

Project Patterns: A Pattern Language for Promoting Project

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1 Introduction

With the development of the Internet technology and the transportation system, more people, products, money and information transfer around all over the world than ever. The society has become more complex and a lot of projects involve more people with different backgrounds.

Under such a complex and uncertain situation, it is more difficult for a single leader to make a best decision. Each team member has to think and propose what to do. This is known as the time shifting from the age of “Command and Control” to that of “Communication and Collaboration”. The top-down style of management should change to the bottom-up. The communication among team members became more important factor for promoting their project.

How can we collaborate with little frustration? How can we unify the knowledge and method among team members and lead the project to the success? We propose a pattern language for the answers¹.

2 The Overview of Project Patterns

Project Patterns, which is proposed in this paper, suggests 47 methods to understand and solve problems². The catalog of project patterns consists of the patterns, pattern map, and pattern network. These patterns are produced from author’s experience and many kinds of books about project management, Philosophy, and autobiographies. Through the feedback from University students and office workers, we have improved the patterns little by little.

2.1 Description in Each Pattern

Each pattern of Project Patterns consists of “Pattern Name”, “Background”, “Problem”, “Solution”, “Picture”, “Notes” and “Related Patterns”. “Pattern Name” is named as an attractive, easy to remember, and it represents the whole story of the pattern. The part of “Background” tells you the situation which you are in now. The description of “Problem” is the essence of the situation which occurs over and over. The part of “Solution” gives you the clue to solve the problem, which is written in bold font because it is the core of the pattern. Below of the solution, there is a conceptual picture to give the image of

the pattern. The sentence of “Notes” provides the specific examples to understand the pattern. They are, however, just examples and you should adapt the pattern into your situation. At last, the similar problems and similar patterns are described on “Related Patterns” part. It is useful to compare with the other patterns.

2.2 Proposed Patterns

Project Patterns consists of 47 patterns as follows:

No.1	Deep Dive	No.25	Critical Point
No.2	Outside of Work	No.26	Reboot!
No.3	Work in Framework	No.27	Game Time
No.4	Be Flat	No.28	Proper Pressure
No.5	Opinion Box	No.29	Target Modeling
No.6	Body Storming	No.30	Stand-Up Meeting
No.7	Future Image	No.31	Story Telling
No.8	Thank You Spirit	No.32	Exciting Contacts
No.9	Role Playing	No.33	X-change
No.10	Clear Goal	No.34	Improvisation
No.11	Positive Chain	No.35	Scale Conversion
No.12	Snowball Theory	No.36	Face to Face Meeting
No.13	Designer’s eye	No.37	Deep Dialog
No.14	Heart of Words	No.38	Final Priorities
No.15	Prototyping	No.39	Elements of Needs
No.16	Dynamic Schedule	No.40	Design Simplicity
No.17	Show in Numbers	No.41	Negative Voice
No.18	Oasis	No.42	Critical Check
No.19	Naming	No.43	Reflective Meeting
No.20	Modular Team	No.44	Leave Records
No.21	Creative Workplace	No.45	Dramatic Finale
No.22	Place Milestones	No.46	Love it!
No.23	Machinegun Process	No.47	Make your Pattern
No.24	Draw a Map		

2.3 Pattern Map

Figure 1 shows the categorization of 47 patterns, which we call “Pattern Map.” In order to cope well with a problem, you should pick the effective pattern and use them together. Pattern can be used as a single pattern, but it would be better if you use some patterns and combine them as you like. The pattern map gives you the example of effective combination of the patterns of your stage. The patterns are placed on three phases: “Planning”, “Practice”, and “Turning Around”. For example, if you have just started the project, you may find a good pattern from “Planning” part. Also we classified the patterns into 3 categories: “Main Patterns” for generally used, “Mental Patterns” for thinking, and “Method Patterns” for technique. If the members look over the pattern map together, it will be helpful to promote the understanding of the whole picture of the project.

	Mental Pattern	Main Pattern	Method Pattern	
Planning	2 Outside of Work	1 Deep Dive		
	4 Be Flat	6 Body Storming	3 Work in Framework	
	8 Thank you Spirit	9 Role Playing	5 Opinion Box	
	11 Positive Chain	12 Snowball Theory	7 Future Image	
	13 Designer's Eye		10 Clear Goal	
Practice	18 Oasis	14 Heart of Words	16 Dynamic Schedule	
		15 Prototyping	17 Show in Numbers	
		20 Modular Team	19 Naming	
		21 Creative Work-Space	22 Place Milestones	
		23 Machinegun Process	24 Draw a Map	
	25 Critical Point	26 Reboot!	27 Game Time	
	28 Proper Pressure	29 Target Modeling		
	30 Stand-Up Meeting			
	32 Exciting Contacts	31 Story Telling		
	35 Scale Conversion	34 Improvisation	33 X-change	
	36 Face to Face Meeting		37 Deep Dialog	
			38 Final Priorities	
			39 Elements of Needs	
	Turning Around		40 Design Simplicity	41 Negative Voice
			42 Critical Check	
		43 Reflective Meeting		
45 Dramatic Finale		44 Leave Records	47 Make Your Patterns	

Figure 1: Pattern Map of Project Patterns

2.4 Pattern Network

Figure 2 shows the relation among 47 patterns from the viewpoint of the problem, which we call “Pattern Network.” The pattern network may tell you alternative patterns when you are looking for the better approach. For example, if you have a problem with a certain person, you should choose a pattern which focus on the relationship between people. If you choose “Outside of Work” at first but it don’t work well, have a look at the pattern network. Why don’t you try the other patterns connected with “Outside of Work”? You can find alternative solution to try on.

3 Feedbacks and Improvement

At the class “Workshop for Collaboration Skills”, which was held in Keio University, we handed out the catalog of project patterns and let them use it in their project. The aim of class is to develop the skill for creative collaboration. Most of the class is devoted to team work, where each team consists of about six students. They have to get together and

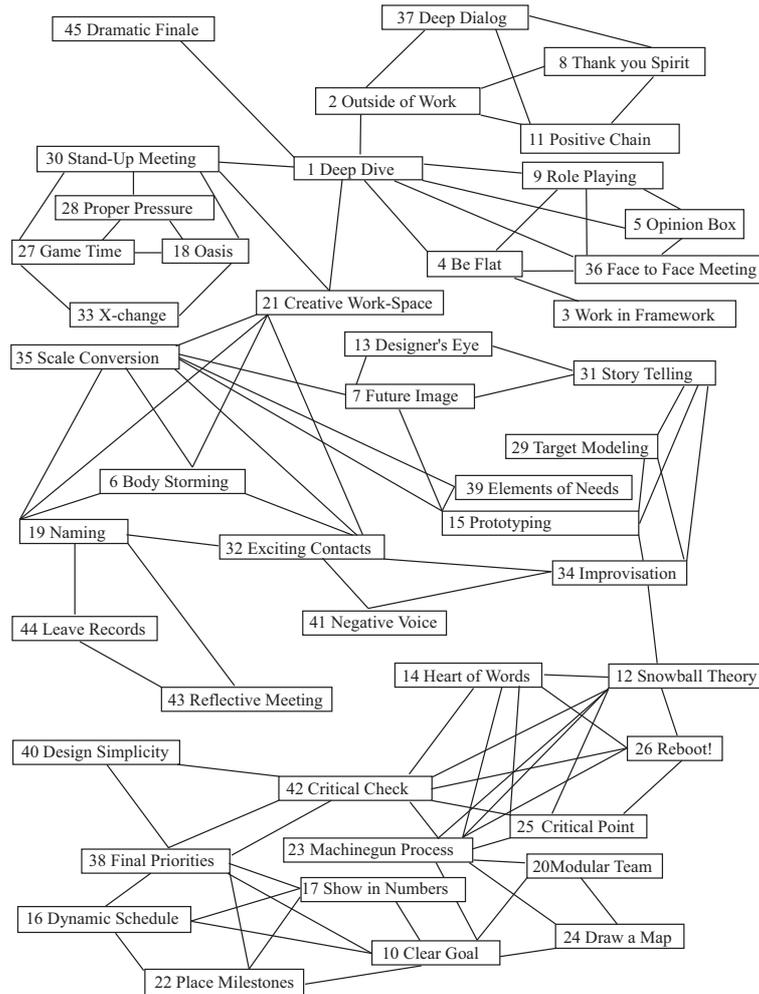


Figure 2: Pattern Network of Project Patterns

work for the assignment out of the class. The goal of team work was “Produce a concept of new theme park”. At that time, they were on the seventh week from the team was first settled, and that time they were getting to know the difficulty of the team work. We gave some simple introduction of this pattern language and asked the impression of the Project Patterns two weeks later. The main point of their feedback comment was as follows:

- When I read the catalog of Project Patterns, I found that I used Project Patterns in problem solving before without notice. I would like to adopt some other patterns when I face some other problems next time.
- Project Patterns is just a clue. We need to understand the point of the pattern and arrange to the own situation. If you found a pattern is not suitable for the situation, you have to put it away.
- The most attracting point of Pattern Project is its naming. Each pattern has an interesting name like a catchphrase. It was very easy to find a pattern when I was looking for.

- The good timing of using certain pattern was on the pattern map, and 3M (Main, Mental, and Method) gave a good suggestion for our project. We used a lot from Mental, and few from Method. I guess that was the point we couldn't work it out well. The balance would be the point for every project.

Even though some students had questioned the meaning of the pattern language itself, most of them gave positive messages. There were some misunderstandings in their feedback who gave the negative message about the pattern language. The main reason is that the word “pattern” calls the word “one pattern”, the Japanese-English, which means stereotyped expression.

4 Related Studies

There are two books which we would like to notice about the pattern language for project management. One is “Fearless Change”, written by Mary Lynn Manns and Linda Rising [Manns and Rising, 2003]. They gave the concept of pattern language for project pattern. The book focuses on the innovation and the change of their organization. These patterns are based on the experience of the authors who are professional consultant of the innovation. Another one is “Organizational Patterns of Agile Software Development” by James O. Coplien and Neil B. Harrison [Coplien and Harrison, 2004]. This book is also for the organization, and based on the people's post and specialty. They proposed so many patterns as organization design, organization construction. Compare to those preceding researches, this Project Patterns concentrate on individual behavior. Leaders and posts are not the main subject for us.

Acknowledgment

First of all, we would like to express our deepest gratitude to the member of Iba Laboratory, Keio University. Our special thanks are due to Kazeto Shimonishi, Yuki Kitayama, Tsuyoshi Kato, Kanafumi Furuichi for their assistance in collecting the materials. Without their contribution, we couldn't accomplish this work. We are also grateful to students at the class “Workshop for Collaboration Skills”, Keio University, who willingly participated in the study and gave the comments about Project Patterns.

Notes

1 The concept and method of pattern language is proposed by Christopher Alexander [Alexander, 1977, Alexander, 1979]. The pattern language is composed by elements called “patterns”, and each pattern has written the situation, the problem, and the solution to it.

