CHAPTER IV

RESULT AND DISCUSSION

A. General Description of Tiara Handicraft

1. Short History of Tiara Handicraft



Figure 5: Tiara Handicraft Location at

Sidosermo Indah II/5Surabaya Source : Processed Data 2014

Tiara handicraft was established in 1995. It was started by Titik Winarti, the creative director of Tiara Handicraft in order to fulfill the spare time. By gaining a very limited capability and several finance considerations, Titik Winarti started a production of a little household souvenir that familiar with daily activities. The production developed in sequent and fortunately it has been become a small business that could support the family income.

Afterwards Titik Winarti decided to recycle households, such as food jars and cans. From unused junk those could became beautiful ornaments like decorative jars and beautiful food basket. With a strong willingness and confidence that the quality is also important than looks, Tiara Handicraft developed faster.

From a hobby in fiddling around with textile material, Titik Winarti and all

part of Tiara handicraft then concentrate to produce things, such as:

- 1. Gifts for a newly born and other things for babies.
- 2. Household, such as curtain, table clothes, pillows, bed sheets, etc.
- 3. Wedding accessories (souvenirs, bedroom ornaments, ceremony equipment, etc.)
- 4. Handbags
- 5. Clothes for children and adults

With the awareness on the importance of human development skill, Tiara Handicraft build training and workshop to reach skillful and developed human resources. This concerned by an understanding of human abilities and knowledge different especially in entrepreneurship.



Figure 6: A few of Tiara Handicraft Products

Source: Processed Data 2014

At the beginning, Tiara Handicraft teach and held some training and workshop for some handicapped teenagers. Tiara handicraft hope that handicapped teenager eventually could become a ready-to-work human resources and moreover improving their creativity. This is a very important task since they have limitation in doing things because of their handicapped. After receiving knowledge from the workshop hopefully they could improve their skill, or at least they could be accepted in a normal social life and could live independently in the community.

Titik Winarti and all of people in Tiara Handicraft wanted to show the world and communities that they, with their limitation, could still participate in

work life as a normal worker, and not treat them as our burden. They could produce good quality product from our main product to recycled product. It is proved that their handicap is not becoming their obstacles in creating things.

An opportunity is their biggest hope. Their existence in a business world makes them think that they want to increase their capability. Especially in knowing that their product is well accepted and could be beneficial in the market with no mercy, will be more appreciated by them.

2. Vision and Mission of Tiara Handicraft

In organizing a business with a few part of social activity, it wasn't easy to reach goal and success. Tiara handicraft need to discover concept of vision and mission that can be found in organization purpose.

Motto : Give them opportunity not just sympathy

Vision : Become company that can give opportunity to dissability people, so they can have same chance and equal treatment with any other normal people.

Mission

- 1. Increase creativity through handycraft
- 2. Give opprtunity to dissability people
- 3. Build environmental friendly mindset
- 4. Install a different mindset in treating persons with disabilities

3. Research Location

1. Business name :Tiara Handicraft

2. Address :Jl Sidosermo IndahII/5

Wonocolo

SURABAYA-60239

JawaTimur-INDONESIA

3. Phone/Fax :+**62.31.8437014**

4. E-Mail :tiara_hcraft_id@yahoo.com

5. Supervisor :**Yudha Dharmawan**

6. Product Creation : Titik Winarti

7. Business type :Household Industry

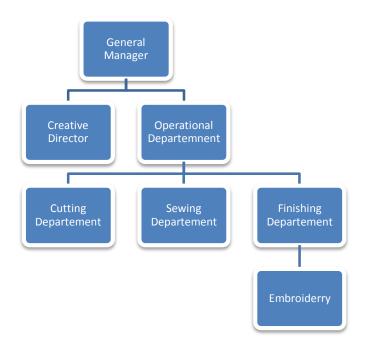
8. Business field :Textiles

9. Man power :35 peoples

(including trainers)

4. Organization Structure

The organizational structure is a systematic overview of the relationship cooperation between the people who are in an organization or institution in order to achieve the goals of the organization or agency. The organizational structure is something that is very important for every organization in the company because it is through the organizational structure of authority and responsibilities can be viewed and implemented with clear and achieves its intended purpose.



Organization Structure of Tiara Handicraft can be seen in figure 7:

Figure 7: Tiara Handicraft Organization Structure

Source: Processed Data 2014

5. Human Resource

To operate daily activity, Tiara handicraft have 35 people consist of 1 general Manager, 3 Creative Director, 2 people in Financial departement, 5 in Cutting departement, 15 in sewing departement, 7 people in finishing departement and 2 people in embroiderry departement below finishing departement. Every position have task like mention below:

1. General Manger

General manager is the highest position of TiARA Handicraft organizational Structure. There are some task that have to be done by general manager:

- a. Highest Project Manager
- b. Prepare, propose, negotiate, and revise Work Plan and Budget.
- c. To foster and coordinate work units

d. Enabling all work units and employees under its president in performing job duties in accordance with the strategy has been established in order to realize the best possible product and service for its customers.

2. Creative Director

TiARA Handicraft is a creative industry, creative director in TiARA handicraft have special position among other division. Task of Creative Director are:

- a. Meet the customer
- b. Suggest the newest design product
- c. Making sample product
- d. Generate unlimited creative idea
- e. Gather all important resource, especially information that useful in produce creative product
- f. Held some product research and experiment

To do all task above, Creative Director can not be restricted under other division other than general manager. Because creative director have to organize and gather all resource which very important in producing new product.

3. Operational Department

Operational department is the biggest departement among all existed departement in TiARA Handicraft. Because Operational departement exist and lead 3 other sub division in TiARA Handicraft like sewing, finishing and accessories, cutting and raw material division. Operational departement job is so important because all primary and daily task of TiARA Handicraft come from this departement.

Under Operational Manajer, job will be distributed in three departement:

1. Cutting and Raw Material Departement

- a) Calculate raw material needed to make products.
- b) Make pattern of bag and clothes.
- c) Prepare all fabric needs by Sewing Departement.
- d) Control cutted fabric neatly.
- e) Archieved all Pattern that made.
- f) Collect all left over material for recycling.
- g) Colouring Fabric in dye liquid.

2. Sewing Departement

- a) Sew material from cutting Departement.
- b) Build the best construction of product.
- c) Control sewed fabric neatly.
- d) Manage all threads and needle.
- e) Study the best technique to produce the best product.
- f) Analyze the weakness of sewing technique.
- g) Always open mind for new methods in sewing

Under sewing division, there is special sub division that have to manage different than others it was **Embroidery Division**. Embroidery division have to be independent, because embroidery process is a lot more complex and only few people can understand embroiderry activity. But sometimes embroidery division work together with creative director in order to get fresh creative design pattern.

3. Finishing and Accessories Departement

- a) Make accessories product
- b) Responsible in packing
- c) Evaluate all product output
- d) Product delivery service.

6. Existed Information System

Information system that already existed in Tiara Handicraft is Manual System. Manual system record every activity related with salary distribution in a book. Salary can be determined based on productivity and paid monthly.

Productivity based salary system is a salary calculation system based on how much work that can be done by worker, in other word worker productivity. The advantage of productivity based salary in Tiara Handicraft is handicapped person can compete with normal people in the term of quality. Because its different to compare normal people with handicapped in quantity production. Amount of money that received by worker come from productivity only and not including living cost such as water, electricity, room and food. Living cost has been covered by company as a facility.

No.	Tanggal	Penjahit	Banyak nya	TTD	Keterangan
23	E/3/201	drukturt.	40 Set	199	
24	2/3/200	Tapan-	4c Set	100	
25	8/4/200	euroso anomitar	40 84	pers =	
26	2/3/2011	Topan	462 502	John on	
27	1/3/280	Agod Warn	90 ju	(May) .	
28	9/3/2011	excede toro	40 tet	Ula 79	
29	10/8/2011	Avodure	40 eet	HA HAVE	
30	10/3/2011	Andon	40 sot	and from	
31	10/2/201	Торын	40 Set	800	
	19/3/20m	Cheero intria.	4e ser	Aug (1.87a	
	172.1204	CELLIN	413.5H	11/20	
	1513	EMEAH EMBAH	40 9th	N-A	1,0

Figure 8: Tiara Handicraft Document

Source: Processed Data, 2014

Figure 8 show that one of the process that have to be done before production. The document title is "Proses Dasar" can be translated as basic process. This process including making pattern and organizing raw material. Actually every product have different pattern and a lot of people will include in progress making. In the real situation, amount of product that can be produce is more than hundreds. It also show that conventional system used to record all

data based on paper. The use of paper is very unefficient. Paper resistence to time is very low. That is why conventional system is very hard to maintain.

