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Design Project Management Application Of The Blind Color Test Android Based

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A B S T R A C T

IT project management is an activity of resources available from IT solution development projects that can produce a system solution that meets predetermined requirements. Developments in the era of technology are moving forward with the development of companies engaged in technology services. This project planning can be prepared using Work Breakdown Structure (WBS), budget plans and network diagrams (AON). The color blind test application system is an application to facilitate the detection of colors early on in someone and also provides accessibility to the black test. By managing a good project management, it is possible to estimate the time and cost needed in implementing the project, so as to minimize the estimated cost due to additional project delays.

Keywords: Project management, WBS, RAB, AON, android, java, color blind test.

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1. Introduction

Color blindness is a condition where a person cannot distinguish certain colors that can be distinguished by people with normal eyes. A person suffering from color blindness can be caused by abnormalities from birth or due to excessive use of drugs. Color blindness is commonly suffered by men, while women are only as a recessive gene.

Technological advances have generally led to increasingly sophisticated equipment in the fight against disease or make early detection in certain conditions. One of the developments in the advancement of medical science is color blindness using Ishihara's book. Color blind testing is currently very much needed for the industrial, educational, and government worlds. This is caused by human dependence on work or education which is closely related to color.

Ishihara's media with paper sheets has the disadvantages of color fading, tearing easily, and could be one of the test sheets tucked or lost. The automatic color blind testing instrument will try to replace the Ishihara test book which has been a guide for eye doctors.

Color in everyday life plays a big enough role. Many daily work is done by distinguishing the color of an object. But for people with color blindness, it must be difficult to distinguish certain colors. For that, we need a media that can facilitate people with color blindness in detecting the color of an object.

As we know, the development of technology in communication and data transfer is very rapid. One technological tool that is growing rapidly is a Smartphone. Almost every person in the world has handheld technology that is easy to carry everywhere and is lightweight. With the development of Smartphone technology, it also encourages the development of various applications that provide various features for human life.

2. Method

The research method used is starting from the discovery of the problem, determining the research objectives, data collection and processing. The steps undertaken for data processing are:

- Identify project activities using the Work Breakdown Structure (WBS) is simple.
- Making the flow of activities with precedence diagrams. To determine the time and cost of efficient project implementation, methods used in project management strategies are AON and RAB.

2.1. Ishihara Method

Ishihara test or Ishihara test is a test used to test the level of color perception in patients with red and green color blindness. Named the Ishihara test because it was discovered and designed by Dr. Shinobu Ishihara, a professor from the University of Tokyo in 1917. The Ishihara Test consists of several plates called Ishihara plates.

2.2 Work Breakdown Structure

Work breakdown structure (WBS) is a grouping of work elements shown in graphical form to organize and divide the overall scope of a work project (Rev, 2003).

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2.2. Activity on node (AON)

AON is an activity that is described on the node in this case the arrow (arrow) is a logical relationship between activities.

2.3. Cost Budgeting Plans

According to Sugeng Djojowirono, 1984, the Project Cost Budget (RAB) is an estimated cost needed for each work in a construction project so that the total costs needed to complete a project will be obtained.

2.4. HR Management Plan

In the opinion of Henry Simamora, human resources (HR) is the utilization, development, assessment, remuneration, and management of individual members of an organization or group of workers. So the design of human resource management is a design to regulate the utilization, development, appraisal, remuneration, and management of individual members of an organization or group of workers.

3. Result and Discussion

3.1. Design with WBS

Table 1. Design wit WBS

No.	Project Activity
1.	Opening
	1.1. Project planning
	1.2. Project description
2.	Planning
	2.1. Planning a needs analysis
3.	Implementation
	3.1. Planning a needs analysis
	3.1.1. Analyzing functional requirements
	3.1.2. Analyzing non-functional requirements
	3.1.2.1. Hardware requirements
	3.1.2.2. Software Requirement
	3.2. Analyze system requirements
	3.3. Scheduling planning
	3.4. Designing the system
	3.5 System Programming
	3.6. Documentation of the implementation
4.	Testing
	4.1. System Testing
5.	Closing
	5.1. Documentation
	5.2. Maintenance
	5.3. Support