2 Project Patterns was originally proposed in Japanese papers[Furuichi et al., 2007]. We also analyzed the feedback from our university students who use the project patterns in their project[Iba et al., 2007], and discussed the evolutionary process to describe the project patterns[Yumura et al., 2008]

References

- [Alexander, 1977] C. Alexander (1977). *A Pattern Language* , Oxford University Press.
- [Alexander, 1979] C. Alexander (1979). *The Timeless Way of Building* , Oxford University Press.
- [Coplien and Harrison, 2004] J. O. Coplien and N. B. Harrison (2004). *Organizational Patterns of Agile Software Development* , Prentice Hall.
- [Furuichi et al., 2007] K. Furuichi, K. Wakamatsu, Y. Yumura, and T. Iba (2007). A Pattern Language in Project Management in *IPJS SIG Technical Reports, 2007-MPS-64*, in Japanese.
- [Iba et al., 2007] T. Iba, Y. Yumura, K. Wakamatsu, and K. Furuichi (2007). Proposing and Evaluating a Pattern Language for Promoting Project in *JWEIN07*, in Japanese.
- [Manns and Rising, 2003] M. L. Manns and L. Rising (2003). *Fearless Change: Patterns for Introducing New Ideas* , Addison-Wesley.
- [Yumura et al., 2008] Y. Yumura, K. Wakamatu, and T. Iba (2008). Evolution of A Pattern Language for Promoting Project in *IPJS SIG Technical Reports, 2006-MPS-68*, in Japanese.

project patterns

*A Pattern Language
for Promoting Project*



Iba Laboratory, Keio University

No.1 Deep Dive

■ Background

In order for a project to move forward, speed and explosive power is essential. Project must move on with a smooth cooperation.

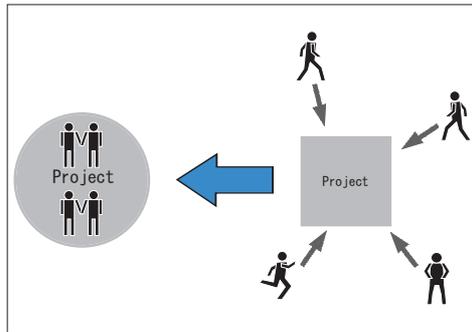
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■ Problem

There is no unification or cooperation within the team at the beginning of the project.

■ Solution

Try to create a time to spend with the project members at the preparation period. It may seem pointless, but it is essential for the team to unite and run with energy. By getting to know each other beforehand, a sense of solidarity can be created.

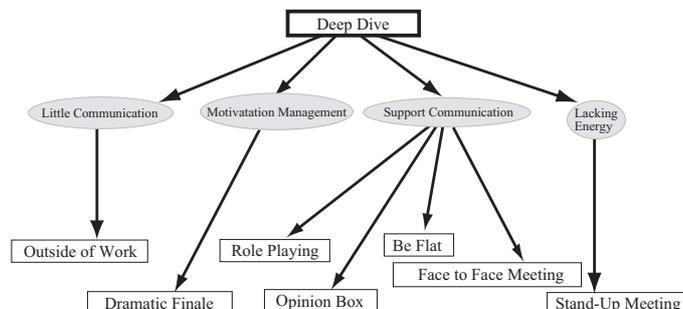


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■ Notes

It is not unusual for a team to have problems communicating with other members in the beginning. Go out camping and work out together. Not only it's a chance to communicate, but also a chance to get to know others' thoughts and ideas.

■ Related Patterns



No.2 Outside of Work

■ Background

It is almost impossible to understand others in a second. Time must be spent to get to know who they really are. Try to make as much chances outside of work, where they are likely to show their real personalities.

* * *

■ Problem

Members are not able to understand each other's thoughts and feelings.

■ Solution

Building trust within the team is the most important factor in the project. By inviting members to parties and spending time together outside of work, it becomes easier to understand their ideas and personalities. That leads to active communication.

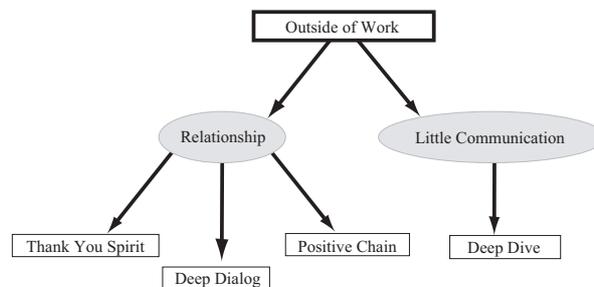


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■ Notes

Start with going to dinner after work. Eating relaxes people, which will support them to be open and honest.

■ Related Patterns



No.3 Work in Framework

■ Background

There are always multiple methods when doing anything. That choice becomes difficult when working in a team. It is important to unify and share the way to move the project.

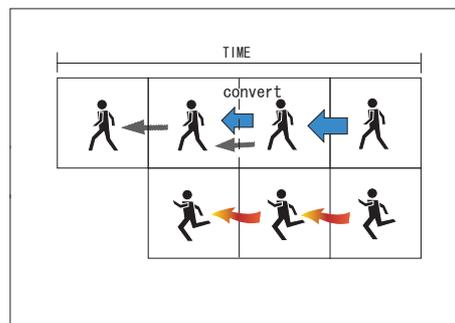
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■ Problem

Many problems will arise when tools and methods used in the team differ.

■ Solution

Unification from process schedule to extension of a file will help projects to move smoothly.

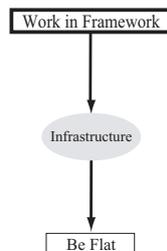


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■ Notes

A story of a man working at a bank...when merger of a bank occurred, job became difficult due to each bank's original system. Although it was tough until the system was unified, after getting used to it, work became much more efficient.

■ Related Patterns



No.4 Be Flat

■ Background

There are so many rules made by company's culture. Those rules may become an obstacle when trying to be creative. For a mind to be free and able to create ideas, those obstacles must be cleared.

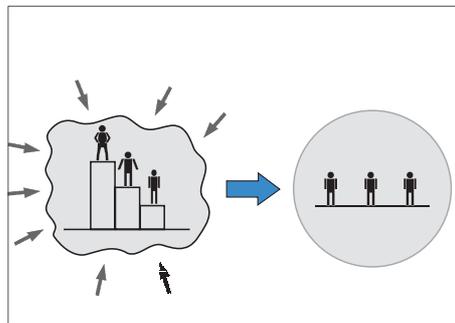
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■ Problem

Company cultures like strict pyramid structures may become an obstacle in order to be creative.

■ Solution

If there are unnecessary pressure in the project, exclude them all. Project members should be equal.

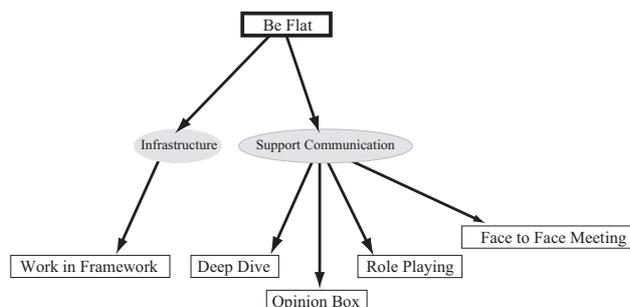


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■ Notes

When there are executives and new members in the project, the new members are likely to be nervous. Try to avoid that situation by hiding members' positions and notice everyone that they will be treated equally.

■ Related Patterns



No.5 Opinion Box

■ Background

In a relationship, unless there is a strong trust between each other, it is difficult to point out their weaknesses. Especially when the project is long and time spending together is long. However, this can become a fatal problem in a project.

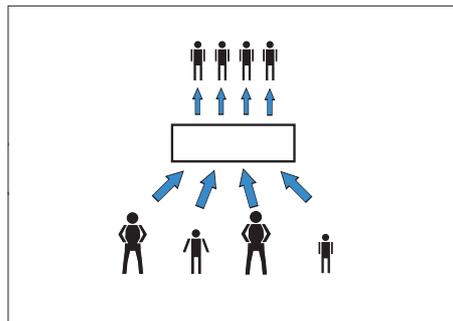
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■ Problem

Problems cannot be protested by being afraid that relationship may break.

■ Solution

Create a community where members can protest anonymously. By creating an opportunity to share that protest and work on it, project can be improved greatly.

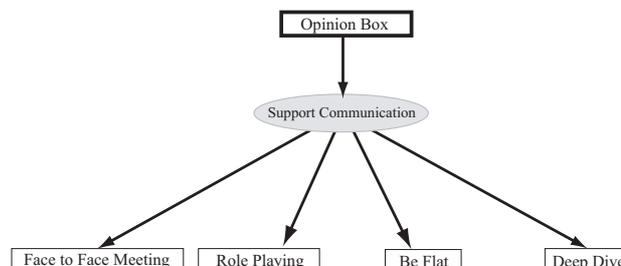


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■ Notes

For example, create a BBS that can be conversed anonymously for members. It is also important to use “No.2 Outside of Work” and create not only tools but also an environment where protests can be done easily.

■ Related Patterns



No.6 Body Storming

■ Background

Everyone wants a creative mind. Then don't just think. By acting, the ideas will pop out.

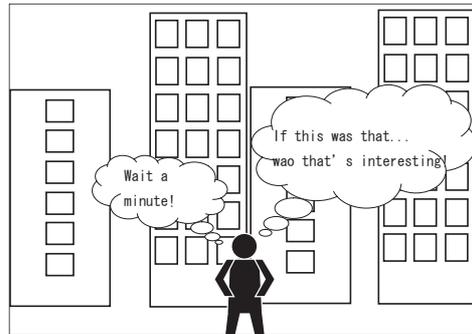
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■ Problem

Ideas are not being produced and having trouble what to do. Thus, the time is spoiled.

■ Solution

Go out to the place where the idea will be used. Think by using clays and creating crafts. By using all your five senses, new information can be found, which leads to higher chances of coming up with an idea.

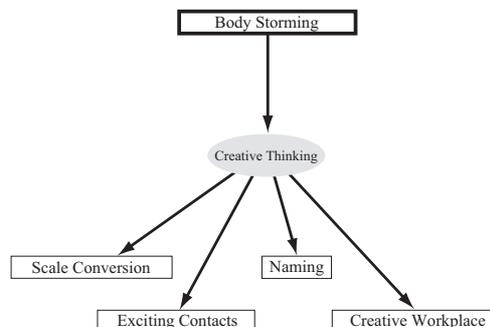


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■ Notes

It is important to connect your thoughts and senses. Leave the office and walk around. It may be just “walking”, but just that speeds up your mind.

■ Related Patterns



No.7 Future Image

■ Background

There are times when great ideas turn out to be nothing special. To avoid this situation, questions like, “How will it be used?” or “What is special about it?” must be asked. Start by imagining the future.