In detail, the process of calculation can be calculated in few steps. There are :

- a) Creative director will construct what product that can be made.
- b) Leader of operational division will check the product and make agreement to how much cost needed and salary calculation. Time consumption also calculated.
- c) After agree the project will be dealed by General manager
- d) Cutting departement will begin the first process. They cut the fabric and material directly, leader of cutting departement will recorded activity in a book.
- e) Sewing departement will continue the process. Leader of departement recorded all activity inside.
- f) Finishing departement will finished all process and they also record all activity.
- g) Leader of Operational division will collect all activity data from cutting, sewing and finishing department and sum all process in one book and multipply all activity with price that already dealed before.
- h) At the end of month, Leader of operational division will distribute the salary based on that recorded.

B. System Analyze

1. **Problem Identification**

Flowchart is a type of diagram that represents an algorithm or process, showing the steps as boxes of various kinds, and their order by connecting them with arrows. This diagrammatic representation illustrates a solution to a given problem. Process operations are represented in these boxes, and arrows; rather, they are implied by the sequencing of operations. Flowcharts are used in analyzing, designing, documenting or managing a process or program in various fields. Flow chart of existing system showed like this:

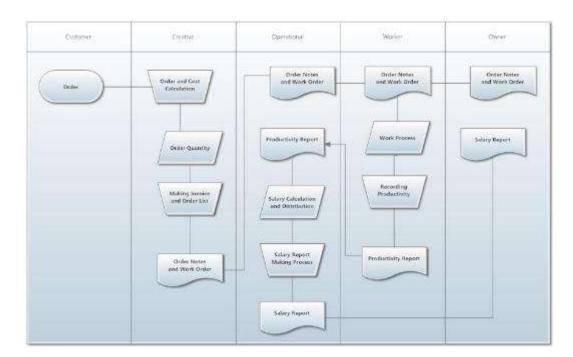


Figure 9: Tiara Handicraft Flow Chart

Source: Processed Data, 2014

Designing Salary Information System in Tiara Handicraft will give advantage and efficiency. From beginning condition, people not using computer to solve salary problem and still use manual system, but after that system applied, computerization will support the work of all process related with salary information system. Like recording data quickly, serve up date information of salary, and internal control will easily maintain.

In the step of analysis system, identifying problem is very important to describe system weakness into detail. The purpose of analysis system is identify and evaluate problem, needs and solution. Here is the problem identification of existed system in Tiara Handicraft:

- a. Employee work recorded manually and less control. Validity of data can't be maintain.
- b. Miscommunication between departement
- c. Salary calculation is not efficient because calculated manually
- d. Production progress can't be control effective and accurate because information isn't up to date
- e. Paper base archieve is very fragile.

2. Undestanding System Worked

Existed system that run in Tiara Handicraft is manual system. Company have to use more resource and people to do checking activity of recording dalary data. Because peace work system is very difficult to maintain. Salary based on work have to be integrated with database of product. Tiara handicraft as a creative factory will produce a lot kind of product frequently. That is why it will be difficult to maintain the database manually.

Internal control also difficult. The process is very complex. Result of the complex process will affect the slow decision making process.

a. Business Perspective Comparison of Manual Salary System and Computer Based Salary Information system

	Manual Salary System	Salary Information
		System
Paper	1 product = 10 pcs paper document	Just 10 pcs of paper
Consumption	1 week = 10 product invention	in a month at most
	1 month = 4 week	for report if owner
	1 month = 400 pcs paper document	want.
	1 year = 4800 pcs paper	

Calculation	1 worker = 10 minute	Auto calculation,
Speed	43 worker = 7 hour 12 minutes	no times needed.
Human	2 people for collecting data	1 people for data
Resource Need	2 people for calculation and	input
	matching the data	
Data Validity	No-real time data	Real time data
		Validity
Data	Big Archiving locker to keep track	1 GB computer
Archiving	data product and worker productivity	hardisk for 5 years
	in 1 year data	data
Cost of	Paper Cost = Rp. $150 \times 400 \text{ pcs}$	Worker Fee = 1
Operation	= Rp. 60.000/month	people x Rp.50.000
	Worker fee = 4 people x Rp. 50.000	= Rp.
	= Rp. 200.000	50.000
Cost of	Paper = 60.000	1 set of Personal
Production	Pen = 10.000	computer =
	Archive locker = 540.000*	Rp. 2.500.000
	Total = 610.000	Software $cost = Rp$.
		1.200.000
		Total Rp.
		3.700.000
System	Centralized	High possibility for
Control		networking

Table 1: Comparison of Manual Salary System and Salary Information System

Source: Processed Data, 2014

Notes: * dimension 35 x 40 x 146 cm

Comparing manual salary system with computer based salary information system in business aspect is very interesting. In the term of paper consumption, manual salary system demand high quantity of paper, four hundreds pieces of paper per month. Compared with salary information system which just needed paper in case owner wants at most ten pieces of paper in a month. Why manual system need more paper? The reason is not just recording worker productivity to produce the item but also recording the making process of each item and converting each process to production cost. Salary information system calculate all process automatically inside of computer.

Calculation speed is different between manual system and salary information system. Manual system need ten minutes to calculate one worker salary. With 43 worker, total time consumption is seven hour twenty minutes at most. Those time allocation consist of collecting productivity data and convert it into worker cost. Since salary information using automatic system, calculation run automatically with no limitation of human weakness in organizing high amount of data.

Human resource need for manual system is four people. Consist of two people collecting data and other two calculate the salary. With salary information system one people is enough, two people at most. In salary information system, human only have the task to input the data. The rest will be calculate automatically in computer. Data validity for manual salary system isn't actual. Manual salary system calculate in the end of the month and all of it recorded manually. Computer based salary information system can input the data everyday and data can be presented actual daily. Data validity is very high and accurate.

Archiving data of manual salary system needed more space and fragile data. Since paper is very fragile especially from water and time, special locker to keep the paper document is very important. Computer based salary information system keep all data inside of hardisk. Computer hardisk is very compact and data can resist for a long time. The computer data is quite small, probably one gigabytes is enough for five years data. In a year no more than fifty megabyte. Those data is very compact and mobile, can be easily stored at small flash disk.

Cost of operation for manual system consist of paper cost and human fee. Since company doesn't needed special accountant to calculate the salary, calculation and data collecting can be handled by normal people. But big amount of data by manual system needed minimum 4 people to handle and documenting salary in each month. The total cost can be seen on table. Computer based salary information system is very simple. Just one people needed. Together with production cost, manual salary system is very cheap compare with computer based salary information system. Computer based salary system is three times more expensive compared to manual system, but those cost only spent in the beginning of system made, for continuity system will run automatically with very minimum human resource and paper.

System control for manual system is very centralized, compared to computer based salary information system that can be decentralized via network. The update information can be presented in real time in different place. That's advantage to controlling the system from outside of the company.

The conclusion of comparing manual salary system with salary information system is Salary information system is better than manual system in the term of efficiency and effectiveness in need of human and paper source. Time consumption and data validity is lower than manual system. Data archiving is very small and the operational cost spent every month is a lot cheaper. With networking, system can be controlled anywhere and operate in different place but in the same time. But all of the advantage come with cost. High cost of production, three times bigger than manual system. This

production cost just need to be spent in the start of system, after the system run company can spent money for operational cost. With high efficiency of salary information system, production cost is nothing trouble for company who want sustainability and future advantage

3. System Weaknesses Analyze

Based on problem identification and understanding worked System, the outcome analysis of the weakness are :

- a. Archive can't be organized well. More than fifteen years has passed since Tiara Handicraft first build. Archive of past data is very important in order to help making future decision. With high amount of data and fragile of paper based record, salary archive is very difficult to maintain.
- b. High variety of order characteristic makes manual system difficult to control and record all order. In fact, order characteristic will grow together with human behavior and style, it also give impact to the variety of product and production process that have to be done.
- c. Information which not updated will result low internal control.

