

Challenge D: *ConnecDId!*



Focus: *Structural Engineering and Construction; Theater Arts; Teamwork*

The Destination: *Where This Challenge Will Take You!*

Nations are connected by technology and travel, by roadways and waterways, by bridges and tunnels. People are connected by our hopes, our fears, our dreams and our imaginations, and also by our cultures and our traditions. Imagine how the world would be different if you could build a magical Universal Connection Creation that would allow you to instantly make connections between people, nations, objects or events!

Points of Interest

- ★ The team will have to find innovative and creative ways to make Connections between pieces of wood to solve this Challenge! The team will design, build and test a Structure made completely from Wood. No other materials, including glue, may be used.
- ★ At the Tournament the Structure will be tested for its load-bearing efficiency by stacking weights on it.
- ★ The team will create a Universal Connection Creation (UCC) that will be used in multiple ways during its Presentation.
- ★ The team will create a Presentation that tells the story of Connections devised and made by the team, using a Universal Connection Creation as a theatrical prop.
- ★ The team will integrate an Improv Element and three *Side Trips* into the Presentation.

Time Limit: The team must complete the Presentation (including set up) in **eight minutes**.

Team Budget: The total value of the materials used in the Presentation may not exceed **\$100US**.

Roadmap for Success: Teams must read the *Rules of the Road* in order to successfully solve this Challenge!

A. Itinerary: The Central Challenge (225 points)

1. Designing & Building the Structure:

- a. The team will design and build a Structure made of **ONLY** natural *Wood*. No other materials, including the use of any *adhesive substance (C.1.)*, will be allowed.
- b. The Structure **must** be assembled from pieces of Wood brought together by a minimum of FIVE (5) *Connections (C.2.)* designed by the team. A Structure that has fewer than five Connections will receive a weight-held score of zero. *Connectors (C.3.)* may or may not be used to make Connections at the option of the team.
- c. In designing the Structure, teams should keep in mind that the Structure with the highest *Efficiency Score (C.4.)* (the ratio of weight held divided by the weight of the Structure) will receive 150 points, or 66% of the points available in this Challenge.
- d. To help ensure a “level playing field” for all teams, teams may not use any type of technology which, using the Challenge specifications input by the team, designs or creates the Structure or any of its Connections.
- e. **All jigs used in the construction of the Structure must be team-made.**
- f. The intent of this Challenge is for the team to demonstrate innovation and workmanship in the Connections utilized in the construction of the Structure.

2. **Structure Specifications:**

- a. The *Wood (C.6.)* used in the construction of the Structure may be of any type. Teams may build the Structure completely from one type of Wood, or they may choose to use a variety of Woods. The Wood used in the construction of the Structure may be any size or dimension the team chooses. The team may use sticks, sheets, blocks or planks of Wood in the Structure. The team may cut the Wood into any size or shape it chooses.
- b. The Structure must have a minimum height of 7.5in, (19.1 cm) and may not exceed a maximum of 9in. (22.9 cm) in height.
- c. The Structure will be limited to a maximum weight of 50 grams.
- d. The Structure must have an opening, running the entire height of the Structure, which can accept a circular column two inches (5.1 cm) in diameter.
- e. The Structure must be designed to support all weights stacked on the Pressure Board of the Structure Tester (see *Figure A.*).
- f. The Structure must fit entirely on the Tester Base (See *Figure B.*) and may not touch any of the safety supports or the Safety Pole.
- g. The maximum weight each Structure may ‘officially’ support will vary by competition level as follows:
 - ★ Regional and Affiliate level Tournaments: **500 pounds** (227 kg).
 - ★ Global Finals Tournament: **1000 pounds** (454 kg).
- i. Any Structure unable to be brought into compliance with the above specifications shall receive an ‘Official Weight-Held’ score of zero.

3. **Universal Connection Creation Specifications:**

- a. The team will construct a Universal Connection Creation (UCC) and use it theatrically in the Presentation to help convey the Connections theme.
- b. The UCC may be made of any material(s) and may be any size and shape. Team members may not **BE** the UCC; however, team members may be in contact with the UCC during its use.
- c. The UCC will be scored for its appearance and for its use in multiple ways within the teams Presentation.