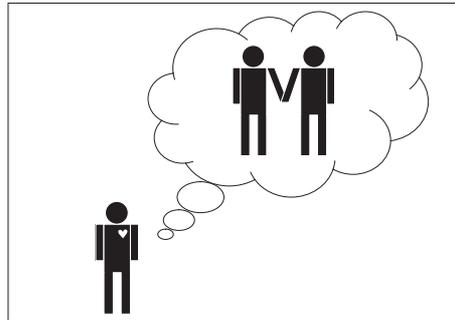
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■ Problem

Ideas may sometimes be similar to others and may be nothing new. If that situation continues on, the meaning of the project itself will be lost.

■ Solution

Imagine and draw a image of the time when the project is complete. If no one is moved by that image, then the project should be reconsidered.

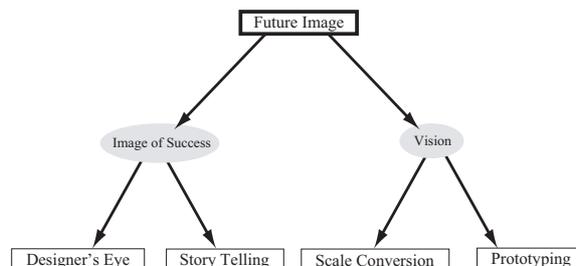


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■ Notes

Think how the product or service is used in the future. Is it accepted by the society? Is it something yourself would like to use? If “Yes”, then be confident and continue the project. If “No”, then reconsideration from the beginning may be necessary.

■ Related Patterns



No.8 Thank You Spirit

■ Background

Everyone wishes to be equally judged. Whether that is done or not, will divide the satisfaction of the members. For fair judgment, appreciate and honor the members without any stereotypes.

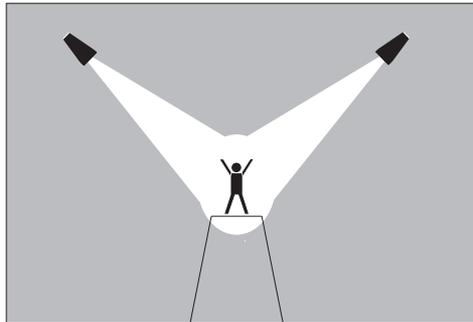
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■ Problem

Members will complain, if fair judgment is not done for their actions. To ignore by not evaluating is equivalent to denying the others and their actions.

■ Solution

Thank and honor any actions done by the members. Do not just be thankful but show them in action. It is always grateful to be honored.

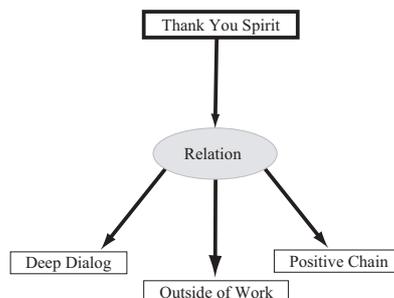


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■ Notes

Grass while hospitalized : Your neighbor went to a hospital for few days. Without telling him, you took care of the neighbor's grass with favor. Couple of days has passed since the neighbor came back but there is no word on the grass. You met him in front of the house but simple greetings was all he said. How do you feel about it?

■ Related Patterns



No.9 Role Playing

■ Background

Everyone has likes and dislikes against others. However, most of the time, the project members are set automatically. Therefore, to create smooth teamwork, it becomes essential to throw away personal feelings and be a professional.

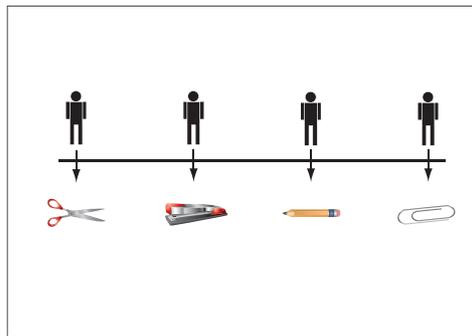
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■ Problem

Due to difference in opinions, denial of a specific member and emotional actions occur. Thus leading to delay of the project.

■ Solution

Do not act as yourself with all members. Act as a criticizing character, objective character, motive character, and so on depending on the situation. By doing so, critic by other members can be accepted as a positive opinion.

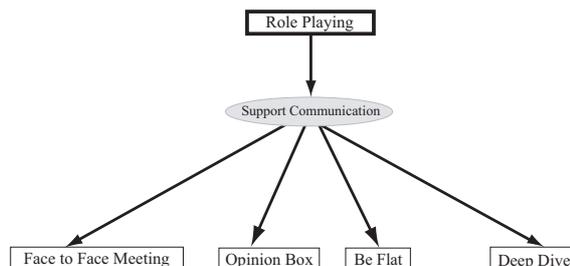


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■ Notes

Frequent denial of opinion from one member may cause tension between members. If that denial of opinion was caused because of the character, then that opinion can be accepted objectively. Leave personal feelings behind so that positive exchange of opinions can be made continuously.

■ Related Patterns



No.10 Clear Goal

■ Background

Larger the project, the more work to finish. Excellent project completes even small work perfectly, one by one. If even one little work was to be done improperly, final output will likely be improper as well.

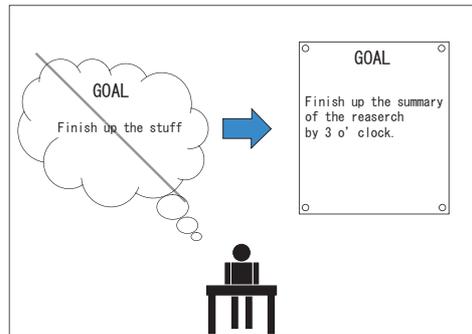
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■ Problem

If detailed goal is not set, it becomes difficult to figure out how much work is done and whether the goal is accomplished or not.

■ Solution

Before any work, specify the goal in different levels to understand how much work is needed in every stage of the project.

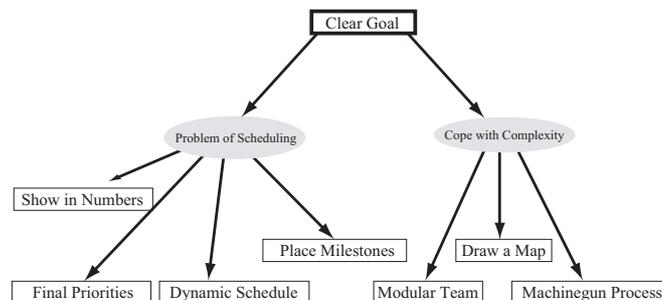


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■ Notes

There are times when it is necessary to check how much work is done at the moment. Make sure to set each goal for each stage of the project so that time will not run out and be late for delivery date.

■ Related Patterns



No.11 Positive Chain

■ Background

Although it is always a pleasure to be honored, it is also always an upset when being denied. This is true in projects as well. Simple denial would lead to increase of upsets and decrease of motivation. Therefore negative opinions must be said carefully.

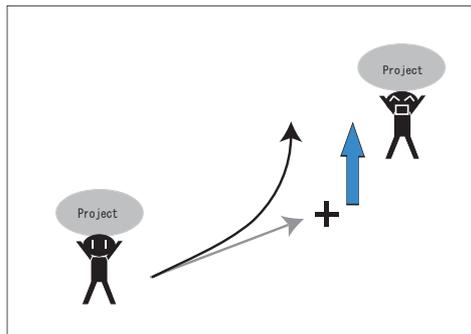
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■ Problem

If members has tendency to deny others, then that is a big problem. Although negative opinions are sometimes necessary, it can end the communication if not treated properly.

■ Solution

Begin the communication with a positive reaction. Point out what is good about the opinion before disagreeing. In order to do so, it is important to listen to others before agreeing or disagreeing. This is the key to start the positive chain of communication.

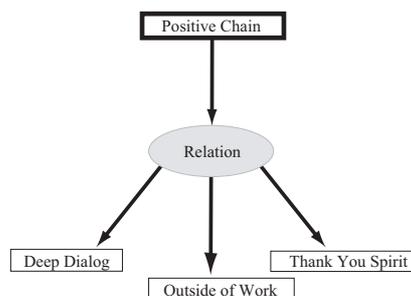


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■ Notes

Even when denying, try to point out its positive side by using phrases like, “I like that idea, but it may be better if it was something like ...” Do not just deny, but agree and then give an opposing opinion.

■ Related Patterns



No.12 Snowball Theory

■ Background

As the project moves on, the idea grows into real shape. Along with that, a small mistake will also grow larger and larger. The progress of the idea tend to be everyone's focus, but make sure to check if there are any mistakes on the way. Especially because people tend to take their eyes off whatever they dislike.

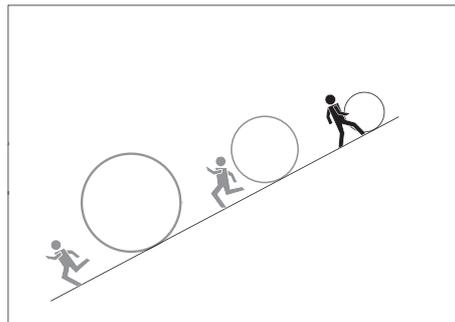
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■ Problem

A little mistake that looked like nothing can turn out to be a critical problem at the end of the project. Just like how small snowballs can grow into a large ball as it goes down the hill.

■ Solution

List up all predictable risks and think of ways to deal with all problems. It is always better to solve the problem when still a small one.

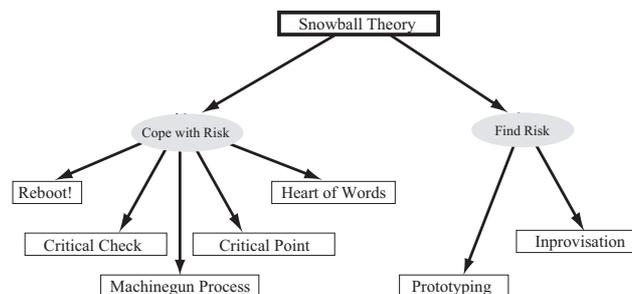


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■ Notes

Create a list of problems each members can imagine. Then talk about them in a meeting. Finish all problems before hand so that everyone can happily concentrate on their ideas.

■ Related Patterns



No.13 Designer's Eye

■ Background

Just like how everyone loves a cool design, design is an important element even outside of projects. That is even more so if it is something made by yourself.

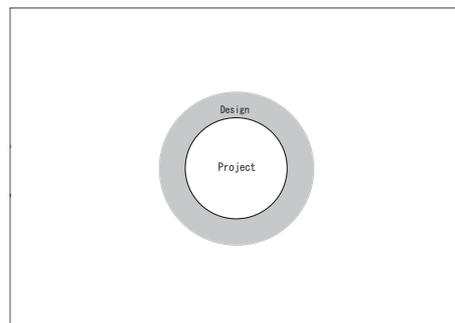
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■ Problem

The project can turn out to be a lousy project if the thought on design (beauty, elegance, price, usability) is too late. A good design can double the positive effect of the project.

