PRAWN CULTIVATION MANAGEMENT SYSTEM

GROUP MEMBERS:-

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ACKNOWLEDGEMENT

I take this opportunity to express my profound gratitude and deep regards to my faculty Mr. SUMAN AICH for his exemplary guidance, monitoring and constant encouragement throughout the course of this project. The blessing, help and guidance given by him time to time shall carry me a long way in the journey of life on which I am about to embark.

I am obliged to my project team members for the valuable information provided by them in their respective fields. I am grateful for their cooperation during the period of my assignment.

SHUBHAM KUMAR

POULOMI DHAR

MANISH CHANDRA

SANTOSH KUMAR

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PROJECT OBJECTIVE

Prawns are cultivated in the coastal areas in the supervised ponds. The cultivation begins with the phase when they are infants, commonly called seeds. These seeds are captured from sea, which are available in the market at different prices for different breeds. In the farm, these seeds are grown in supervised ponds specific to different age groups and relevant factors where different parameters (such as food content, temperature, oxygen supply, population etc.) which are maintained accordingly. Each pond is provided with the prawns of specified age group for specified period of time, after which they are transferred to the subsequent pond, until eventually they are ready to be sold at market.

This practice of managing the cultivation process manually works fine for small scale production but with the increase in the size of the farm, it becomes difficult to manage the cultivation process efficiently. Hence the aim of the project is to make a software to manage the cultivation in an automated sequence, retaining the crucial controls to the managers and the workers.

Through the automated system the tasks of the cultivation farms will be better organised and scheduled, as well as the track of the status of those works are maintained well, thus reducing the chances of mismanagement and errors.

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PROJECT SCOPE

PROBLEM DEFINITION: -

1) Inconsistency in the data when kept and maintained manually.

2) Data redundancy.

3) Conflicts in the assignment between batches and prawns.

4) Conflicts in the assignment between workers and instructions.

5) Delay in the execution of the tasks.

6) Inefficiency in worker's wage calculation.

Solution:

1) All the details of the farm, including the details of the workers, managers, ponds, batches and their schedule are kept in database tables with sufficient constraints, thus precluding the inconsistency of the data.

2) The constraints on the tables in the database with also prevent the redundancy.

3) The assignment between the batches and prawns will be scheduled according to the consistent routine thus preventing the conflicts.

4) The managers will be allowed to assign the available workers to the reliable schedules generated by the software, date-wise.

5) The date wise check of tasks and its notification will encourage the punctuality of the task.

6) With this software, we can calculate the number of working days for each worker and hence conveniently calculate their wages.

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REQUIREMENT SPECIFICATION

DOMAIN DESCRIPTION-

The cultivation process of diverse commodities, in exporting countries like India is ubiquitous and is growing at large scale, with its management trend inclining towards automated systems for better efficiency. Software like this is crucial in this age of turning point where archaic techniques of management are being overhauled by the modern and more efficient ones.

The databases used in the software with its constraints are better storehouse of records then the traditional file storage system. Large agricultural projects and mass industrial production houses, require such system of automated managements.

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FUNCTIONAL REQUIREMENT

- ## WORKER

The staffs in the cultivation process can be understood to be usually belonging to one of the two classes: Working or decision-making. Workers belong to the working classes where the tasks are assigned to them by the automated routine whose initial assignment is done by the managers.

Each worker has their own accounts where their assigned task schedule and its status are displayed to them.

- ## MANAGER

Managers are those staffs who belongs to the class of decision makers. All the available decisions choices offered by the software are made by managers. Using these decision instructions the routine calculates and produces the list of task schedules.

The managers also have the authority to create and alter an entity. Thus the primitive controls retain with the manager which leads to the subsequent task scheduling and assignment, forwards to the workers of the cultivation farm.

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Hardware Requirement / Software Requirement

HARDWARE REQUIREMENT

The Oracle Database installation guide for your platform includes procedures for checking that your installation meets the hardware and operating system requirements for Oracle Database.

Additionally, for a complete installation of Oracle Communications Data Model, the minimum hardware requirement is disk space of at least 10 GB.

The minimum hardware requirement for Oracle Communications Data Model Sample Reports installation is disk space of at least 25 GB.