4. Information Needed Analyze

Tiara Handicraft have to give consumer satisfaction and fast decision making system to achieve the right target in serving information. Because now the report that received by management not so satisfied. Information is slow, not update, and less accuracy. That all because company still use manual system. That is why existed system can't fulfill the company needs, company need the new system that helped them in providing better data.

Related with system development and from researcher field observation, researcher conclude that information needed for salary information system are :

- a. Product Information
- b. Employee information

- c. Cutomer Information
- d. Work Process Information
- e. Order Information

5. Technology Needed Analyze

System design and development have purpose to get faster and accurate information in order to increase work quality. In process of designing information system, Tiara Handicraft need supporting devices in order to make system run smoothly.

Devices needed are:

a. Hardware

Hardware needed is a set of computer (CPU, Monitor, Keyboard, Mouse) with minimum specification memory RAM 1 GB, Processor Core two duo 2,4 GHz, Hardisk 320 GB, VGA 512 MB and Printer.

b. Software

Basic Operating system use is Microsoft Windows with any supporting program which include inside it.

c. Brainware

Human resource that can be functioned as technician or user of applied system. With ability to understand and run computer based information system.

C. System Design

After analyze and understanding the data, next step is designing a system. Design System is process of making new system as description to user about computer based infromation system. There are few komponen needed with certain function to buil system.

1. Model Design

To describe how the function worked, it will be best tohave design model, design model logic and physic.

a. Logical Design

Logical design described with Data Flow Diagram (DFD). DFD use to describe a system which wanted to build in the term of logic with no concern for physical environment where those data saved. In DFD, the first thing to describe is Context Diagram. From Context Diagram there will be describe more detail to Level-n diagram until every process can't be draw in more detailed.

1) Context Diagram

Context diagram explain system relationship integrally and external entity. All party involved in system are :

a. Customer : as party who made order data. All customer needed

Will be recorded in order data.

b. Owner : all report as output of system such as order, salary and

processs report will be presented to owner

c. Worker : all worker personal information will be recorded in

worker data.

 d. Operational : Data flow from Operational to system are product and process data. Both data is very important in determine and calculate worker salary.

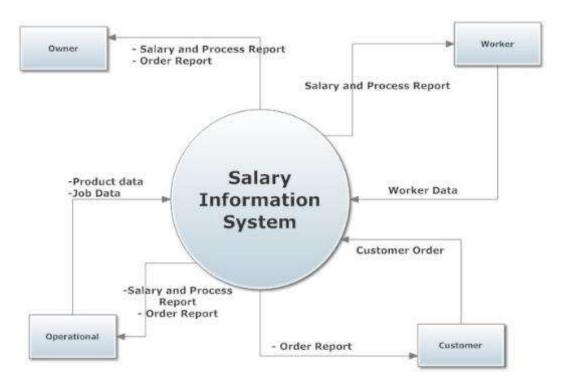


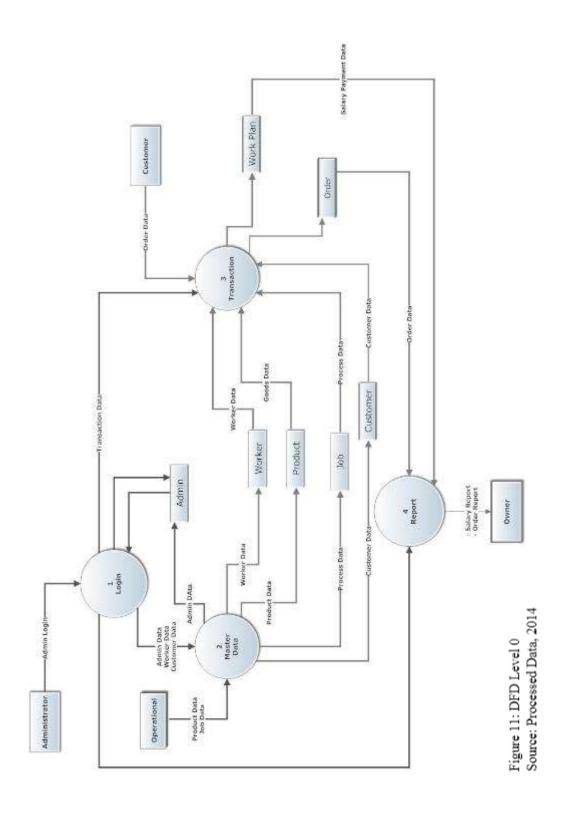
Figure 10: Context Diagram Source: Processed Data, 2014

2) Levelled DFD

Levelled DFD is a description of context diagram which contain process involved inside of system including datastore. Computer based salary information system Levelled DFD described in detailed from level 0 to level n.

a. DFD Level 0

In the picture DFD Level-0 is description of context level. In this level, there were four main process. There are Login, Data Master, Transaction, Report. More detailed level 0 decribed in figure 11.



b. DFD Level-1

In this level, each of process from level-0 will described more in more detailed process like :

1. DFD Level 1 Login process. This process describe about login process, the first process before goin in to other process. Picture of DFD Level 1 login process can be saw in figure 12.

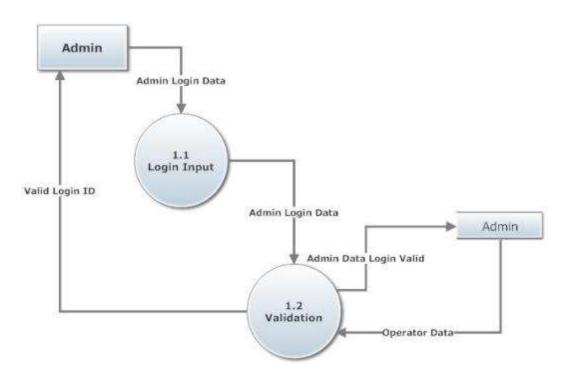


Figure 12: DFD Level 1 Login Process

Source: Processed Data, 2014

2. DFD Level 1 Data Master Process

This process explain about data processing and input data. Picture of this DFD Level can be figure 13.

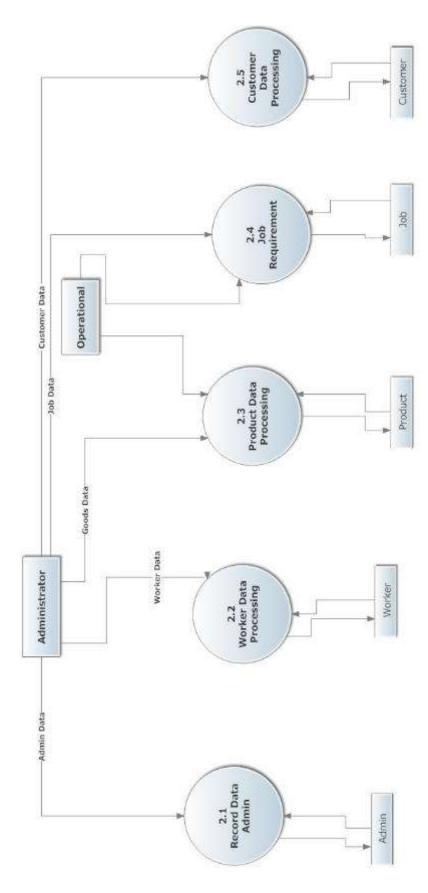
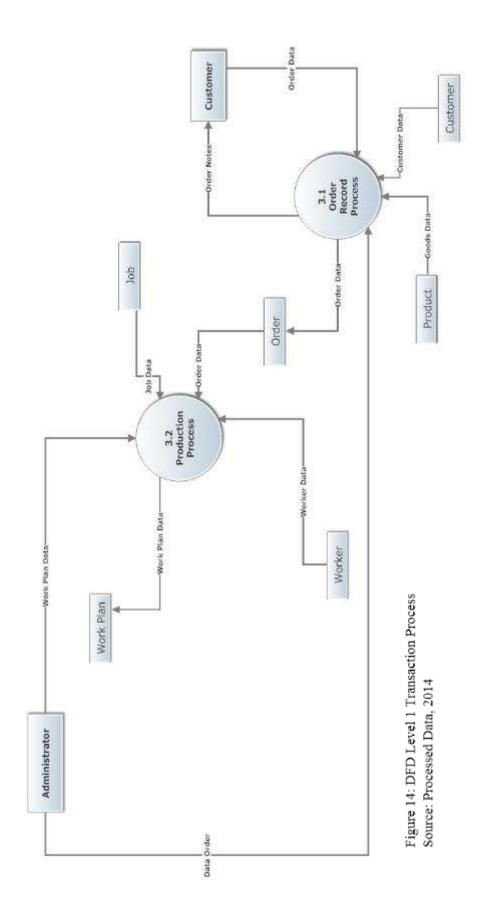


Figure 13: DFD Level 1 Data Master Process Source: Processed Data, 2014

3. DFD Level 1 Transaction Process

This process explain about transaction documentation. The picture of DFD level 1 transaction process can be seen in figure 14.



