Brainstorming can be an effective way to generate lots of ideas and then determine which idea(s) best solves the problem. Brainstorming is most effective with larger groups of people and should be performed in a relaxed environment. If participants feel free to be silly, they’ll stretch their minds more and therefore produce more creative ideas.

IDEO Rules of Brainstorming:

- Defer Judgment
- Encourage Wild Ideas
- Build on the Ideas of Others
- Stay Focused on Topic
- One Conversation at a Time
- Be Visual
- Go for Quantity

(IDEO is a famous design firm with several offices in the Bay Area and worldwide. http://www.ideo.com)

2. STEP BY STEP BRAINSTORMING

1. Define your problem (please note that the word "problem" is not necessarily negative - your problem could be "We need a new product for the Christmas season" or "How can we effectively use our departmental budget surplus for this year?"). Write out your problem concisely and make sure that everyone understands the problem and is in agreement with the way it is worded. There is no need to put a lot of restrictions on your problem at this time.

2. Give yourselves a time limit - we recommend around 60 minutes, but experience will show how much time is required. Larger groups may need more time to get everyone’s ideas out.
3. Everyone must shout out solutions to the problem while one person writes them out. There must be ABSOLUTELY NO CRITICIZING OF IDEAS. No matter how daft, how impossible or how silly an idea is, it must be written down. Laughing is to be encouraged. Criticism is not. Why? Because you want to encourage the free flow of ideas and as soon as participants of the brainstorming session begin to fear criticism of their ideas, they'll stop generating ideas. Moreover, ideas that first seem silly may prove to be very good or may lead to ideas that are very good.

4. Once your time is up, you need to agree on one idea. Do whatever decision mechanism works for you. Here is one suggestion:
   1. Select the five ideas, which you like best. Make sure everyone involved in the brainstorming session is in agreement.
   2. Write down about five criteria for judging which ideas best solve your problem. Criteria should start with the word "should," for example, "it should be cost effective," "it should be legal," "it should be possible to finish before July 15," etc.
   3. Give each idea a score of 0 to 5 points depending on how well it meets each criterion. Once all of the ideas have been scored for each criterion, add up the scores.
   4. The idea with the highest score will best solve your problem. But you should keep a record of all of your best ideas and their scores in case your best idea turns out not to be workable.

3. PERSONAS

After picking an idea for your project, your team needs to think about potential users. It is very useful to think about Personas during the design of your application.

What is a Persona?

A Persona is a precise description of a user and what they want to accomplish. It is imaginary but precise and it is specific, but stereotyped.

The Essence of Personas:

It describes a person in terms of his/her:

- Goals in life (especially relating to the project)
- Capabilities, inclinations, and backgrounds
Examples of Personas:

Chieh Zhan

Chieh is a 26-year-old male and is a 1st year Master’s Student from China. He is here at SIMS on a scholarship from the Chinese government. He has a background in Computer Science and has worked a year or two before coming to SIMS as a Software Developer. Although he is introverted, he is looking forward to starting the program and learning more about IT Management. He is fascinated with the IT Market in America and hopes to get a job in that area when he graduates.

Although he has money from the government it is not enough to cover the exorbitant housing prices, non-resident tuition and the general cost of living. After the bare minimum of the comforts of life were taken care of, he is left on a tight budget and must take the bus since he cannot afford a car or a bike. He shares a house with other international students. He spends most of his time reading and studying, since the materials are not in his native tongue. Furthermore, he does not have a girlfriend because he does not have the time.

Some of Cheih's goals are:

- To find group projects with minimal degree of social awkwardness, since he is introverted
- Not to draw attention to himself and not to embarrass himself
- To improve his English so that he can overcome the cultural and communication barriers
- To do well in school so that his government will not take his scholarship away

Chrissy Wozinback

Chrissy is a 29-year-old female and is a 2nd year Master’s Student. She is at SIMS on a Departmental Fellowship for the first year. She is a native Bay Area and loves to hike, bike ride, and the outdoors. She is highly concerned about environmental issues, and in her spare time she donates her time to CalPIRG. Her background is in History and has worked in a non-profit environmental company prior to coming to SIMS. Since she is so concerned with saving the environment, she rides her bike from Oakland from her nice apartment with 2 cats to campus everyday she needs to visit South Hall.

She is extroverted and very involved in Simians as the Director of the Renovation of South Hall’s Downstairs Lounge Environment (DRSHDLE for short). She is the first to initiate Thirsty Thursdays and attends even when no one else does, as she is familiar with all the local bartenders. She does not have a boyfriend, and is open to many prospects. (Speed dating has been her favorite endeavor so far).

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1 These examples are extracted from IS213 User Interface Design & Development Spring 2002, The Project Matching System [http://www.sims.berkeley.edu/courses/is213/s02/projects/projmatch/]
She's not too sure as to what her interests are at SIMS, but after a year she has some idea as to what she is interested in, User Interface. She is trying to think of ways to integrate her passion to save the Environment with IT while making a living. Since she is a 2nd year student she is quite familiar with her classmates and knows which ones she works with well.

Some of Chrissy's goals are:

- To find new ideas of interest to her
- To coordinate with other people on projects who have similar interests
- To find a job that pays well
- To expand her technical skills

4. SCENARIOS

After picking an idea for your project and personas, your team needs to think about potential situations where your application is useful. Create a set of task scenarios that demonstrate the sequence of actions the personas will have to go through in order to achieve their practical goals. You will use these scenarios both to guide your designs and to assess your designs throughout the rest of the project.

Example of a Scenario:

It is the first week of class of Chieh's first year in the Master's Program at SIMS. He is excited and attentive to his instructor. As the instructor goes through the syllabus for the semester, he is a little nervous regarding group projects since he does not know anyone and is shy about talking to people. Hopefully people will come to him; however, this does not seem to happen. So, right after his first class he bolts to the 210 computer lab to check his e-mail before he must return to the flexlab in ten minutes. While his e-mail is downloading he opens up the SIMS website and discovers a link about Finding Projects. This link directs him to an internal SIMS Project Matching Site - "matching the right people with the right projects". "Sounds like a commercial", he thinks. He finds that this is a site to see what projects people are doing within SIMS. He realizes he can browse by class and looks to see if anything is of use. Surprisingly he finds projects that people have and are looking for more group members. He finds one project of interest clicks on the "request membership" button. The system asks for his profile name or if he does not have one, the system asks Chieh to fill out a quick profile form to obtain a profile name. He then uses the profile name and the password he created to request membership. After he clicks the button a message stating that an e-mail notification has been sent to the poster of the idea. An e-mail notification is sent to Chrissy, the person who posted that idea. He returns to class. He later receives e-mail from Chrissy, the person who posted the idea, explaining a little more about the project. They agree over e-mail and Chrissy adds Chieh to her project within the project matching system, now her project is only looking for one more person.

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2 This example is extracted from IS213 User Interface Design & Development Spring 2002, The Project Matching System [http://www.sims.berkeley.edu/courses/is213/s02/projects/projmatch/](http://www.sims.berkeley.edu/courses/is213/s02/projects/projmatch/)