■ Solution

Until the final output is done, order all members to think of its design at all times. Talk about a good design between members with honest feelings and right brain thinking. This could lead to increase of motivation and better ideas.

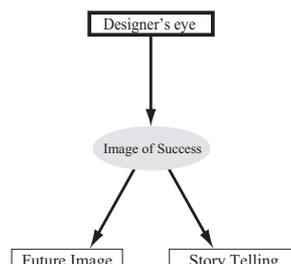


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■ Notes

Create a time to think about the design in every meeting. Make sure to think not only about its features and systems but also its appearance as well. Something that members does not think it is cool, is also likely not for all users.

■ Related Patterns



No.14 Heart of Words

■ Background

The idea hit on first is hard to grasp the essential, because it is abstract. To avoid misunderstanding, think deeply essential and make logical reliance.

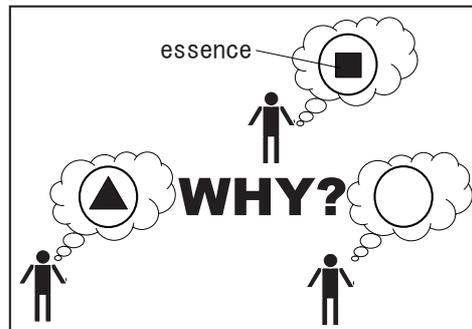
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■ Problem

Though it seems that they make consensus, indeed they have a another understanding and that makes misunderstanding at last.

■ Solution

At the time the idea emerged, turn up the essential through thinking “Why?” many time and share it.

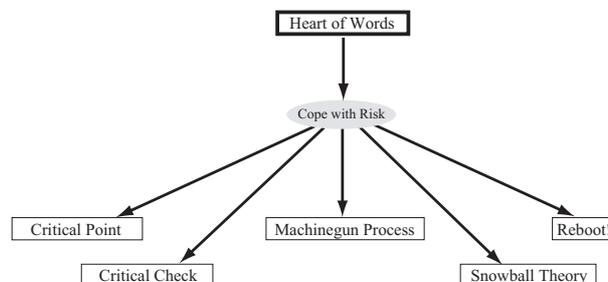


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■ Notes

For example, ask “Why?” for three times. If you got the answer which based on a philosophical thinking, the idea may grasp the essential.

■ Related Patterns



No.15 Prototyping

■ Background

There are times when ideas turn out to be different from what was imagined. Make sure to be able to cope with that kind of problem beforehand.

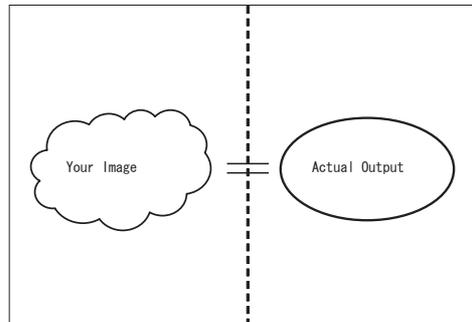
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■ Problem

Image drawn in the head and the output in reality may differ. It is fine if it is just different, but if it was worse, then that could be a critical problem.

■ Solution

Turn ideas into shape so that everyone can see. Do not wait until the end of the project. Visualization can help not only to further understand but also to find problems and new ideas.

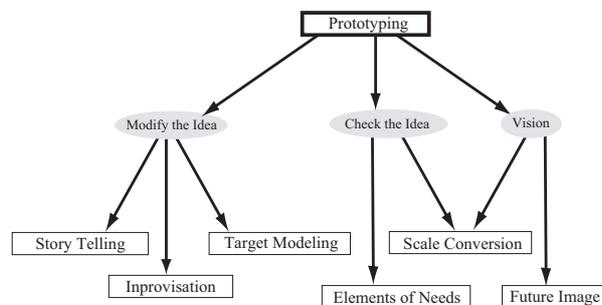


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■ Notes

Create a prototype, such as drawings or models, as a draft before actual creation. By doing so, new problems may come to mind. When solving a problem, it is always earlier the better.

■ Related Patterns



No.16 Dynamic Schedule

■ Background

People tend to panic when something unexpected happens, even though future itself is unpredictable. In order to avoid that panic, modification of thoughts is necessary every time something unexpected happens. It is important to know how to fix rather than to predict the future perfectly.

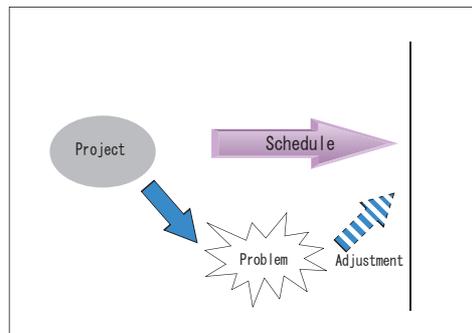
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■ Problem

The schedule becomes improper as the project moves on. Therefore the task management cannot be done properly.

■ Solution

Change and modify the schedule whenever it is necessary.

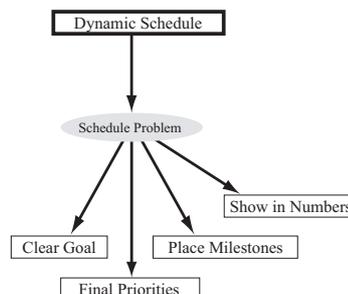


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■ Notes

Talk about the schedule every time a task finishes. It is necessary for members to know how much progress has been made so far. A feel of relief or emergency is important to unite the team when managing the project.

■ Related Patterns



No.17 Show in Numbers

■ Background

Instinct coming from experience is important but not perfect. Objective point of view is essential when understanding something.

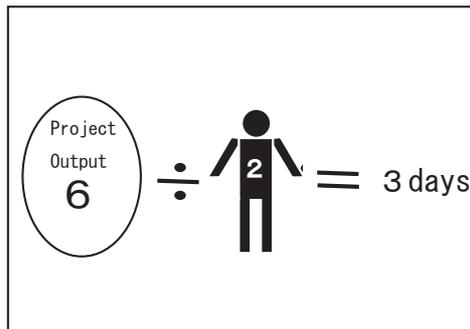
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■ Problem

Management by instinct may sometimes cause big problem. For example, schedule made from experience can be an impossible one. This could very much fail the project and be a harm to all members.

■ Solution

Things like goal, final output, and manpower should be shown in numbers. By changing into numbers, it becomes easier to have objective thoughts. Do not worry about units. The point is not showing everything in correct numbers, but to understand the project objectively.

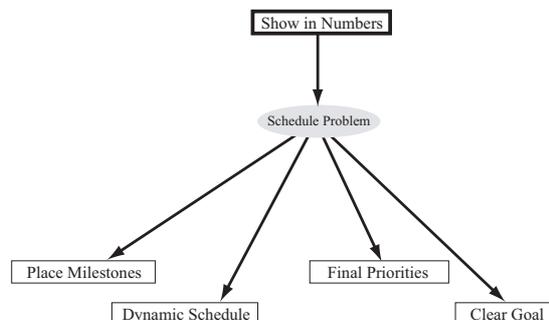


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■ Notes

Stock all numeric data so that even after the project is complete, it could be used as a database for later projects.

■ Related Patterns



No.18 Oasis

■ Background

People lose concentration when they are in a slump. This is something everyone must go through. What is important is not avoiding slumps, but to know how to gain back concentration quickly.

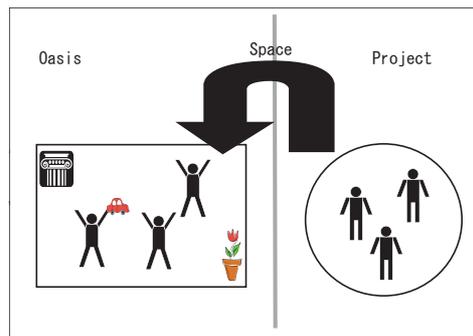
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■ Problem

It is obviously a problem when not only ideas do not come to mind, but also even thinking about it feels dull. Absolutely no concentration and output can be expected in these situations.

■ Solution

Create a place to refresh when stuck. That place can have favorite music, toys, snacks, or anything that relieves your stress. By getting away from the project physically and mentally, that place will be an oasis to recover.

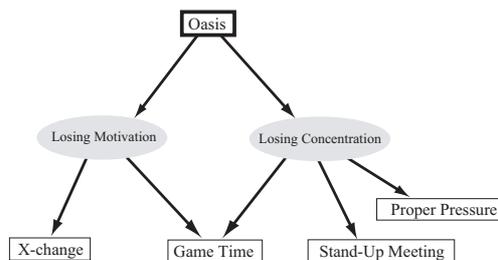


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■ Notes

To get away from the problem, it does not necessarily have to be an oasis, but could be anywhere. Any change of environment can relieve stress. The point is to be temporarily away from the problem.

■ Related Patterns



No.19 Naming

■ Background

When understanding something, people name it. However, names with adjectives like, “round and hard object” cannot specify one object. Be sure to name it from its characteristics so that everyone can understand. Especially when working with others, a name that can be shared is essential for smooth communication.

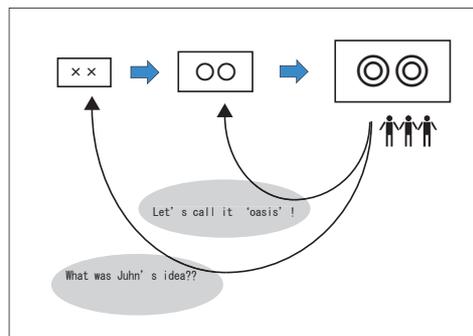
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■ Problem

Character of an idea or final output is blurry. Also ideas must be explained from the beginning all the time.

■ Solution

Name it. By naming a new idea or an object, it becomes easier to talk about it. Not only that but it clarifies its characteristics and make it easier to compare with other ideas or objects.



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■ Notes

“About John’s idea.”

“What’s John’s idea?”

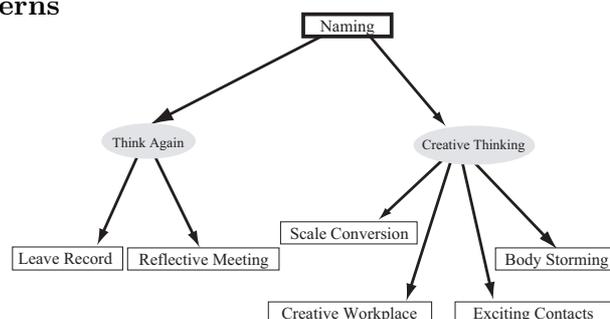
“The idea of a new pattern about projects”

“Oh that.”

“Ok, then let’s name his idea, ‘Oasis’ from now on!”

When naming, the name should be short and simple. All the names of the patterns in Project Patterns is a good example of naming.