4. DFD Level 1 Report Process

This process explain about report making process for owner. Picture of this DFD can be seen on figure 15.

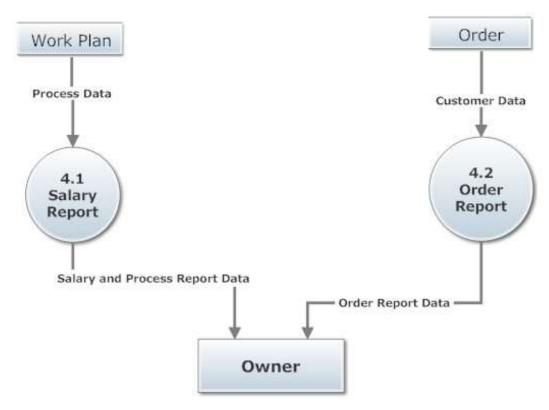


Figure 15: DFD Level 1 Report Process

c) DFD Level-2

This DFD level 2 explain more detail about any process in level before. More clear informstion, this system DFD level 2 presented below :

DFD Level 2 Admin Data Input
This DFD explain about Admin Data Input Process. The picture presented in figure 16.

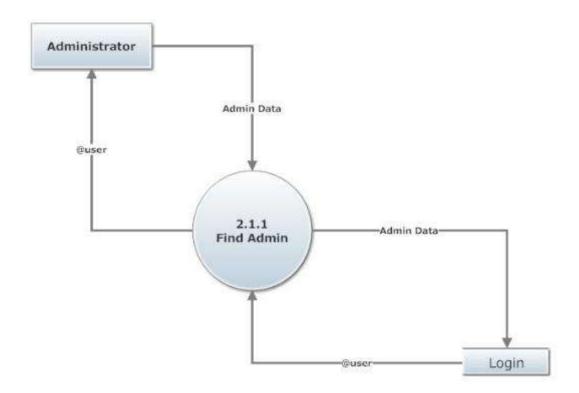


Figure 16: DFD Level 2 Admin data input

2) DFD Level 2 Worker Data Processing

This DFD explain about Worker Data processing. The process are add, edit and delete worker data. The picture presented in figure 17.

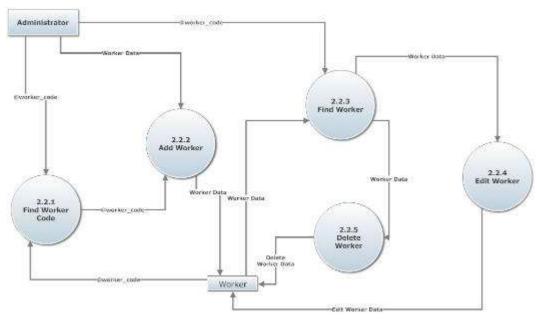


Figure 17: DFD Level 2 Worker Data Processing

Source: Processed Data, 2014

3) DFD Level 2 Product Data Processing

This DFD explain about Product Data Processing. The process are add, edit and delete goods data. The picture presented in figure 18.

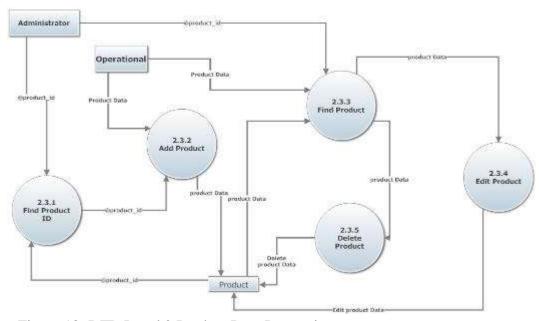


Figure 18: DFD Level 2 Product Data Processing

4) DFD Level 2 Job Data Process

This DFD explain about Job. The process are add, edit and delete making process. The picture presented in figure 19.

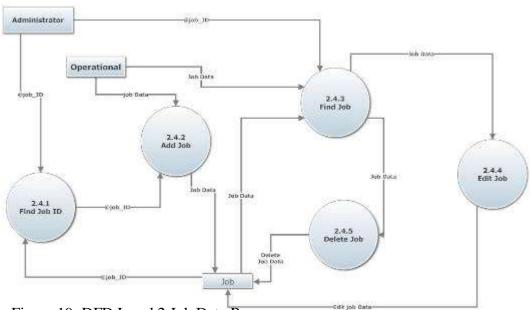


Figure 19: DFD Level 2 Job Data Process

Source: Processed Data, 2014

5) DFD Level 2 Customer Data Process

This DFD explain about Customer. The process are add, edit and delete making process. The picture presented in figure 20.

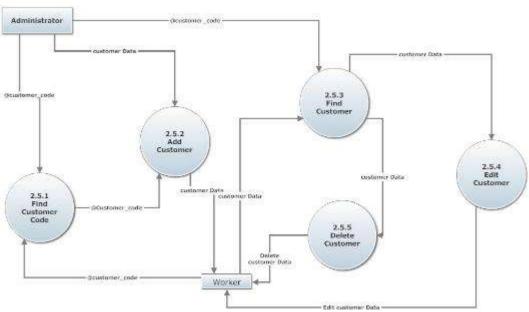


Figure 20: DFD Level 2 Customer Data Process

5) DFD Level 2 Order Record Process

This DFD explain about Order Record Process. The picture presented in figure 21.

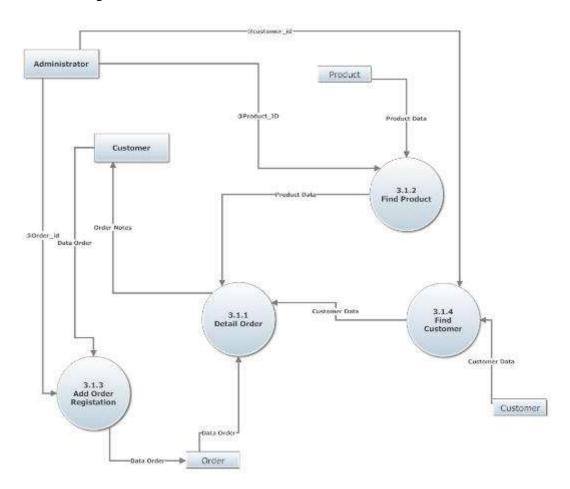


Figure 21: DFD Level 2 Order Record Process

6) DFD Level 2 Workplan Process

This DFD explain about Production Process Transaction. The picture presented in figure 22.