4. **Presentation Details:**

- a. The team’s Presentation will tell a story of the Connections devised by the team. Points will be awarded for the creative use of the Connections theme and completeness of the story. “Completeness” means that the story is told with a distinct beginning, middle and ending.
- b. **The testing of the team’s Structure will be *integrated (C.5.)* into the team’s Presentation.**
- c. The team’s Presentation is defined as everything that takes place within the eight-minute time limit, including the testing of the Structure.

5. **Improv Element:** At the Tournament, each team will choose from two types of Improv Elements to integrate into their Presentation: An **Improv Item** or the **Improv Alternate**.

- a. **Improv Item:** An Improv Item is an ordinary physical object that the team will use as a prop in their Presentation. One minute before their Presentation begins the team will find out what the Item is. It may not be changed from its original form during the team's Presentation.
 - b. **Improv Alternate:** For this Program year, the Improv Alternate asks teams to **Create a Phrase** and integrate the Phrase into their Presentation. One minute before their Presentation begins, the team will randomly select three letters of the alphabet. The team will then be given one minute to create a three-word Phrase in which the first letter of each word is one of the three letters they have chosen. For example, if the letters chosen were S, T, L, the team might create the Phrase "Leave The School." The team must use all three letters, but team members do not have to use the letters in the order they were selected. However, once the team creates the Phrase, they may not change the Phrase or the order of the words. The words chosen by the team must be real (not nonsense) words in whatever language is the primary language used at the Tournament.
 - c. The intent of the Improv Element is for the team to improvise and use the Item or Phrase in a meaningful way during the course of the Presentation. The team will be awarded up to 25 points, depending on how well the Improv Element is used in the Performance. More information about the Improv Element is provided in the *Rules of the Road* and the *Team Manager Guide*.
6. **Team Identification Sign:** Your team must provide a free-standing Identification Sign (ID Sign) of approximately 2ft. (.6m) x 3ft. (.9m) displaying your team's Passport Name, Passport Number, and Level. It may not be used as a scoring element. See "Team Identification Sign" section in *Rules of the Road* for further information.

B. Side Trips (75 points)

The team must present three creations called 'Side Trips.' *Side Trips* give teams a chance to really show off their Specialties, which are their skills, interests, areas of strength, and talents. **The team may create anything they wish for Side Trips** including props, music, technical gadgets, costumes, and physical actions. The team will describe the *Side Trips* on the *Tournament Data Form*.

1. The team must present all three *Side Trips* as part of the timed Presentation. Each *Side Trip* must be described briefly on the *Tournament Data Form* found at the end of this Challenge.
2. A *Side Trip* may not be a specific item that is required in the Central Challenge that is already being evaluated. A *Side Trip* MAY be a single unique PART of a required item, as long as it can be evaluated as a stand-alone item. Two *Side Trips* may be presented at the same time ONLY IF both can be easily identified and scored separately. Examples of these can be found in the *Rules of the Road*.
3. Each *Side Trip* is worth 25 points and will be evaluated in two ways: The creativity and originality of the *Side Trip*, and the quality, workmanship, and/or effort that is evident. Evaluation of *Side Trips* is subjective.

C. Special Definitions for this Challenge

1. **Adhesive substance:** Any material applied and capable of creating a bond between two pieces of Wood. Examples of adhesive substances are glue, cement, paint and any liquid extracted from Wood, such as sap or tar that can be used to make two pieces of Wood stick together.
2. **Connection:** The way in which the team connects pieces of wood to one another, without the use of any adhesive substances. A Connection is the place or places where two or more pieces of wood are joined together without the use of any adhesive substance. Two or more pieces of Wood are brought together in one place results in one Connection. A Connection may be made with or without the use of a Connector.
3. **Connector:** Any piece of wood specifically designed to hold two or more pieces of wood together. Two or more pieces of wood held together with the use of one Connector results in one Connection.

4. **Efficiency Score:** The Official Weight held in pounds divided by Official Structure Weight in grams.
5. **Integrate/Integration:** To bring together all parts of the Presentation into one complete whole, each part being an important/indispensable feature of the story/Presentation.
6. **Wood:** A natural growing substance found under the bark of any type of tree. Man-made substances that simulate natural Wood (examples: plywood, laminates or fiberboard) or are made from Wood and any other material (examples: paper, cardboard) and tree-like substances (examples: bamboo, grasses) are not acceptable. The Wood used in the Structure must be 100% natural.