3.2. Project Schedule

Table 2. Project Schedule

	ID	Project Activity	Duration	Start Date	Finish Date	predecessor
1.	A	Project design	4	01/11/2019	05/11/2019	none
2.	B	Project description	5	05/11/2019	11/11/2019	A
3.	C	Planning analysis	5	11/11/2019	16/11/2019	B
4.	D	Analyzing System requirements	11	16/11/2019	27/11/2019	B,C
5.	E	Analyzing Functional Needs	6	27/11/2019	03/12/2019	D
6.	F	Analyzing non-functional requirements	5	03/12/2019	08/12/2019	D,E
7.	G	Hardware requirements	4	08/11/2019	12/12/2019	E,F
8.	H	Software Requirement	4	12/12/2019	16/12/2019	E,F
9.	I	Scheduling scheduling	3	16/12/2019	19/12/2019	D
10.	J	System Designer	7	19/12/2019	26/12/2019	D,E,F
11.	K	System Programming	15	26/12/2019	10/01/2020	C,J
12	L	Documentation of the implementation	5	10/01/2020	15/01/2020	K
13	M	System Testing	4	15/01/2020	19/01/2020	L
14.	N	Documentation	5	19/01/2020	24/01/2020	M
15.	O	maintenance	5	24/01/2020	29/01/2020	N
16.	P	Support	4	29/01/2020	02/02/2020	O