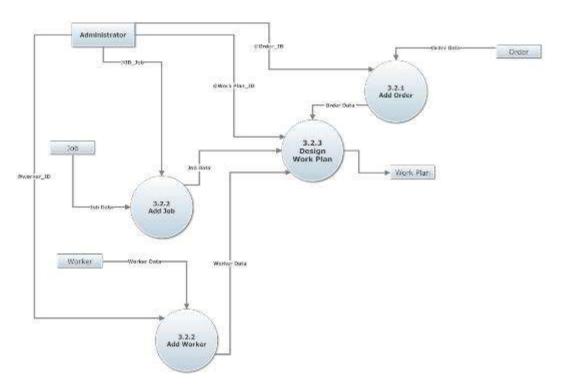


Figure 22: DFD Level 2 Workplan Process

b. Physical Design

Physical design sketch can show to user how system will work and implemented physically. In salary information data processing based on computer and need method and procedure which can defined the procedure to make output and input. Structure design and program aplication menu presented in figure 23:

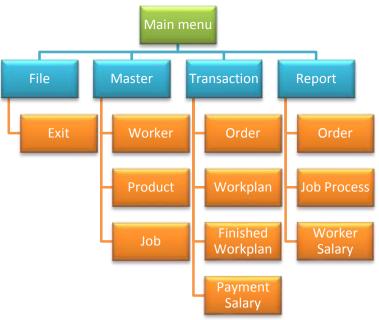


Figure 23: Program Physical Design

Source: Processed Data, 2014

2. Database Design

Database is one of the most important component in information system, because database have function as basic place of information serve for user. That is why in designing database have to prepare what kind of table needed for system information that designed.

a) Entity Relationship Diagram

Designing database for system will be needed tools to describe it, one of the databse modelling tools is ERD (Entity Relationship Diagram), in this step will be designed a diagram which describe relationship between entity that formed salary information system,

where those entities in future will be used to build database table structure. Every entity in ERD must have those attribute which described characteristic from those entity. Entity and attribute wich formed salary information system like this:

1) Admin

Is an entity which store administrator data with primary keyadmin_id

2) Customer

Is an entity which store Customer data with primary keycustomer_id

3) Order

Is an entity which store order data with primary keyorder_id

4) Worker

Is an entity which store worker data with primary keyworker_id

5) Product

Is an entity which store product data with primary keyproduct_id

6) Job

Is an entity which store job data with primary keyjob_id

7) Work Plan

Is an entity which store Work plan data with primary keywork_plan_id

1) Admin

Is an entity wich function to store Operator data. This Entity have one primary key wich have existed in attribute Admin_Id. Admin entity show in table 2.

Attribute	Primary Key	Description
admin_id	*	Administrator Identification
username		User name
password		User Password

Table 2: Admin Entity Attribute Source: Processed Data, 2014

Note: Symbol * showed as primary key (same with next tabel)

2) Customer

Is an entity wich function to store Customer data. This Entity have one primary key wich have existed in attribute customer_id. Customer entity show in table 3.

Attribute	Primary Key	Description
customer_id	*	Customer ID
customer_name		Name of the Customer
customer_address		Address of the Customer
customer_phone		Phone of the Customer
customer_email		Email of the Customer
customer_path		Customer picture path

Table 3: Customer Entity Attribute Source: Processed Data, 2014

3) Worker

Is an entity wich function to store Worker data. This Entity have one primary key wich have existed in attribute worker_id. Worker entity show in table 4.

Attribute	Primary Key	Description
worker_id	*	Worker ID
worker _name		Name of the worker
worker _address		Address of the worker
worker _phone		Phone number of the worker
worker _email		Email of the worker
worker _path		Worker picture path

Table 4: Worker Entity Attribute Source: Processed Data, 2014

4) Order

Is an entity wich function to store Order data. This Entity have one primary key wich have existed in attribute order_id. Order entity show in table 5.

Attribute	Primary Key	Description
order_id	*	Order ID
customer_id		Customer ID
product_id		Product ID
product_qty		Quantity of the product
order_date		Order Date
order_status		Order Status

Table 5: Order Entity Attribute Source : Processed Data, 2014

5) Product

Is an entity wich function to store Product data. This Entity have one primary key wich have existed in attribute product_id. product entity show in table 6.

Attribute	Primary Key	Description
product_id	*	Product ID
product_name		Name of the product
product_description		Description of the product
product_path		Product picture path

Table 6. Product Entity Attribute

Source: Processed Data, 2014

6) Job

Is an entity wich function to store Job data. This Entity have one primary key wich have existed in attribute job_id. Job entity show in table 7.

Attribute	Primary Key	Description
job_id	*	Job ID
product_id		Product ID which match job
job_name		Name of the job
job_cost		Cost of the job
job_qty		Quantity of the job
job_description		Description of the job

Table 7: Job Entity Attribute Source: Processed Data, 2014

7) Work Plan

Is an entity wich function to store Work Plan data. This Entity have one primary key wich have existed in workplan_id. Work plan entity show in table 8.

Attribute	Primary Key	Description
workplan_id	*	Workplan ID
order_id		Order that match workplan
job_id		Job that match workplan
worker_id		Worker who did job
worker_quote		Worker quote and describe
workplan_status		Status of the workplan
finished_date		Date of finished work
payment_status		Salary payment status
payment_date		Date of salary payment

Table 8: Work Plan Entity Attribute

3. Table Relation

Table relation formed with field and primary key showed below

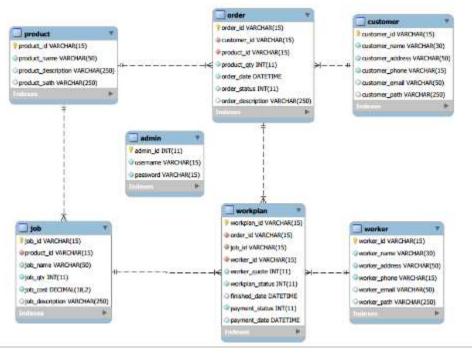


Figure 24: Program Table Relation

Source: Processed Data, 2014

Table relation use to describe the connections between different database tables. Every component of table relation are connect each other and very important. Table relation can describe relationsip of each entity with one to many relationship and connection of every element. Crow foot symbol means many entity and on other side one way symbol means one entity. Example of Worker with work plan is one to many relationship. Means that one worker can do many task of workplan. This graph also describe that job entity status is one, than workplan has crow foot is many. For one job can be applied in many workplan. Same symbol have same relationship with other entity.

4. Tables Structure

Based on ERD and explaination of each entity with their own attribute, there will be made tables wich formed database. Here is tables that will be use for database of salary information system.

a) File Admin

File Admin use to store operator data. File admin showed on table 9.

Coloumn	Type	Field Length	Key Name
admin_id	Int	11	Primary Key
username	Varchar	15	
password	varchar	15	

Table 9: Admin Table Structure Source: Processed Data, 2014

b) Customer

Is an entity wich function to store Customer data. Customer entity show in table 10.

Attribute	Type	Field Length	Key Name
customer_id	Varchar	15	Primary Key
customer_name	Varchar	30	
customer_address	Varchar	50	
customer_phone	Varchar	15	
customer_email	Varchar	50	
customer_path	varchar	250	

Table 10: Customer Table Structure

Source: Processed Data, 2014

c) Worker

Is an entity wich function to store Worker data. Worker entity show in table 11.

Attribute	Type	Field Length	Key Name
worker_id	Varchar	15	Primary Key
worker _name	Varchar	30	
worker _address	Varchar	50	
worker _phone	Varchar	15	
worker _email	Varchar	50	
worker_path	Varchar	250	

Table 11: Worker Table Structure Source: Processed Data, 2014

d) Order

Is an entity wich function to store Order data. Order entity show in table 12.

Attribute	Туре	Field Length	Key Name
order_id	Varchar	15	Primary Key
customer_id	Varchar	15	Foreign Key
product_id	Varchar	15	Foreign Key
product_qty	Int	11	
order_date	Datetime		
order_status	int	11	
order_description	varchar	250	

Table 12: Order Table Structure Source : Processed Data, 2014

e) Product

Is an entity wich function to store Product data. Product entity show in table 13.

Attribute	Type	Field Length	Key Name
product_id	Varchar	15	Primary Key
product_name	Varchar	50	
product_description	Varchar	250	
product_path	Varchar	250	

Table 13: Product Table Structure Source : Processed Data, 2014

f) Job

Is an entity wich function to store Job data. Job entity show in table 14.

Attribute	Type	Field Length	Key Name
job_id	varchar	15	Primary Key
product_id	Varchar	15	Foreign Key
job_name	Varchar	50	
job_cost	Decimal	18,2	
job_qty	Int	11	
job_description	varchar	250	

Table 14: Job Table Structure Source: Processed Data, 2014

g) Work Plan

Is an entity wich function to store Work Plan data. Work plan entity show in table 15.