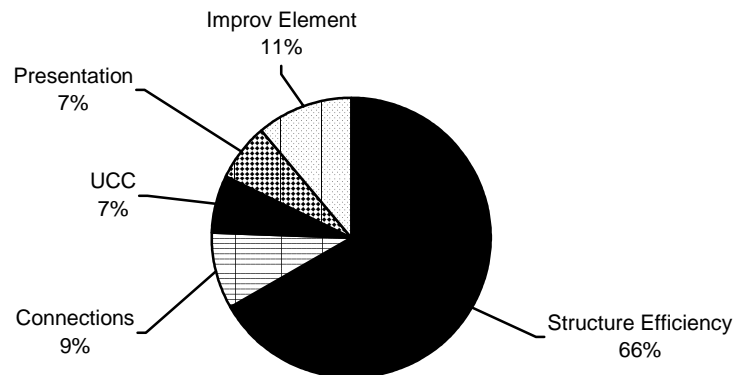
D. At The Tournament

1. **Performance Site:** The minimum dimensions of the Performance Site will be 12ft. x 12ft. (3.7m x 3.7m). This area will not be marked on the floor. When possible, larger performance areas will be provided. Teams may use all the performance space available at their site, but they must be prepared to perform in the minimal area specified.
2. **The Structure Check-In Procedure:**
 - a. The purpose of Structure Check-In is to determine that the Structure meets Challenge specifications. Prior to the team's performance time, the team will bring the Structure and a copy of their *Tournament Data Form* (found at the end of this Challenge) to the Structure Check-In Area.
 - b. The Structure Check-In Appraisers will always avoid touching the Structure. The team will be instructed to place the Structure on the scale. Once the scale readings have stabilized, the Structure Check-In Appraisers will read the measured weight of the Structure aloud and record the "official Structure Weight" on the *Structure Check-In* form.
 - c. Next, the height of the Structure will be measured. The Structure will be placed on a flat surface in the same manner in which it will be tested. The height of the Structure will be measured as the highest point the Structure reaches above the surface. A Structure designed with extensions that allow it to be 7.5 inches (19.1cm) tall during Structure Check-In but shorter during testing will **not** be allowed. A Structure that does not meet the height specification will receive an "official weight held" of zero pounds.
 - d. The Appraisers will then make sure that the Structure can be officially tested using a representation of a Tester Base (See *Figure B.*). A team member must place the Structure on the Tester Base so the 2in. (5.1cm) Safety Pole passes through the Structure (without touching it) and the Structure touches the Tester Base **only**.
 - e. The Structure Check-In Appraiser will examine all Connections in the Structure, assuring that there are at least five Connections. Points will be awarded for the Workmanship (how well the Connections are made) and Innovation (how creative or unique) of the Connections used in the Structure. The *Structure Check-In* form will then be sealed in an envelope.
 - f. After Structure Check-In, the Structure and the envelope are placed into the team's container if one is provided. In a case where the team has not provided a container, the Check-In Appraisers will have containers in which to store Structures. The container is then sealed and stored inside the Structure Check-In Area.
 - g. The Structure will be kept at Structure Check-In until 20 minutes before the team's scheduled Presentation time. One or more team members must return to Structure Check-In to collect the container at that time. Team members may not break the seal on the container/bag until directed by the Prep Area Appraiser.
3. **Testing the Structure:**
 - a. The Structure will be tested at the Tournament during the team's Presentation by stacking weights upon it. Points will be awarded based on the Efficiency Score of the Structure. In each competition Level, the Structure with the highest Efficiency Score will be awarded 150 points, and all other teams' scores will be based on a percentage of that score.
 - b. The team will demonstrate the Structure's weight-bearing ability by using the Structure Tester and weights supplied by the Tournament Director. The team may not use the weights or the Structure Tester for any purpose other than testing the Structure during the Presentation.