■ Related Patterns



No.20 Modular Team

■ Background

Large projects that takes years to finish, also tend to have numerous members to cooperate with. It is obviously difficult to cooperate with hundreds of people at one time.

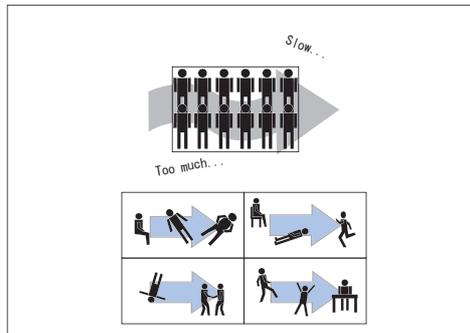
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■ Problem

As the projects become large and complex, work will increase and becomes difficult to work as one team.

■ Solution

Divide the members into couple of teams that is in charge of different work. Small teams are easier to manage and move, leading to efficient use of resource.

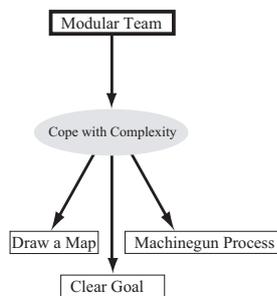


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■ Notes

If there are too many members, divide them in groups even from the brainstorming stage. Small groups are likely to come up with better ideas because they will have more chances to talk.

■ Related Patterns



No.21 Creative Work-Place

■ Background

People and environment cannot be separated. Environment surrounds us at all times. If an environment is not suitable for work, then it is unlikely for people to give their best performances. Creation of good environment is a key element to projects.

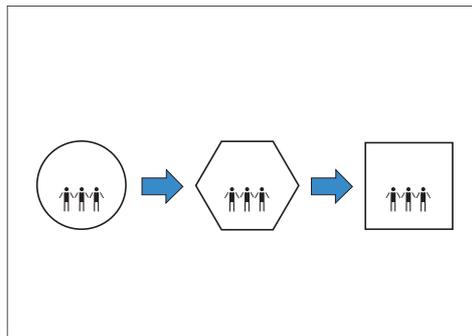
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■ Problem

As the task changes, the kind of work will change. As the work changes, a suitable work environment will change as well. Due to unmatched work environment, work efficiency can decrease and create a delay of the project.

■ Solution

Change the environment depending on work. Turn the workspace into fun, creative, comfortable area. Consider a workspace as one of the tool.

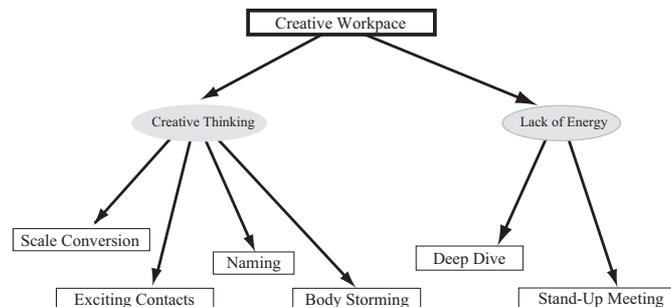


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■ Notes

For example, change all sides of wall into a whiteboard. That will create a good space when thinking of new ideas. Based on immediate tasks, design and turn the office into most effective place for work.

■ Related Patterns



No.22 Place Milestones

■ Background

There are limits to people's memories. Remembering not only final goal, but also every small tasks and its goals is clearly impossible. Small tasks should be recorded on something else.

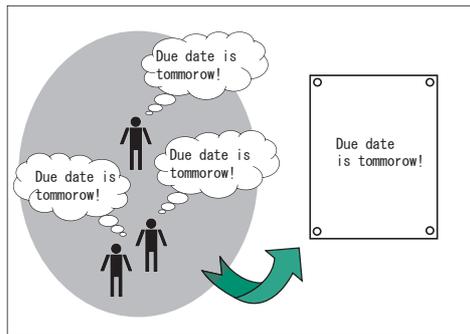
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■ Problem

When there are delays and troubles, tasks tend to increase its complexity. This causes a gap between members about the goal of the task, which leads to inefficient cooperation and delay of the project.

■ Solution

Clarify "who" should do "what" until "when" because "why" and "how". Use 5W1H to make sure tasks are clear and be sure to share what is decided with all project members.

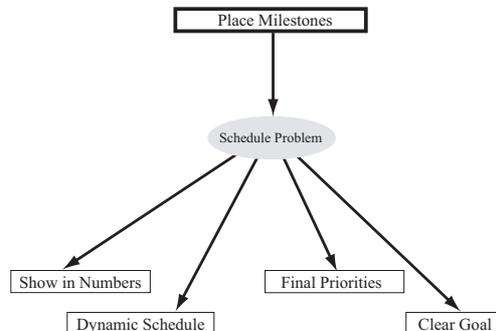


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■ Notes

Set a detailed task schedule and share it with all members. Create a time to ask questions to avoid any misunderstandings. By clarifying each task and goal, responsibility of all members become clear.

■ Related Patterns



No.23 Machinegun Process

■ Background

Project is always unstable and this cannot be avoided. It is important to understand its unstableness and be ready to change directions whenever it is necessary.

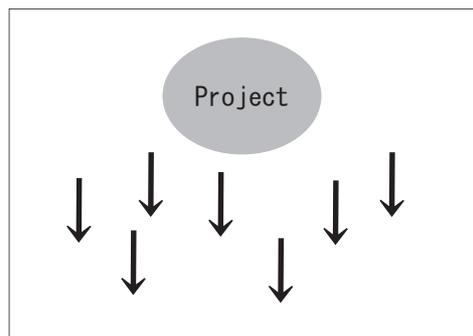
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■ Problem

It is always a problem not to think of a possibility to fail. Especially when projects are running to its goal smoothly. This could result to a problem, which solution cannot be found immediately. Always think of a new possibility when there are still any doubts on how to work on the project.

■ Solution

While working toward a goal of the project, consider creating other methods to achieve the goal and work on it simultaneously. This will decrease the chance of failure and increase the chance of being able to cope with the problem.

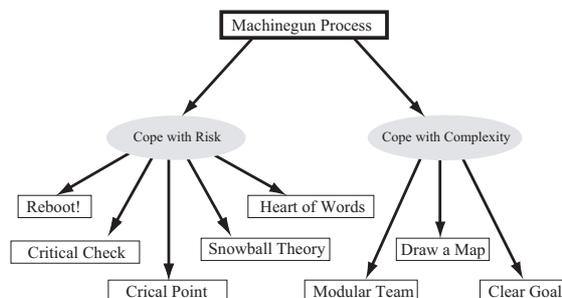


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■ Notes

Although the direction of the project is set, there may still be people who is still worried whether that is the correct direction. In that case, as a solution, create a small team to think of new possibilities. Not only it will be a solution when the project stops, but also may give new directions better than what is set now.

■ Related Patterns



No.24 Draw a Map

■ Background

As the project moves on, the work will be more detailed and more complex. Managing a complex project is extremely difficult. Do not just leave it complex, but organize and simplify the management.

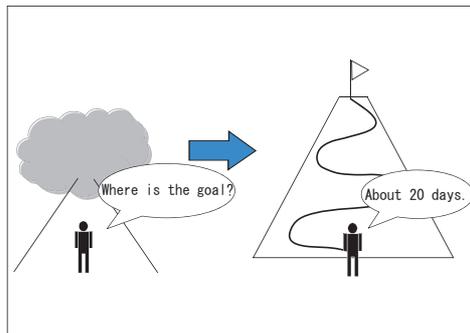
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■ Problem

When the projects become complex, it becomes harder to grasp all situations of all teams. This can lead to a loss of direction as a whole.

■ Solution

From the start to the beginning, draw a map of the project. Make it easy to understand where the project is at the moment, and where they should go next. By doing so a next task will be clear and harder to lose the direction.



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■ Notes

Grasp the whole schedule and what needs to be now by creating a map, such as,

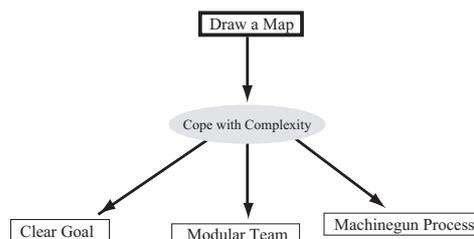
“This is where the project is now.”

“This is what still needs to be done.”

“That is why I will do this.”

By mapping it, the relation between the present work and the goal will be easier to understand. Making contribution obvious can lead to increase of motivation as well.

■ Related Patterns



No.25 Critical Point

■ Background

After hours of work, people will get used to it and tend to act without thinking. Thus, blurry problems may be left behind unnoticed. This is a big problem. Never leave any problem in a blur, because unless the problem is specific, a correct solution will be difficult to find.

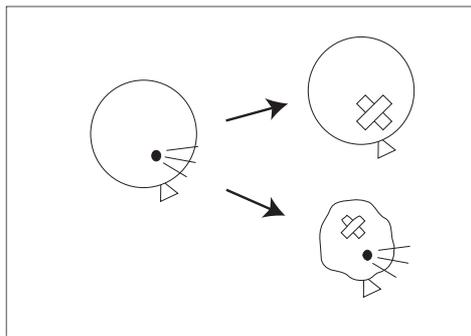
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■ Problem

There is no progress because even though there is a critical problem, solution is not given at all.

■ Solution

Think of critical point, what is wrong and delaying the progress, in order to overcome the situation.

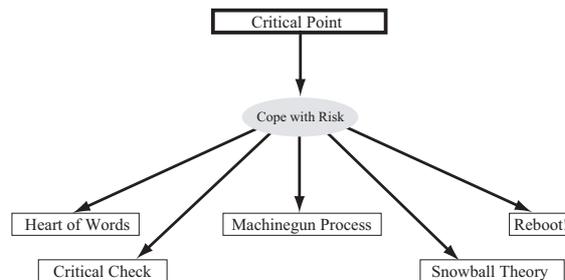


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■ Notes

If there is any doubt that project is not progressing, rethink the concept of the project. The concept of the project is a root of the project, which needs to be fixed and concrete for the progression of the project.

■ Related Patterns



No.26 Reboot!

■ Background

Unless the safety is assured, it is difficult for people to take risks. This is the reason why dramatic solutions are hard to choose when there is a problem. However, there are times when dramatic change is necessary. Whether that decision is possible or not can divide the success and failure of the project.

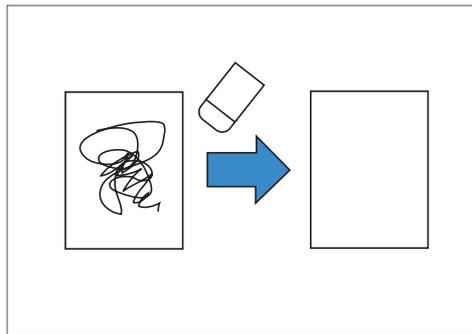
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■ Problem

After the problem is found, solution cannot be taken into action and the problem gets bigger and bigger. This could be because that solution will change the direction of the project.