Attribute	Type	Field Length	Key Name
workplan_id	varchar	15	Primary Key
order_id	varchar	15	Foreign Key
job_id	varchar	15	Foreign Key
worker_id	varchar	15	Foreign Key
worker_quote	int	11	
workplan_status	int	11	
finished_date	datetime		
payment_status	int	11	
payment_date	datetime		

Table 15: Work Plan Table Structure

5. System Implementation

System that already analized and designed in detail, technology has been selected and choosen. Afterward, the time for sistem to be implemented. System implementation step is a step of placing system so that ready to operated. This stage including with coding. Code writing in salary information system can be seen at attachment page.

6. System Examination

a. Login Form

Login Form has function to start application. Login form will be the first page that will be showed. Login form can be seen here:

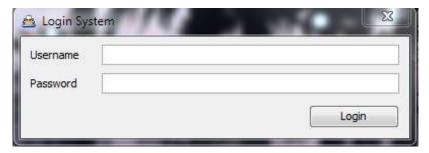


Figure 25: Login Form



Figure 26: Filled Login Form Source: Processed Data, 2014

If password and username incorrect of filled blank, there will be warning like in figure 27.



Figure 27: Warning Message Source : Processed Data, 2014

b. Main Menu



Figure 28: Main Menu

Main menu consist of 4 tab. Consist of File, Master, Transaction, Report. Those menu is he first menu that will be shown in the program. Every tab has their own task. Tab file consist of exit menu, the purpose is to close the program. Tab Master is the source of worker, job, customer and product data. Transaction tab has purpose to collect all business process and transaction data. Report tab needed to show all report that system provide. There are Order, Salaray and process report.

c. File Tab



Figure 29: File Tab

Source: Processed Data, 2014

Tab file show exit menu. Exit use to close the program. Otherway to close the program can be done with click on X symbol on top right corner of aplication.



Figure 30: Exit Symbol on top right corner

Source: Processed Data, 2014

d. Master Tab



Figure 31: Master Tab

Source: Processed Data, 2014

Tab master consist of four basic data, there are worker, job, customer and product data. Those data is very important to this system. Since all four of them have to be prepared before start. Below will be shown test of those data

1) Test of Input Worker Data

Worker F	orm	- D
ID	WK201408-00006	
Name	Guntur Prasetyo	
Address	Nguing, Pasuruan	
Phone	08174585423	
Email		

		Save Cancel

Figure 32: Worker Form

Source: Processed Data, 2014

Data have to be record everytime there were new worker. Form have to be filled well. Name, address, and phone must filled. For ID, system will generate the code itself. There will be no same Worker ID for every worker. For email and description can be left blank. For the final touch, system data can also be attached by photo. If data saving ssuccess, there will be shown message like below:



Figure 33: Saving Done Message Source: Processed Data, 2014

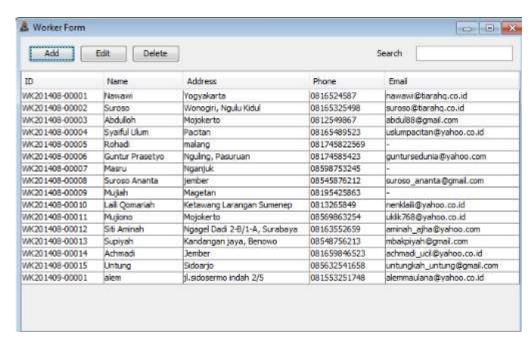


Figure 34: Worker Data

2) Test of Input Customer Data

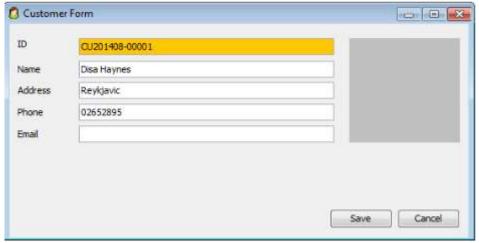


Figure 35: Customer Form

Source: Processed Data, 2014

Data have to be record everytime there were new cutomer. Form have to be filled well. Name, address, and phone must filled. For ID, system will generate the code itself. There will be no same Customer ID for every customer. For email and description can be left blank. For the final touch, system data can also be

attached by photo. If data saving ssuccess, there will be shown message like below:

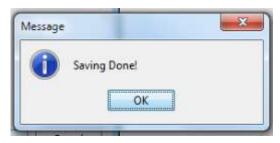


Figure 36: Saving Done Message Source : Processed Data, 2014



Figure 37: Customer Data Source : Processed Data, 2014

3) Test of Input Product Data



Figure 38: Product Form

Source: Processed Data, 2014

Data have to be record everytime there were new product. Form have to be filled well. Name must filled. For ID, system will generate the code itself. There will be no same Product ID for every product. For description can be left blank. For the final touch, system data can also be attached by photo. If data saving ssuccess, there will be shown message like below:

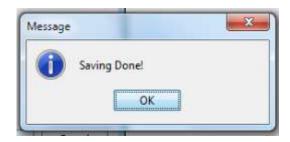


Figure 39: Saving Done Message Source : Processed Data, 2014

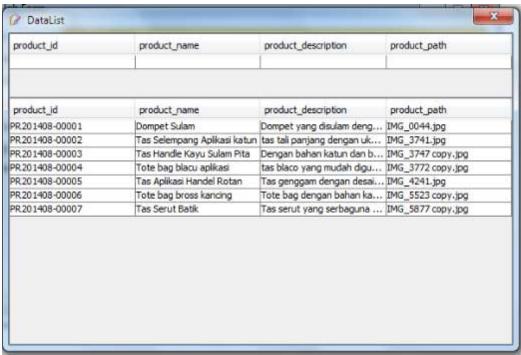


Figure 40: Product List

4) Test of Input Job Data

Dob Form	
ID	JB201408-00041
Product ID	PR201408-00003
Product Name	Tas Handle Kayu Sulam Pita
Name	Cleaning
Cost / pcs	1500
Qty	1
Description	
Save	Cancel

Figure 41: Job Form

Data have to be record everytime there were new job process and product. For every product have their own job, all of it have to record and calculate in detail. Form have to be filled well. Name, product, quantity, cost must filled. For ID, system will generate the code itself. There will be no same Job ID for every job. For description can be left blank. If data saving ssuccess, there will be shown message like below:

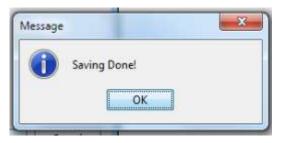


Figure 42: Saving Done Message Source : Processed Data, 2014

Add Ed	t Delete	Search	1	
ID	Product	Name	Cost / pcs	
JB201408-00039	Dompet Sulam	Cleaning	1000.00	
JB201408-00046	Dompet Sulam	Kemas	1500.00	Ì
JB201408-00032	Dompet Sulam	Pasang resleting	2000.00	ı
JB201408-00001	Dompet Sulam	Potong Busa	1000.00	
JB201408-00008	Dompet Sulam	Potong Kain	2000.00	ľ
JB201408-00025	Dompet Sulam	Rakit Badan	4000.00	
JB201408-00015	Dompet Sulam	Sulam Pita	5000.00	
JB201408-00043	Tas Aplikasi Handel Rotan	Cleaning	1500.00	
JB201408-00050	Tas Aplikasi Handel Rotan	Kemas	2000.00	
JB201408-00022	Tas Aplikasi Handel Rotan	Pasang Aplikasi	2000.00	
JB201408-00036	Tas Aplikasi Handel Rotan	Pasang Clip tutup dan Han	3000.00	
JB201408-00021	Tas Aplikasi Handel Rotan	Potong Aplikasi	2000.00	
JB201408-00005	Tas Aplikasi Handel Rotan	Potong Busa	3000.00	
JB201408-00011	Tas Aplikasi Handel Rotan	Potong Kain	2500.00	
JB201408-00029	Tas Aplikasi Handel Rotan	Rakit Badan	4000.00	
JB201408-00041	Tas Handle Kayu Sulam Pita	Cleaning	1500.00	
JB201408-00048	Tas Handle Kayu Sulam Pita	Kemas	2000.00	
JB201408-00034	Tas Handle Kavu Sulam Pita	Pasang Magnet dan Handle	4000.00	

Figure 43: Job List

e. Transaction Tab

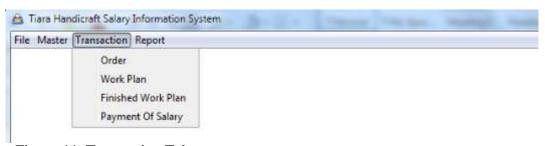


Figure 44: Transaction Tab Source : Processed Data, 2014

Transaction tab consist of four basic data, there are order, work plan, Finished Work Plan and Payment of Salary. After all data in master menu filled, the next phase is processing transaction. Transaction section use to organize all activity related with order, work plan, finished work plan and payment of salary. Order has purpose to record what customer needed. Work plan have to be made since to fulfill customer need, producing goods is the main one. In order to achieve that, work plan have to be sign with certain worker and job. Finished work plan can record which job is finished and what job process that still needed to be done. Payment is final task, after job finish worker ned to be paid. This section is very important to know who worker must be paid. Examination of transaction phase can be seen below.