- c. The team will place the Structure on the Tester. The first weight to be placed upon the Structure is the Pressure Board (see *Figure A*). The weight of the Pressure Board will be clearly marked on the Board itself. The Pressure Board must be placed so that it does not touch the Safety Pole. The Structure may be touched by (a) team member(s) when placing the Pressure Board on the Structure.
 - d. After the Pressure Board is in place, team members may not touch the Structure. Team members may not touch any portion of the Structure Tester once weight placement has begun **unless** they remove all weights and the Pressure Board first. **For safety's sake, under no circumstances may a team member touch, or come into contact with, a weight stack that is rotating or moving.**
 - e. **Safety note:** When a team member's head is below the level of the Pressure Board AND the safety shield in front of the team member's face has been removed, that team member must wear protective goggles for safety. When the team member's head is no longer below the level of the Pressure Board, or when the safety shield is put in place, the goggles may be removed. The team must provide their own goggles. Because they are used only for safety, goggles are exempt from cost on the *Expense Report* form.
 - f. A weight must be supported by the Structure for a minimum of 4 seconds, as counted by an Appraiser, to be included in the Official Weight Held total.
4. **Weight Placement Specifics:**
- a. All weights are provided by the Tournament Director and will be Olympic style flat metal plates with a 2in. (.5.1cm) hole in the center. The range of weights available at each Tournament may vary. Two (2) Extension Pipes will be available at each Tournament, each measuring 12in. (.3m) in length.
 - b. During the weight placement, team members must:
 - i. Determine the order in which weights will be placed on the Structure Tester and select the weights.
 - ii. Place weights over the Safety Pole on the Structure Tester one at a time. Be sure the Pressure Board is not touching the Safety pole when initially placed.
 - c. For safety's sake, when placing the weights, team members should keep their fingers on the sides of the weight so their fingers will not be pinched. When moving weights, teams should check that there is a clear path to the Structure Tester.
 - d. Elementary Level and Middle Level teams **may** elect to utilize an **Adult Assistant** to help place heavy weights. Team members **must** direct the placement and support the weight to the best of their ability when an Adult Assistant is utilized.
 - e. The Adult Assistant:
 - i. May assist in the placement of weights weighing 25lbs. (11.4 kg) or more.
 - ii. Must wait in an area designated by the Appraisers until directed by a team member to move towards the weights. The team member will tell the Adult Assistant which weight to retrieve.
 - iii. May only respond to directions given to him/her by the team member(s) or Appraisers.
 - iv. If, in the opinion of the Appraisers, this Assistant is directing **ANY** aspect of weight selection/placement, the Appraisers will halt weight placement, warn the adult of the inappropriate action and remind him/her of the team's responsibility. The team will be instructed to remove any weight(s) placed involving excess adult assistance (direction) and return it to the weight stack. Weight placement will then resume.
 - v. If the Adult Assistant engages in any further inappropriate activity, he/she will be directed to withdraw from the Performance Site. Team members must then place any additional weights **without** the aid of an Adult Assistant and will then be limited to the use of weights weighing less than 25 pounds (11.3 kg) to assure the safety of team members. Weights placed with illegal adult direction will not count towards the Official Weight Held.
 - f. The weight-placement part of the Challenge will end when the eight-minute Time Limit ends OR:
 - i. The Structure breaks (considered broken if the Pressure Board touches **any** of the safety supports of the Structure Tester - See *Figure A* and *Figure B*).
 - ii. Any portion of the Structure comes to rest against the Safety Pole or any of the four safety supports of the Structure Tester.
 - iii. Placed weights reach the top of the Safety Pole and both extensions.

E. Reward Points

	ELEMENT	POINTS	DETAIL
I.	Central Challenge	225 points	A
	1. Structure	0-170	A.1 & 2
	a. Efficiency Score: Official Weight Held divided by Official Structure Weight.	1-150	A.1.c.
	b. Innovation of Connections	1-10	A.1.f.
	c. Workmanship of Connections	1-10	A.1.f.
	2. Universal Connection Creation (UCC)	1-15	A.3.
	a. Appearance of UCC	1-10	A.3.c.
	b. Multiple uses in Presentation	0 OR 5	A.3.c.
	3. Presentation	1-15	A.4.
	a. Creative use of Connection theme and completeness of story	1-10	A.4.a.
	b. Integration of Structure testing into Presentation	0 OR 5	A.4.b.
	4. Improv Element	1-25	A.8
II.	Side Trips – 1, 2, 3 (25 points each)	75 total	B
	1. Creativity and Originality	1-15	B.3.
	2. Quality, Workmanship, or Effort that is evident	1-10	B.3.