■ Solution

Return to the beginning. Although a courage is necessary to turn everything into blank, but it is often better to start from the beginning.

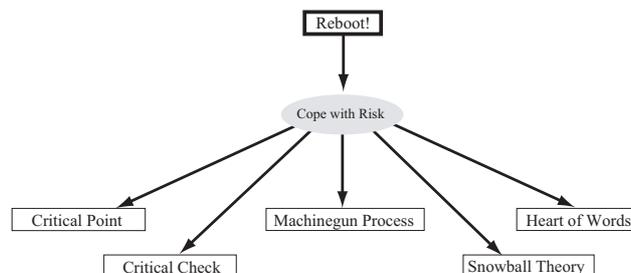


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■ Notes

Reconsider the project from the bottom. For example, if there is a huge delay that “No.16 Alive Schedule” cannot even solve, then leave all tasks behind for a moment and think whether the time span was enough for the project in the first place.

■ Related Patterns



No.27 Game Time

■ Background

Everyone will get bored and sleepy if they had to continue simple work for hours. In this case, it is important to change the work into something interesting.

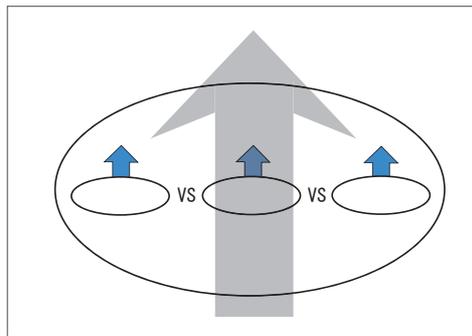
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■ Problem

A simple work and routine work is inevitable in a project. However, this kind of work can lower the member's motivation.

■ Solution

If the work is too simple or it is a routine work, then make it into a game by racing and competing. Enjoying work is important to concentrating and giving its best at all times.

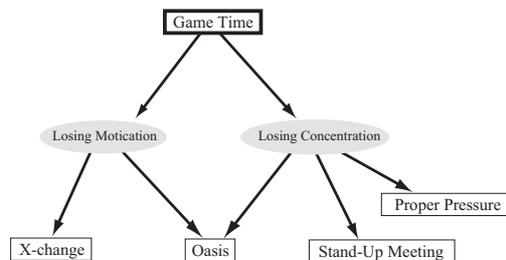


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■ Notes

Include elements of game into work, such as competing the number of ideas or doing a meeting in a game format.

■ Related Patterns



No.28 Proper Pressure

■ Background

People seldom be serious till when they practically face to a crisis(image the crisis as real). Also, even if you determine your will, it would be easily destroyed.

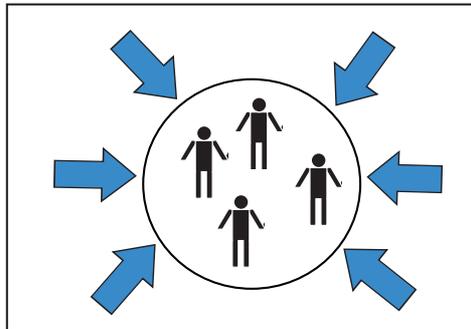
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■ Problem

When you lose motivation toward the project, you would be anxious about only present work and it obscures real purpose.

■ Solution

Give pressures. Proper pressure takes the focus and clarify a meaning of the project.

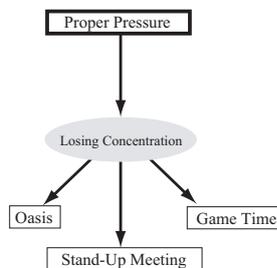


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■ Notes

Too much pressure gives fearfulness and certainly does harm. What we should remember is pressure don't change the human ability.

■ Related Patterns



No.29 Target Modeling

■ Background

When putting effort into creating ideas, idea itself may be interesting but it could fall into a situation where nobody knows who the user would be.

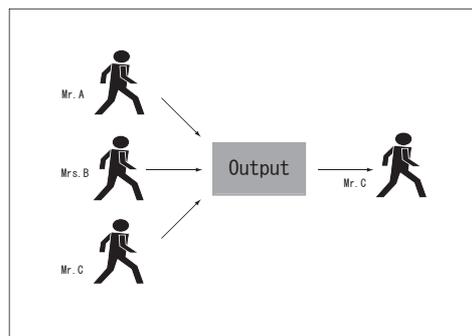
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■ Problem

The image of how the final output will be accepted into the society is not clear. Even if members think it is a great idea, nobody knows who the target is.

■ Solution

Create an imaginary model of the target. By imaging a specific target, their needs and wants can understood and can check whether that matches the final output.

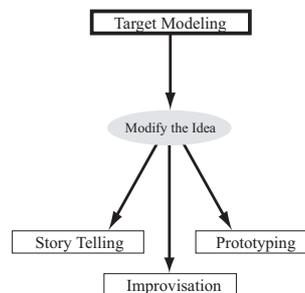


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■ Notes

Be sure to specify the target during the meeting. Understanding the target's needs will assure the success of the project.

■ Related Patterns



No.30 Stand-Up Meeting

■ Background

It is always easier to concentrate on what is interesting. However, if that is to continue for hours or is something that is not interesting, concentration tends to lack or decrease. If so, be positive and switch your mind and start running. It may turn out to be something interesting.

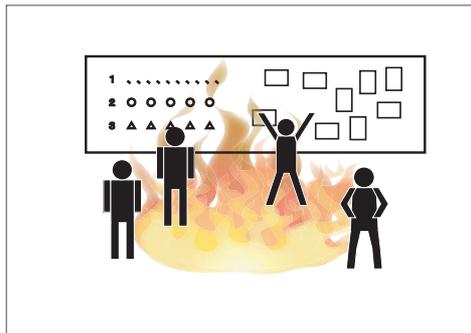
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■ Problem

Motivation of members is low even though it is a work that must be done for the project to go on.

■ Solution

Have all members standing while meeting. This will change the feeling and increase concentration.

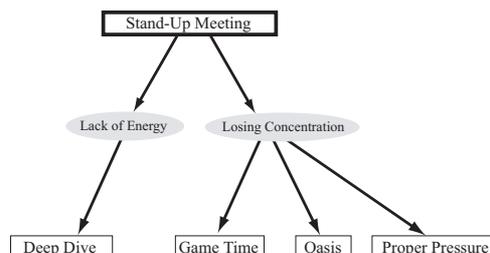


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■ Notes

During important points like organizing ideas and thoughts of the projects, gather all members in front of the whiteboard. This will put a focus into the whiteboard and increase the concentration of all members.

■ Related Patterns



No.31 Story Telling

■ Background

The effect of the project is unknown until it is actually done. Therefore, questions and doubts can arise within members as the project goes on. Questions like, “Does this really work?” and, “Is this right way?” To answer these questions, make sure to imagine not only the final output but the effect of the output as well.

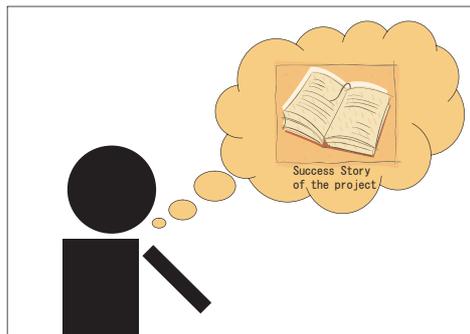
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■ Problem

If the image of the effect of the final output is not made and shared, it becomes difficult to understand the meaning of the project. This will lead to decrease of motivation and dedication to the team.

■ Solution

When creating ideas, also think of a specific story that goes along with it. Appealing story after an idea comes to reality will give further understanding of the idea as well.

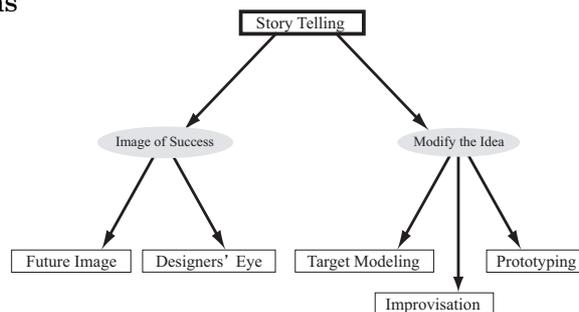


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■ Notes

If the final output of the project is a product, then write a story of the product: how they meet, how they are used, how they create happiness, and etc. If the story is appealing, then the product is also appealing as well. If not, then that product may not be suitable for the society.

■ Related Patterns



No.32 Exciting Contacts

■ Background

Ideas are made from knowledge and experience, which means that there is a limit in ideas with just current members. No matter how many people gather up, if no one knows about a subject A, then there is no chance of coming up with any idea related to subject A. Do not try to just work inside the team, but use brains outside of members as well.

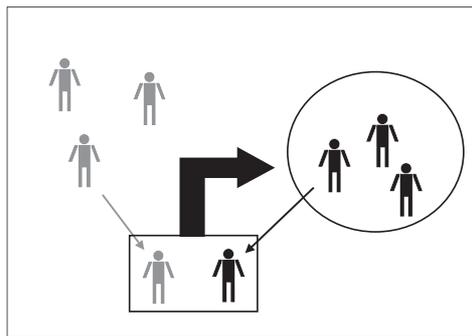
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■ Problem

A problem that cannot be solved with just members arise, and stops the project.

■ Solution

Set up a party with other similar projects or any people that may give hints to the solution. To listen to other opinions and getting new points of view is important when gathering hints for the solution.

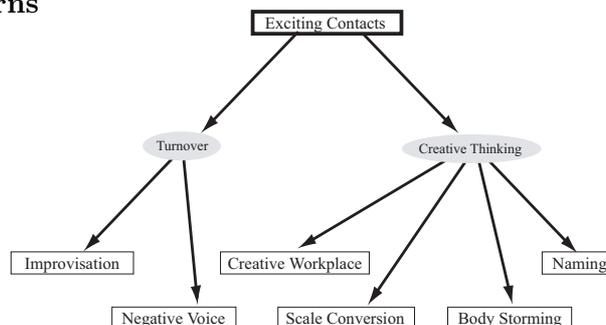


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■ Notes

Once deep inside the project, everything will feel like it is related to the project. When in that kind of mind, try to search anything that feels related by researching or making appointments with others. Along with it, a solution might very well come up.

■ Related Patterns



No.33 X-change

■ Background

Even the favorite, most passionate things can be boring at times. In a project, it is not unusual to have to continue work even in boredom. However, when bored, do not just simply continue but change the situation, environment, point of view, and etc. A change can stimulate interest and motivation.