1) Test of Order Transaction

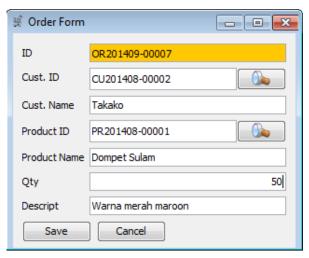


Figure 45: Order Form

Source: Processed Data, 2014

Order data filled with all customer needed. Data have to be record everytime there were new Order. Form have to be filled well. Customer name, product name, quantity, cost must filled. For effectiveness, inputing product and customer name can be done with customer and product ID. To do that, click on light torch symbol for searching customer or product. For order ID, system will generate the code itself. There will be no same Order ID for every order. Description of order can also be write in description coloumn. If data saving ssuccess, there will be shown message like below.



Figure 46: Saving Done Message Source: Processed Data, 2014

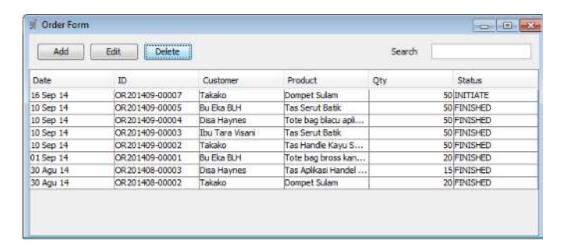


Figure 47: Order List

Status of order can be saw in status coloumn in order form. There will show three status. There are Initiate, On progress, and Finished. Initiate means order job hasn't been distributed yet. It means order just newly received and nobody handle the job yet. On progress means that job already distribute, but not finished yet. The last is finished, means the order already finished and ready to be paid. All status can be shown in real time.

Work Plan Form Search Order ID Product Job Job Qty Job Quota OR201409-00007 Dompet Sulam Potong Busa 50 50 OR 201409-00007 Dompet Sulam 50 50 Potong Kain OR 20 1409-00007 Dompet Sulam Sulam Pita 50 50 OR201409-00007 Dompet Sulam 50 Rakit Badan 50 OR.201409-00007 Dompet Sulam Pasang resleting 50 50 Dompet Sulam 50 OR 201409-00007 50 Cleaning OR 201409-00007 Dompet Sulam Kemas 50 50

2) Test of Work Plan

Figure 48: Work Plan Form Source: Processed Data, 2014

Work plan have to be made since to fulfill customer need, form of the work plan showed in Figure 48. In order to achieve that, work plan have to be sign with certain worker and job. Data have to be record everytime there were new Order. Form have to be filled well. Worker name, ID, quota must filled. Quota is maximum job that person can be done. Amount of quota is depend of amount of product which cutomer order and how much job quantity in one product. For effectiveness, inputing product and customer name can be done with worker ID. To do that, click on light torch symbol for searching customer or product. For order ID, system will generate the code itself. There will be no same Order ID for every order. If data saving ssuccess, there will be shown message like below.

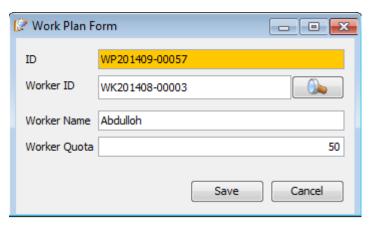


Figure 49: Work Plan Form Source : Processed Data, 2014

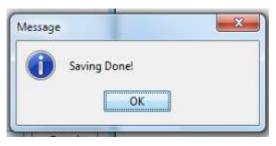


Figure 50: Saving Done Message Source : Processed Data, 2014

Order ID		Product	Job	Job Qty	Job Quota
OR 20 1409	-00007	Dompet Sulam	Potong Busa	50	
OR 20 1409	-00007	Dompet Sulam	Potong Kain	50	50
OR 20 1409	-00007	Dompet Sulam	Sulam Pita	50	50
OR 20 1409	-00007	Dompet Sulam	Rakit Badan	50	50
OR 20 1409	-00007	Dompet Sulam	Pasang resleting	50	50
OR 20 1409	-00007	Dompet Sulam	Cleaning	50	50
OR 20 1409	-00007	Dompet Sulam	Kemas	50	50

Figure 51: Work Plan Form after job distribution

Finished Job Form - 0 X Search ID Worker Quota Finished Date Job Name Worker Name Status 50 ON PROGRESS WP201409-00062 Cleaning Laili Qomariah WP201409-00063 Kemas Guntur Prasetyo 50 ON PROGRESS WP201409-00059 Pasang resleting Mujiah 50 ON PROGRESS WP201409-00057 Potong Busa Abdulloh 50 ON PROGRESS WP201409-00058 Potong Kain Syaiful Ulum 50 ON PROGRESS WP201409-00060 Rakit Badan Suroso Ananta 50 ON PROGRESS WP201409-00061 Sulam Pita 50 ON PROGRESS Mujiah

3) Test of Finished Work Plan

Figure 52: Finished Job Form Source: Processed Data, 2014

Finished work plan can record which job is finished and what job process that still needed to be done. In this section, user can observe which job on progress. If user found finish job, user can just click the job and confirmation of finish will be show like below. If answer is yes, progress status will be change.

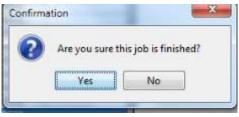


Figure 53: Finished Job Confirmation

Source: Processed Data, 2014

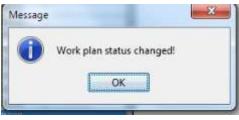


Figure 54: Work Plan Status Message

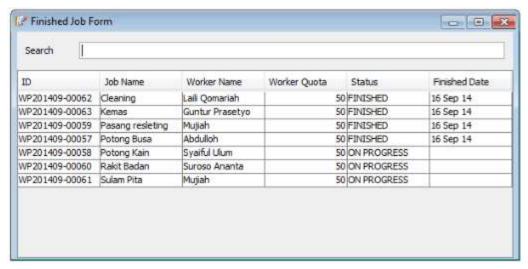


Figure 55: Finished job form after status change

4) Test of Salary Payment

Search							
ID	Job Name	Worker Na	Worker Q	Job Cost	Worker Sa	Payment S	Payment
WP201409	Potong Busa	Abdulloh	50	1000.00	50000.00	PAYMENT	
WP201409	Potong Kain	Syaiful Ulum	50	2000.00	100000.00	PAYMENT	
WP201409	Sulam Pita	Mujiah	50	5000.00	250000.00	PAYMENT	
WP201409	Rakit Badan	Suroso Ana	50	4000.00	200000.00	PAYMENT	
WP201409	Pasang resl	Mujiah	50	2000.00	100000.00	PAYMENT	
WP201409	Cleaning	Laili Qomariah	50	1000.00	50000.00	PAYMENT	
WP201409	Kemas	Guntur Pras	50	1500.00	75000.00	PAYMENT	

Figure 56: Payment Form Source: Processed Data, 2014

Payment is final task, after job finish worker ned to be paid. This section is very important to know who worker must be paid. Worker that needed to be paid will be labelled as "PAYMENT". User can pay the worker directly and change the worker status as "PAID". To change the worker status just click on the worker name and there will show confirmation. If answer is yes, worker status will change.