3.3. Diagram AON

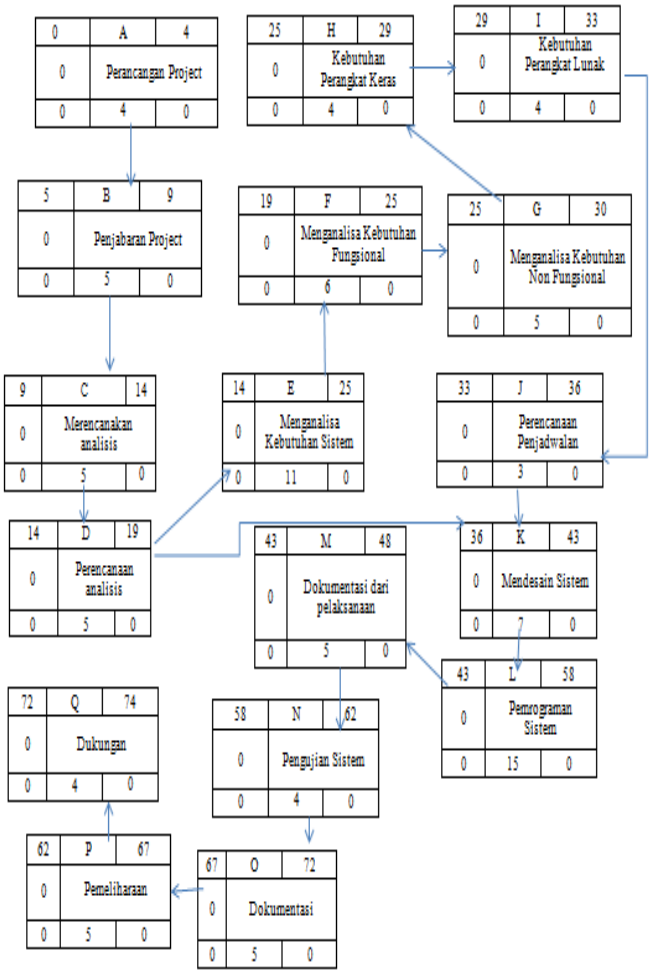


Figure 1. Diagram AON

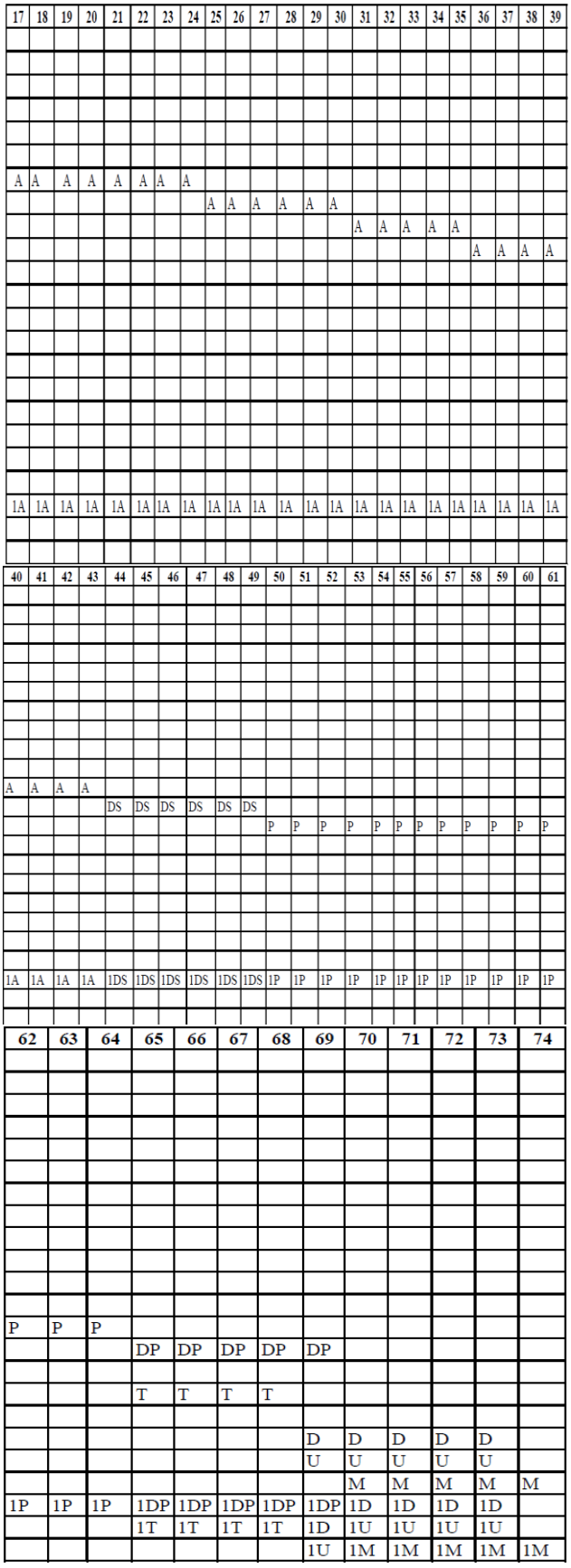
3.4. Shopping Budget Plan

Table 3. Shopping Budget Plan

No.	Project Activities	Duration (days)	Number of workers	Labor rates	Labor costs	Total cost
1.	**Opening**					
1.1.	Project design	4	1	1.000.000	4.000.000	4.000.000
1.2.	Project description	5	1	500.000	2.500.000	2.500.000
2.	**Planning**					
2.1.	Project description	5	1	500.000	2.500.000	2.500.000
3.	**Implementation**					
3.1.	Planning a needs analysis	5	1	500.000	2.500.000	2.500.000
3.2.	Analyze system requirements	11	1	700.000	7.700.000	7.700.000
3.1.1.	Analyzing functional requirements	6	1	500.000	3.000.000	3.000.000
3.1.2.	Analyzing non-functional requirements	5	1	500.000	2.500.000	2.500.000
3.1.2.1.	Hardware requirements	4	1	400.000	1.600.000	1.600.000
3.1.2.2.	Software Requirement	4	1	400.000	1.600.000	1.600.000
3.3.	Scheduling planning	3	1	500.000	1.500.000	1.500.000
3.4.	Designing the system	7	1	3.000.000	21.000.000	21.000.000
3.5.	System Programming	15	1	3.000.000	45.000.000	45.000.000
3.6.	Documentation of the implementation	5	1	3.000.000	15.000.000	15.000.000
4.	**Testing**					

3.5. HR Management Design

ID	RES	DUR	ES	LF	SL	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1																						
1.1	1A	4	0	4	0	A	A	A	A													
1.2	1A	5	5	9	0					A	A	A	A	A								
2																						
2.1	1A	5	9	14	0										A	A	A	A	A			
3																						
3.1	1A	11	14	19	0															A	A	A
3.2	1A	6	14	25	0																	
3.2.2.1	1A	5	25	30	0																	
3.2.2.2	1A	4	25	29	0																	
3.3	1A	4	29	33	0																	
3.4	1DS	7	33	36	0																	
3.5	1P	15	36	43	0																	
3.6	1DK	5	43	58	0																	
4																						
4.1	1T	4	58	62	0																	
5																						
5.1	1D	5	62	67	0																	
5.2	1U	5	67	72	0																	
5.3	1M	4	72	74	0																	
Total resource load						1A	1A	1A	1A	1A	1A	1A	1A	1A	1A	1A	1A	1A	1A	1A	1A	1A



3.6. Tools and Techniques Risk

The risk identification technique used is a SWOT analysis, namely:
1. Strengths:
- Facilitate project planning
- Provide the right solution for users
2. Weaknesses
- Very high costs
3. Opportunities
- Can provide high business opportunities
- Projects will be completed on time
4. Threats
- Data that is vulnerable to theft if there is no system security

Tools and Techniques used:
1. Documentation reviews, in the form of:
- Weekly report on project work
- Note the minutes of each project meeting
2. Information gathering techniques
3. Checklist analysis
4. Assumptions analysis
5. SWOT analysis
6. Expert judgment

Produce:
Risk register, which is a document contains the results of various risk management processes potential and related information.

3.7. Tools and Techniques Monitoring

Project monitoring is directly led by the project manager as the project leader, and in mrmonitoring focuses on controlling the work to keep it in accordance with the planner, effective use of existing resources and fixing if there are problems. Resources used are internal documents such as: monthly / weekly reports, minutes of minutes of meetings held.

4. Conclusion

The Development Success of this color blind application project can be seen from Having a clear definition of goals, in accordance with the objectives that have been explained previously. What is meant is how big the project will be implemented and what needs are needed by everyone involved in making the project. the project to make a color blind application will take 74 days and a total cost of Rp 217,100.00

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