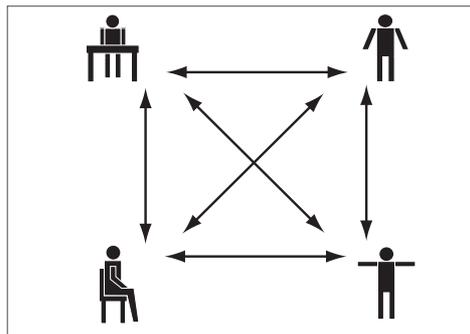
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■ Problem

The work becomes boring when working for a long period of time. This results in lack of motivation and decrease of work efficiency.

■ Solution

Try to exchange many things. For example, change seats, change positions, change values, change personalities, and etc. This will create a new mind and interest to work on a same assignment.



* * *

■ Notes

For example, try to change the chairman. Since chairman need to understand and organize all opinions and ideas, they are able to grasp the whole situation of the project. By working as a chairman and getting new point of view, same work may look differently.

■ Related Patterns



No.34 Improvisation

■ Background

The unexpected tend to happen more than what is to be expected. Just like that, ideas may be interpreted differently by the users.

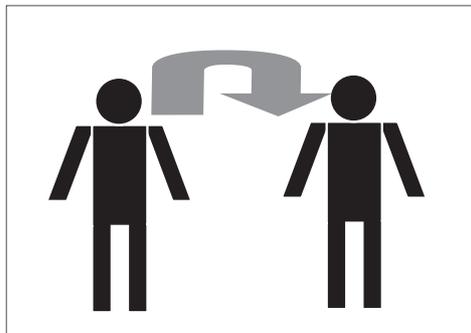
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■ Problem

There may be hidden problems that cannot be noticed by members.

■ Solution

Try to find the problem by acting as a user. Repetition of this act improvisation is useful for improving ideas.

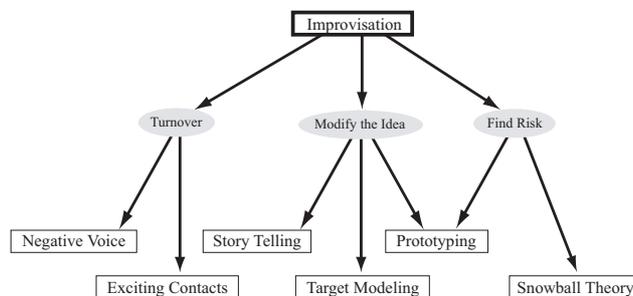


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■ Notes

As the project moves on, set a member that will act as a user. If possible, have people outside of project members act as a user in each phase of the project. A new problem that was unexpected may come up from the users.

■ Related Patterns



No.35 Scale Conversion

■ Background

People are afraid of dynamic changes and prefer small changes that its effect is easily predictable. However, this will lead to a loss of originality. Be loyal to the concept and move on dynamically. Be afraid of losing its originality, rather than moving dynamically.

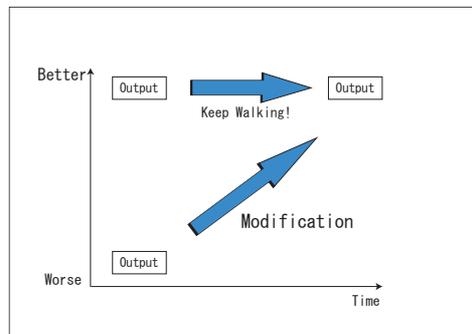
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■ Problem

The project's final output is likely to be something ordinary.

■ Solution

Think how things will be in extreme conditions, like the best condition and worst condition.

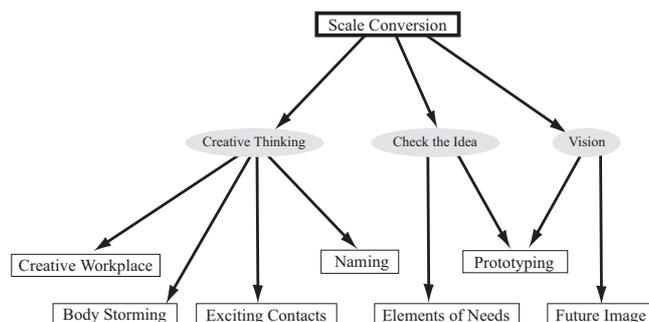


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■ Notes

Think of the best and the worst situation after the project is complete. The best situation may point out the positive side of the project. On the other hand, the worst situation may point out some critical problem that was still unknown. By imaging two extreme conditions, the hint for a breakthrough should come up.

■ Related Patterns



No.36 Face to Face Meeting

■ Background

It is difficult for people to believe 100

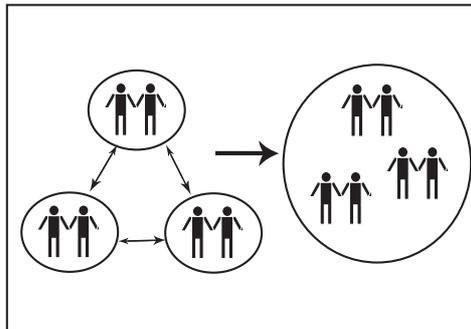
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■ Problem

Due to project members not meeting face to face, a feeling of distrust is born and lead to miscommunications.

■ Solution

Gather all members and simply communicate with each other. There is nothing better than face to face communication when understanding member's thoughts and creating trusts.

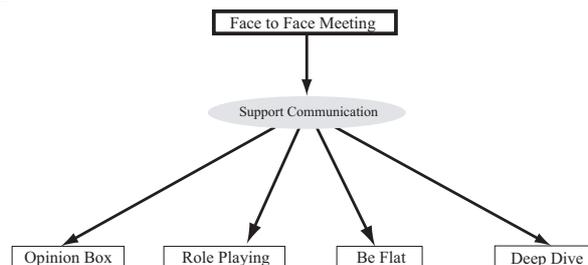


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■ Notes

When projects become larger and there are few teams within the project, a feeling of distrust can easily be made. This is why communication must be done with care. For example, when there's a delay in a team, if that is noticed to other teams by e-mail, others may feel frustrated by that delay. However, if it was a good friend that is delaying, then worries come up rather than frustrations. It is important that all members know each other face to face.

■ Related Patterns



No.37 Deep Dialog

■ Background

When there are two opposing opinions, in most cases, one must be selected of the two. In order to cooperate continuously, it is essential for both opponents to accept that decision.

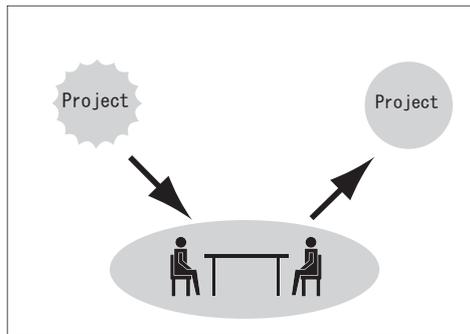
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■ Problem

Members lose their motivation, because nothing is done about opposing opinion or complaints.

■ Solution

Talk face to face until both members are satisfied. A new ideas and passion can be understood from the conversation.

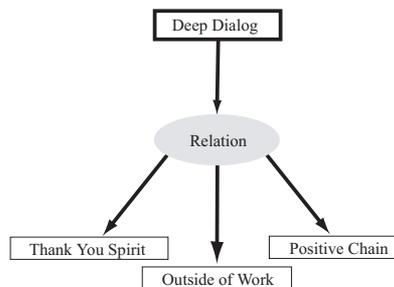


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■ Notes

When members split into two opposing opinions, do not just leave that situation as it is. Be sure to take time to talk until the opposition is solved. Not only this will avoid decrease of motivation but also can promote further understanding of members.

■ Related Patterns



No.38 Final Priorities

■ Background

A project can be described in a triangle. It starts from the base and finishes at the apex. At the beginning of the project, there are so many things that can be done, but as the project progresses, things to do become limited. Around the end of the project, because all the work is set, members tend to cause easy mistakes. Do not lose concentration until it is really finished.

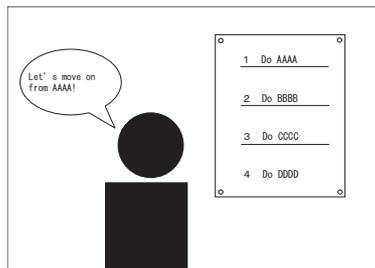
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■ Problem

Possibilities and time are limited in final stage of the project. With limited time, final work must be done.

■ Solution

Create a list of work to do with priorities, so that what is important is done in time for sure.

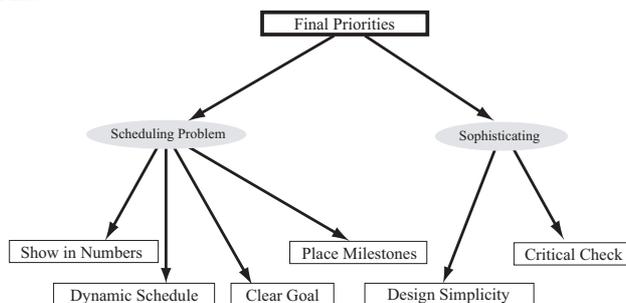


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■ Notes

After setting priorities, work from the top of the list one by one, as long as there is time. It is pointless to set priorities if members are still worrying about a task that is low on the list. Share the list and concentrate on what is really necessary.

■ Related Patterns



No.39 Elements of Needs

■ Background

The idea must answer many needs when trying to create a output. If there are many kinds of needs, such as usability, design, and etc. then make sure those needs are all understood.

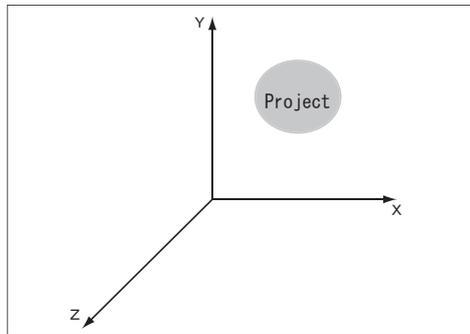
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■ Problem

The final output does not fulfill all the needs and is not what was imagined.

■ Solution

Divide the needs into elements and turn into a graph so that what is fulfilled is what is not can be understood immediately.

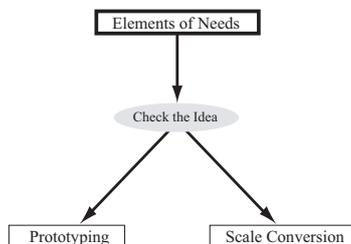


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■ Notes

Draw a graph with many dimensions. Each dimension should be an element of the needs such as, social effect on x axis, usability on y axis, visual design on z axis, and so on. Find out which element and how much work still needs to be done.

■ Related Patterns



No.40 Design Simplicity

■ Background

People tend to think that the more features it has, the better the output is. As a result, sometimes each features hide other's merits, leading to hiding the merits of the project itself. Do not try to put everything in because "simple is best."