F. Important Directions for Team Managers

1. **Teams and Team Managers will be expected to read** the *Rules of the Road*, the *TravelGuide for Teams*, and the Published Clarifications for this *Team Challenge*. The information provided in these resources is binding on all teams. All materials can be found on the Destination ImagiNation® website: www.destinationimagination.org or by contacting your Coordinator. The *TravelGuide for Teams* will be available online after January 1, 2003.
2. **Teams often have questions about the *Team Challenge*.** The answers to these questions are called Clarifications, and Clarifications that impact all teams are listed on the Destination ImagiNation® website. *Such Clarifications supersede the written Challenge.* ALL TEAMS and Team Managers need to check the listed Clarifications frequently throughout the year. For more information about Clarifications, see *Rules of the Road*.

REMEMBER: IF the team has read the Challenge, and IF they have checked the *Rules of the Road*, and IF they have checked the Published Clarifications, and it doesn't say they can't do something, THEN THEY CAN!

3. **Team Managers will find everything they need to know** to manage a team successfully in the *Team Manager's Guide*. Team Managers are strongly encouraged to read and use this Guide which is full of ideas, activities, and helpful hints. It can be found on the Destination ImagiNation® website.
4. **Teams and individuals using this *Team Challenge* must hold a 2002-03 Passport.** The Destination ImagiNation® Passport is a license to compete in sanctioned Tournaments and/or to use the Destination ImagiNation® *Team Challenges*, *Rules of the Road* and other program materials for educational purposes within your team, school, group, or organization. All Destination ImagiNation® Program materials are copyrighted. Teams or individuals using these materials are liable for all legal obligations and must abide by all the rules of competition and safety as stated in the 2002-03 *Team Challenges* and *Rules of the Road*.
5. **Each team planning to compete in a sanctioned Tournament must REGISTER** for that Tournament in advance with their Region or Affiliate. If your Program Coordinator has not already received a *Tournament Registration Form* for Teams, ask your Affiliate Director for the contact person in your Region, State, Province or Country who can provide Tournament registration information. A full list of Affiliate Directors is posted on the Destination ImagiNation® web site.

**TABLE A.
STRUCTURE EFFICIENCY SCORE EXAMPLES**

Structure Weight in Grams	Weight held in pounds												
	25	50	75	100	125	150	175	200	225	250	275	300	
10	2.50	5.00	7.50	10.00	12.50	15.00	17.50	20.00	22.50	25.00	27.50	30.00	
20	1.25	2.50	3.75	5.00	6.25	7.50	8.75	10.00	11.25	12.50	13.75	15.00	
30	0.83	1.67	2.50	3.33	4.17	5.00	5.83	6.67	7.50	8.33	9.17	10.00	
40	0.63	1.25	1.88	2.50	3.13	3.75	4.38	5.00	5.63	6.25	6.88	7.50	
50	0.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00	