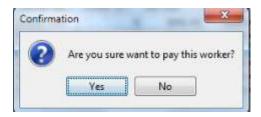


Figure 57: Payment Confirmation Source : Processed Data, 2014



Figure 58: Payment Status Message Source : Processed Data, 2014

Search							
ID	Job Name	Worker Na	Worker Q	Job Cost	Worker Sa	Payment S	Payment
WP201409	Potong Busa	Abdulloh	50	1000.00	50000.00	PAID	16 Sep 14
WP201409	Potong Kain	Syaiful Ulum	50	2000.00	100000.00	PAID	16 Sep 14
WP201409	Sulam Pita	Mujiah	50	5000.00	250000,00	PAID	16 Sep 14
WP201409	Rakit Badan	Suroso Ana	50	4000.00	200000.00	PAYMENT	
WP201409	Pasang resi	Mujiah	50	2000.00	100000.00	PAYMENT	
WP201409	Cleaning	Laili Qomariah	50	1000.00	50000.00	PAYMENT	
WP201409	Kemas	Guntur Pras	50	1500.00	75000.00	PAYMENT	

Figure 59: Payment Status change Source : Processed Data, 2014

f. Report Tab

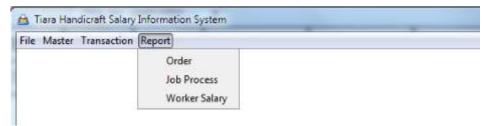


Figure 60: Report Tab

Source: Processed Data, 2014

The output of the system is report. Same with this program, in report tab there will be shown three report as the result of system work. Order, job process and worker salary report. Report can be saved in JPEG, PDF and java script data. Depend on what kind of data needed by user. The report of this program can be shown below.

1) Order report

Order Report		X
Start Date	2014-09-01	
End Date	2014-09-30	
Order ID		
Status	ALL	▼]
		Show Report

Figure 61: Order Report Form Source: Processed Data, 2014

Order report show all detail information of the order. To show the report just decide the order start and finished date. If user want more specific report, user can input order ID by input manually or click light torch button to search order. For status, there are three kind of status. There are initiate, on progress and finished status order. After that, just click show report. Report will be shown.



Figure 62: Order Report

2) Job Process Report

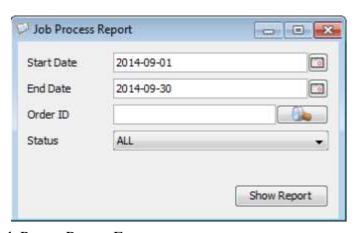


Figure 63: Job Proses Report Form Source: Processed Data, 2014

Process report show all detail information of job process. To show the report just decide the job process start and finished date. If user want more specific report, user can input order ID by input manually or click light torch button to search order. For status, there are two kind of status. There are progress and finished status order. After that, just click show report. Report will be shown.



Jl. Sidosermo Indah II/5 Surabaya - 60239

Telp: 031-8437014 Email: tiara_hcraft_id@yahoo.com

JOB REPORT PROCESS

Start date : 2014-09-01 End date : 2014-09-30

Mon Oct 06 16:55:18

Order ID : OR201409-00007

job_name	worker_name	worker_quote	workplan_status	finished_date
Potong Busa	Abdulloh	50	FINISHED	2014-09-16 22:44:45,0
Potong Kain	Syaiful Ulum	50	FINISHED	2014-09-16 22:45:03.0
Pasang resleting	Mujiah	50	FINISHED	2014-09-16 22:44:41.0
Rakit Badan	Suroso Ananta	50	FINISHED	2014-09-16 22:45:06.0
Sulam Pita	Mujiah	50	FINISHED	2014-09-16 22:45:10.0
Cleaning	Laili Qomariah	50	FINISHED	2014-09-16 22:44:33.0
Kemas	Guntur Prasetyo	50	FINISHED	2014-09-16 22:44:38.0

Figure 64: Job Process Report Source : Processed Data, 2014

3) Worker Salary Report

Start Date	2014-09-01	
End Date	2014-09-30	
Worker ID	WK201408-00008	
Worker Name	Suroso Ananta	

Figure 65: Worker Salary Report Form

Source: Processed Data, 2014

Worker salary report show all detail information of worker paymment. To show the report just decide the salary payment start and finished date. If user want more specific report, user can input Worker ID by input manually or click light torch button to search order. Worker ID can be left blank or filled. If filled, report will be specific in certain name. If blank, there will shown all data worker that needed to be paid. The sample of report can be shown below.



Figure 66: Personal Worker Salary Report



Jl. Sidosermo Indah II/5 Surabaya – 60239

Telp: 031-8437014 Email: tiara_hcraft_id@yahoo.com

DETAILED SALARY REPORT

Start date : 2014-09-01 End date : 2014-09-30

Mon Nov 10 05:36:58

Worker ID : WK201408-00008 Worker Name : Suroso Ananta

Workplan ID	Order ID	Job Name	Cost	Quota	salary
WP201409-00037	OR201409-00004	Potong Alpikasi	2000.00	50	Rp 100,000.00
WP201409-00038	OR201409-00004	Pasang Aplikasi	2000.00	50	Rp 100,000.00
WP201409-00060	OR201409-00007	Rakit Badan	4000.0D	50	Rp 200,000.00
WP201408-00024	OR201408-00003	Rakit Badan	4000.00	7	Rp 28,000.00
WP201409-00027	OR201409-00003	Rakit badan	4000.00	25	Rp 100,000.00
WP201409-00042	OR201409-00004	Pasang Handle Kain	2000.00	25	Rp 50,000.00
WP201409-00028	OR201409-00003	Pasang Tali dan Handle	3000.00	25	Rp 75,000.00
WP201409-00031	OR201409-00003	Cleaning	1500.00	25	Rp 37,500.00
		7.00.2 120.0000		Total:	Rp 680,500.00

Worker ID : WK201408-00004 Worker Name : Syaiful Ulum

Workplan ID	Order ID	Job Name	Cost	Quota	salary
WP201409-00009	OR201409-00002	Potong Busa	2500.00	25	Rp 62,500.00
WP201409-00034	OR201409-00004	Potong Busa	2000,00	25	Rp 50,000.00
WP201408-00005	OR201408-00003	Potong Busa	3000.00	5	Rp 15,000.00
WP201409-00001	OR201409-00001	Potong Busa	2000.00	10	Rp 20,000.00
WP201409-00048	OR201409-00005	Potong Busa	2000.00	25	Rp 50,000.00
WP201409-00023	OR201409-00003	Potong Busa	2000.00	25	Rp 50,000.00
WP201409-00058	OR201409-00007	Potong Kain	2000.00	50	Rp 100,000.00
WP201409-00046	OR201409-00005	Potong Kain	2000.00	25	Rp 50,000.00
WP201409-00025	OR201409-00003	Potong Kain	2000.00	25	Rp 50,000.00
WP201409-00015	OR201409-00002	Rakit Badan	1000.00	25	Rp 25,000.00
WP201409-00005	OR201409-00001	Rakit Badan	4500.00	10	Rp 45,000.00
WP201409-00052	OR201409-00005	Pasang Tali dan Handle	3000,00	25	Rp 75,000.00
WP201409-00019	OR201409-00002	Cleaning	1500.00	25	Rp 37,500.00
				Total :	Rp 630,000.00
			Tot	al Salary :	Rp 1,320 500.00

Mon Nov 10 05:36:58 ICT 2014

Figure 67: Sample Summary Worker Salary from two people

All report of this program can help owner in making decision related with production, worker and customer relationship. Report can be shown in many format that needed by owner. The extention are PDF, ODT, RTF and JasperPoint. Those extention is the most common file extention that can be used by people in showing data table and report. The file extention is also integrated with winzip and winrar file. If user want to compress or collect a few amount of report in one archieve, winrar in winzip can be used to compress the data. Naming the report can be done in no time since system give a lot of previledge in saving option.

With salary report that can automatically calculate, time efficientcy can be manage. User can easily monitoring order in progress. Worker can get information of uninitiate job that possible to done. Operational manager can easily control the product with all of job process that need to finish. All party will get benefit from this system.

Report which produced in this program is digital data, but still possible to print in paper. Digital data report is important since all data stored in computer and can be easily replicated as much as needed. Data also have resistant to time. As far as data keep in hard disk, data can be used anytime. Other thing to consider is data secure from malware. Computer server of this program has to protected with antivirus and malware. Other way to prevent from data lose is routine data backup.