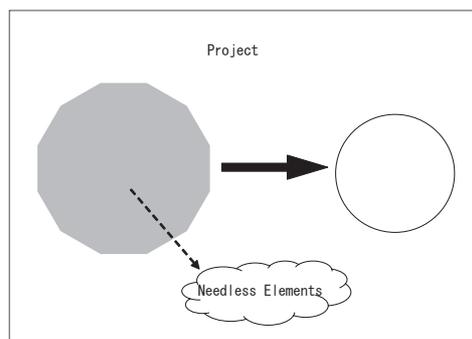
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■ Problem

The final output feels a little too much with so many features and elements installed. The merit of the output is unclear.

■ Solution

Instead of thinking, "What is necessary?" try to think, "What is unnecessary?" This will lead to simplification of the output.

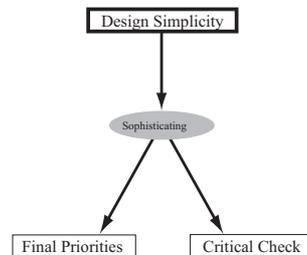


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■ Notes

From different point of views, ask the question, "why?" If there is no good answer to that question, then it may not be necessary.

■ Related Patterns



No.41 Negative Voice

■ Background

When working, objective decisions become difficult, especially when being passionate. The project must be viewed from the user's point of view. Make sure that happens by actually asking potential users outside of the project.

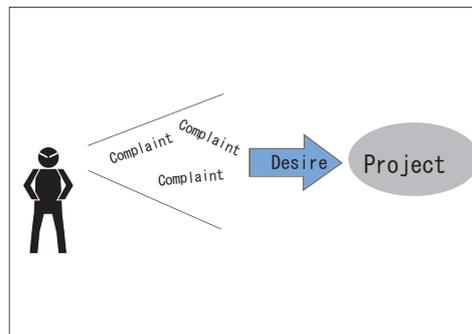
* * *

■ Problem

Even a wonderful complete output can be nothing from the user's point of view.

■ Solution

Ask for complaints out in town on the area the project is working on. Make sure the members and users are looking at a same direction.

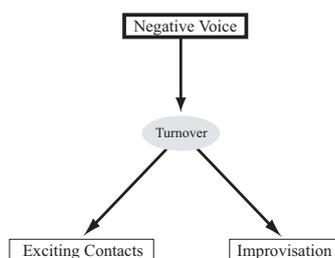


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■ Notes

Go out on a fieldwork. Use surveys to understand everyone's thoughts and use interviews for further understanding. The key is to work like as if there is a collaboration with members and users.

■ Related Patterns



No.42 Critical Check

■ Background

What is thought to be good, will stay that way. Especially when there is a time limit, because what is good is good, nobody will even try to check it again.

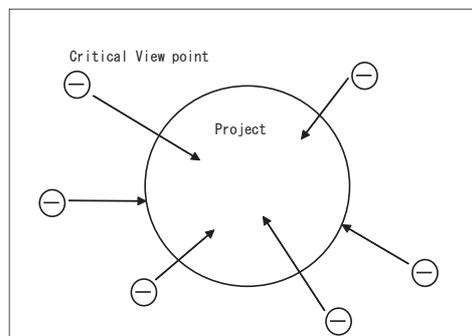
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■ Problem

When ideas are in shape, project moves on without noticing critical defection.

■ Solution

When the idea is in shape, try to criticize it from top to bottom. Create a list of critics and check whether any modification is possible.

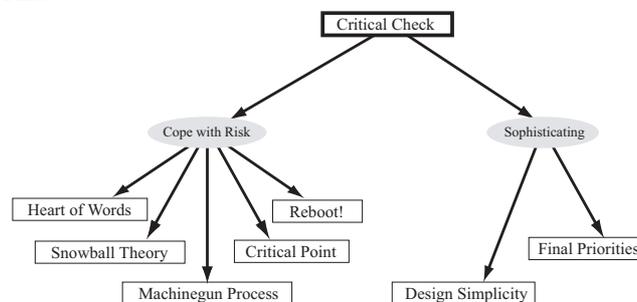


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■ Notes

Before criticizing, ask the question, "why?" from different point of views. This will help criticize in details. Also, do a presentation to a member, who will be acting as a criticizing boss. If it is a good idea, then persuasion should be possible.

■ Related Patterns



No.43 Reflective Meeting

■ Background

It is foolish to make a same mistake twice. However, this is not something that is uncommon. To use the limited time efficiently, repetition of mistakes as a team must be avoided.

* * *

■ Problem

Mistakes in the past is repeated during the project.

■ Solution

Create a time to share the experience, skills, and lessons learned. Also leave those information on the wall or anywhere that members can see, so that all members will be conscious at all times.

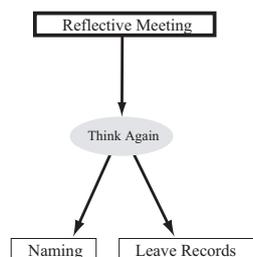


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■ Notes

Try to have meetings with all members at the end of the day. Share what work was done and what was learned. Even if members were split into small teams, as in No.20 "Modular Team", sharing mistakes is important to avoid repetition of that mistake.

■ Related Patterns



No.44 Leave Records

■ Background

Memory of a man's brain is limited. What is forgotten cannot be remembered when needed. Loss of information must be avoided by recording.

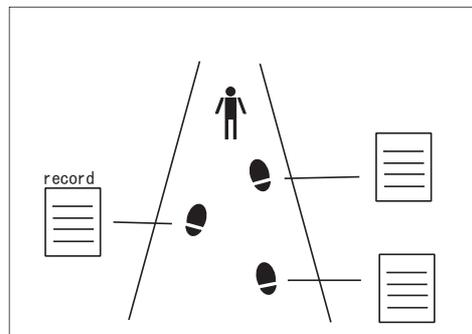
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■ Problem

Ideas and images in the past cannot be remembered in details.

■ Solution

Be sure to record ideas and images in words and leave it as a footprint of the project. Continuous recording is effective when looking back.

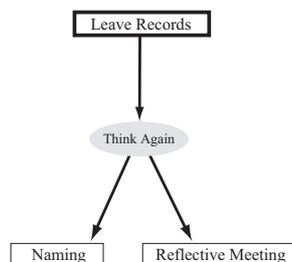


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■ Notes

Take records and e-mail it to share with members. This is important but also do not forget to write personal notes. Write and share any ideas or thoughts that came up to the head. It is meaningless to forget ideas. Turn writing notes into a habit so that nothing will be left forgotten.

■ Related Patterns



No.45 Dramatic Finale

■ Background

No matter whether it is a success or a failure, a motivation for the next project will not appear without seeing the effect on society. If it is a success, then pure joy of achievement will lead to another motivation. If it is a failure, a regret becomes the next motivation. However, if neither, then it is difficult to have any motivation at all.

* * *

■ Problem

Nothing is gained and lack motivation for the next project.

■ Solution

Set up a meeting to share the reason of success and personal passion for next project. Sharing passions will stimulate other members to start the next project with good motivation.



* * *

■ Notes

Party after the project. Share all feelings and memories of the project. The engine will start to roll when honest feelings are shared within all members.

■ Related Patterns



No.46 Love it!

■ Background

The progression of the project is always done by the people and their passion.

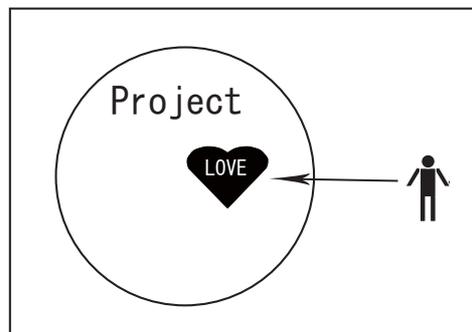
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■ Problem

All problems related to a project.

■ Solution

Find anything that can be loved about the project. Gain enthusiasm from that factor. There is nothing more powerful than the love of the project.

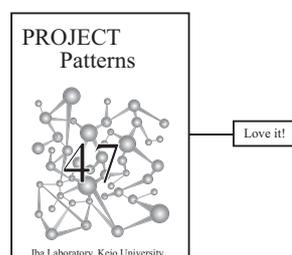


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■ Notes

For example, draw a image of yourself after the success of the project. Share the dream and passion with the rest of the members. This will create a strong drive within the team.

■ Related Patterns



47 Make Your Patterns

Background

Pattern language proposed by Christopher Alexander grow up through improvement and modification.

Project Pattern also would be more refined through modification by pattern users.

Meaning

The project is always changing.

You may face new problems with using existing patterns.

Please try not only use this project pattern, but also develop your new patterns when you find more need or feel something not enough.

References

1. Hitoshi Abe, Masanari Motoe, Yasuaki Onoda, Toru Horiguti, *Project Book [Project Book]*, Shokokusha Publishing, in Japanese, 2005
2. Tom Kelley, Jonathan Littman, *The Art Of Innovation: Lessons in Creativity from IDEO, America's Leading Design Firm*, Doubleday, 2001
3. Tom Kelley, Jonathan Littman, *The Ten Faces Of Innovation: IDEO's Strategies for Defeating the Devil's Advocate and Driving Creativity Throughout Your Organization*, Currency, 2005
4. Scott Berkun, *The Art Of Project Management (Theory in Practice (Oreilly))*, Oreilly and Associates Inc, 2005
5. Tom Peters, *The Project50: Or, Fifty Ways to Transform Every "Task" into a Project That Matters (Reinventing Work)*, Alfred a Knopf, 1999
6. Naoto Okude, *Kaigiryoku[The power of meeting]*, Heibonsha Limited Publishers, in Japanese, 2003
7. Curtis R Cook, *Just Enough Project Management: The Indispensable Four-Step Process for Managing Any Project Better, Faster, Cheaper*, Mcgraw-Hill, 2004
8. Iwao Kaneyasu, *Project Hassouhou [Abduction Method for Project]*, Chuokoron-Shinsha, in Japanese, 2002
9. Hidetaka Nakajima, *Project Management[Project Management]*, JMA Management Center, in Japanese, 1998
10. Harold Kerzner, *In Search of Excellence in Project Management: Successful Practices in High Performance Organizations*, John Wiley and Sons Inc. 1998
11. Tom DeMarco, Timothy Lister, *Waltzing with Bears*, Dorset House, 2003
12. Tom DeMaudo, Timothy Lister, *Peopleware Productive Projects and Teams*, Dorset House, 1987
13. Tom DeMarco, *The Deadline: A Novel about Project Management*, Dorset House, 1997
14. Jim A. Highsmith, *Agile Project Management: Creating Innovative Products*, Addison-Wesley, 2004
15. Project Management Association of Japan, *The Principles of Project Management*, Project Management Inst, in Japanese, 1997
16. James O. Coplien and Neil B. Harrison, *Organizational Patterns of Agile Software Development*, Prentice Hall, 2004

“Project Pattern 47 Catalog”
International edition was published in May 1st, 2008.
Japanese edition was originally published in March 1st, 2008.

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