FIGURE A. Structure Tester

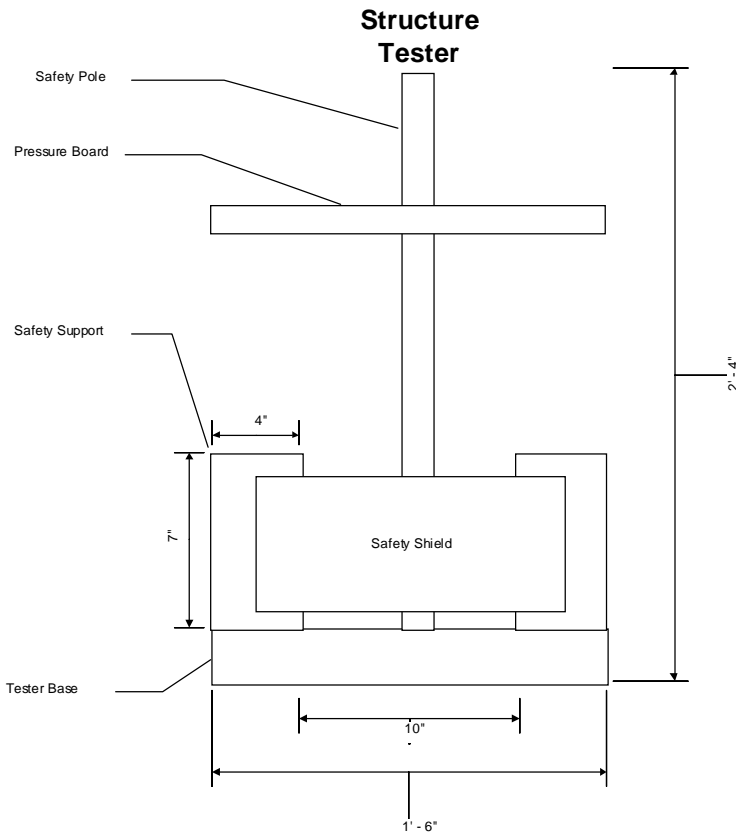
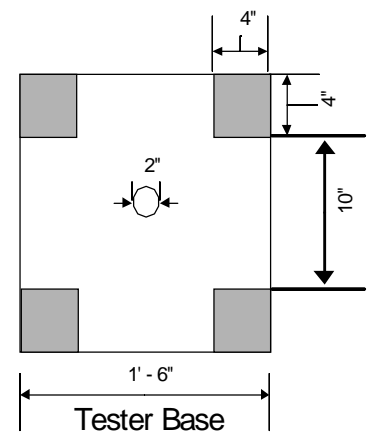


FIGURE B. Tester Base



Tester Component	Feet-inches	Inches	Centimeters
Tester base	1' 6"	18.0	45.7
Safety support height	0' 7"	7.0	17.8
Safety support width	0' 4"	4.0	10.2
Safety Pole height	2' 4"	28.0	71.1
Pressure Board hole	0' 2"	2.0	5.1

Notes:
 1. The Safety Support height is measured from the top surface of the tester base (surface the structure would rest on) to the top of the support.
 2. The Safety Pole height is measured from the floor to the top of the pole.
 3. The Pressure Board is the same dimensions as the Tester base

Tournament Data Form

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Passport Name: _____ Passport Number _____ Level: EL ML SL UL

To our Teams and Team Managers: The purpose of this form is to help your Appraisers identify the required elements of your Challenge solution. It is important to fill it out completely and **neatly**. For Elementary Level teams only: Team Managers MAY fill out the form, writing out the words dictated by the team.

PART ONE: Required Paperwork: At the Tournament Performance Site, the Prep Area Appraiser will ask for your team's forms. A complete checklist of the required forms is below.

Your team needs:

- _____ **Five copies** of this completed two-page *Tournament Data Form*. **Be sure to copy both pages of this form.** Page two **may** be copied onto the back of this form.
- _____ **Two Copies** of the *Declaration of Independence*. (One copy will go to the Prep Area Appraiser, one copy to the Instant Challenge Appraisers.) Blank copies of this form can be found in the *Rules of the Road* and at the Destination ImagiNation® web site: www.destinationimagination.org.
- _____ **One Copy** of the *Expense Report*. This form can be found in the *Rules of the Road* and can also be downloaded from the Destination ImagiNation® web site: www.destinationimagination.org. Be sure to bring copies of your receipts, but it is not necessary to attach them to the form.
- _____ **Team Identification Sign:** This will tell the Appraisers and the audience who you are. It must list your Passport Name, Passport Number, and Level. It will **not** be scored. See the *Rules of the Road* for more information.

PART TWO: Side Trip Choices:

Brief Description of each Side Trip: Briefly tell the Appraisers about the *Side Trips* your team has prepared. Make sure that Appraisers know **exactly** what you want them to evaluate. What would you like them to know about each *Side Trip*?

Side Trip 1: _____
Description:

Side Trip 2: _____
Description:

Side Trip 3: _____
Description:

Tournament Data Form

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Passport Name: _____ **Passport Number:** _____ **Level:** EL ML SL UL

PART THREE: This Challenge requires the team to supply the following information to help the Appraisers evaluate your solution. This is PAGE TWO of the form. Be sure to fill in both pages.

1. What type(s) of **Wood** are used in your Structure?

2. Please describe the **Connections** used in your Structure.

3. Please describe how the **Connections** theme is used in your Presentation.

4. Please describe the **Universal Connection Creation (UCC)** and how it will be used during your Presentation.
