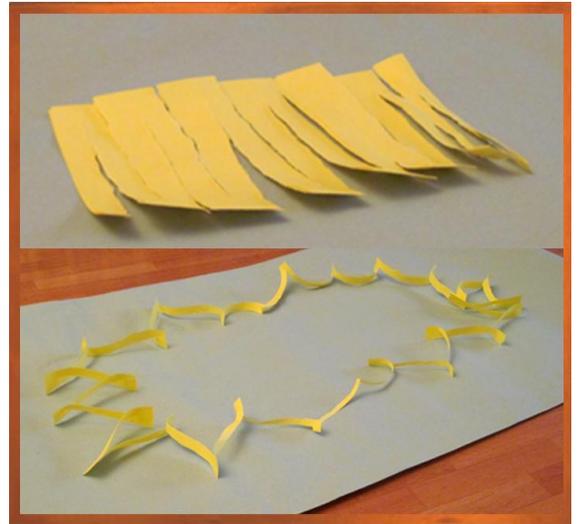
Situation

One advantage of this activity is that it is quite short. It may take only about ten minutes, or five minutes to plan and ten to execute. Use this activity when you are looking for a message of how to get a job done on time, in a team, and with limited resources. You only need one sheet of paper.

Aims

• To emphasize the importance of clarifying priorities and focusing on those priorities during the project
• To practice designing the right product, before building it right
• To build upon and to develop team creativity in a tight time scale
• To provide a short and enjoyable team development activity

Timing

Total time: Twenty minutes
   5 minutes to introduce the exercise
   5 minutes to explore and design
   2 minutes to test the objects
   8 minutes to discuss and conclude

Materials

Several pieces of letter-sized (A4) paper per participant; best in colour.

Trainer Guidance

Ideally, the participants are in groups of three or four. The facilitator explains that the goal is to fabricate a large paper hoop, using only one sheet of A4 paper. The paper can be torn, it can be folded, and it can be linked or connected, but only by hand. No scissors, cutting device, staples, sticky tape or glue can be used.

The activity can take about ten or fifteen minutes. No more time should be necessary, particularly if the teams manage the priorities. The ten minutes can be broken up into a first stage to design a solution and a second stage to produce the solution.

The 'must have' priority is for the paper hoop to go around at least one person. It will be passed over their head and then their toes so that they can step out. Whilst this happens the hoop should not break or tear. The 'should have' is to go around two people adequately comfortably, and the 'could have' is to go around all of the people in the team. What 'wont' be necessary is for the paper hoop to be large enough to go around everyone in the room.

In practice, the participants do not always follow instructions. They may spend extra time trying to do too much. They may start to develop a solution, before they have reviewed alternatives and thought about a suitable approach.

Remember that your role is to act like a client. You don't have to give 'perfect' instructions; just as good as the average customer. 😊 You want the teams to ask you the kind of questions that a good supplier would ask; such as "How are you going to test the results?"

You could make up a story about party decorations , ease of production and delivery, low cost and child participation, large volumes and sale on the Internet if you wish to make the exercise sound true to life.

Method

1) Ensure that you have enough sheets of ordinary-sized A4 paper. There should be one sheet for each group of three or four participants, and *ideally* some smaller sheets for Practise and prototyping. It's also more fun to have paper in different colours.
2) Explain that you want them to fabricate a hoop of paper, in ten or fifteen minutes, using only one sheet, and that they must not use tools such as scissors, knife, stapler, glue or sticky tape. They can only use their hands.
3) Be specific about the priorities: must be able to go around one person, over their head and down to the floor; should go around two people; could be large enough to go around everyone in the team (without being too intimate); won't go around everyone in the room. Make the point also, that it would be nice to keep the paper in one piece and to devise a process that enables the product to be fabricated and delivered easily.
4) Suggest that they should first work on the design in order to obtain agreement, and that they may wish to play around with some alternative methods, to 'make the right solution, before making it right'. In other words, they could make a design prototype and a production prototype. Much of the success will be due to the ability to play around with a few ideas.
5) When the ten minutes are up, ask the participants to demonstrate their paper hoops. You should also test the robustness, by picking up the paper hoop and shaking it.
6) If you wish to choose a winning team, you could select the largest paper hoop that is nevertheless finished on time as the most satisfactory product.
7) Ask some of the participants how they chose their solution. What were the design criteria? How they dealt with the priorities? How they managed the time pressure? Are they satisfied with their result?

One way to make the paper hoop

If teams use this method then they will not have to find a way to join up the loose ends. The production method is quite simple and would be easy to deliver and to deploy cheaply, if the paper had already been cut. This adds a degree of plausibility to the activity, if you need it. It also allows you to develop the very important project management learning message of design or manufacture and delivery; design for life cycle in fact.

One way to fabricate the hoop is to tear it like in the picture on the first page. Tear down a strip from the folded end near one side of the paper. Don't tear to the end. Tear a next strip from the unfolded end but no all the way to the folded end. Keep tearing strips alternately without going to the end. Finish with the last strip from the folded end. Now tear the middle strips along the folded end but not all the way to the sides. Here are the same instructions, but step by step:

1) Fold the paper in two. It seems to give a better end result if you fold it widthwise.
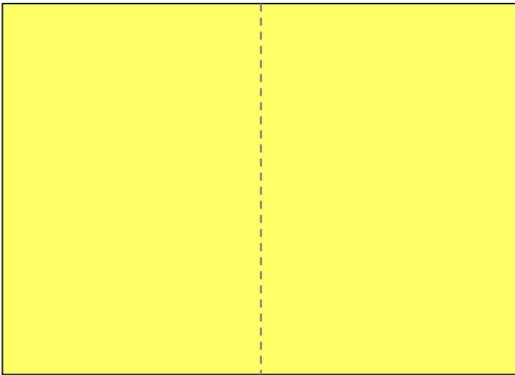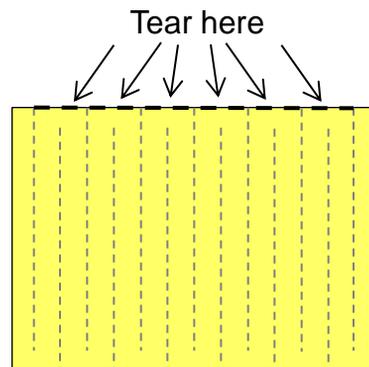
2) Fold the paper and tear from the folded edge at each end as narrow a strip as you need. The narrower the strips that you make, the larger will be the hoop.
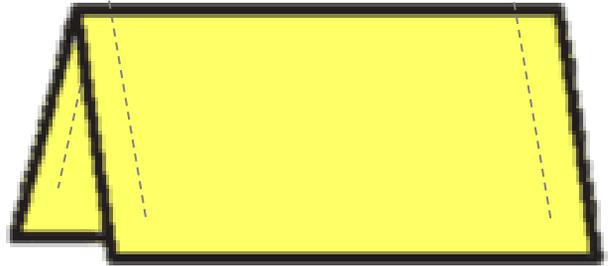
3) The more strips you tear, the larger will be the hoop, but it may be less robust. Ensure an odd number of tears from the fold and an even number from the open edge.
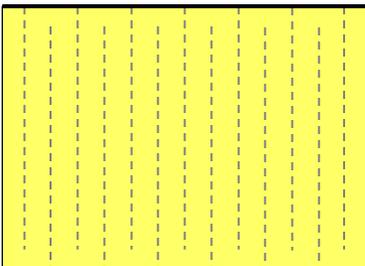
4) Tear along the folded edge, but not to the end.

Tear here

5) Deploy and display