Processor : Intel i3/i5/i7

Ram capacity : At least 512 MB

Hard disk drive : 40GB

SOFTWARE REQUIREMENTS

The minimum software requirements for Oracle Communications Data Model are as follows:

- Operating System: For details of supported platforms, see "Supported Platforms".
- Oracle Database, including the options specified in "Oracle Database Requirements".

Operating System : Windows XP/7/8/10

Browser: Netscape Navigator

Software: OC4J, Jinit

Database: Oracle 11g

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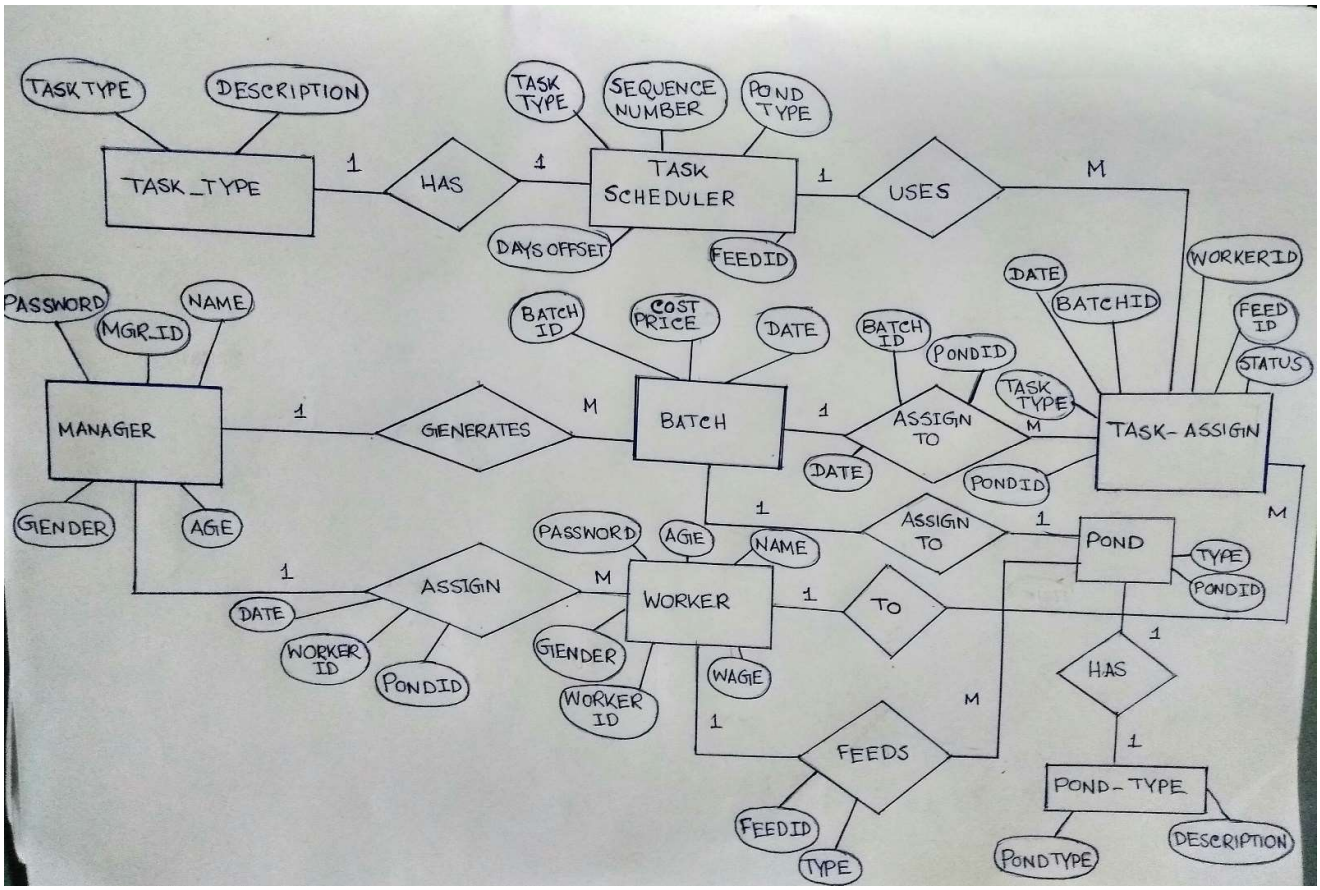
DATABASE DESIGN



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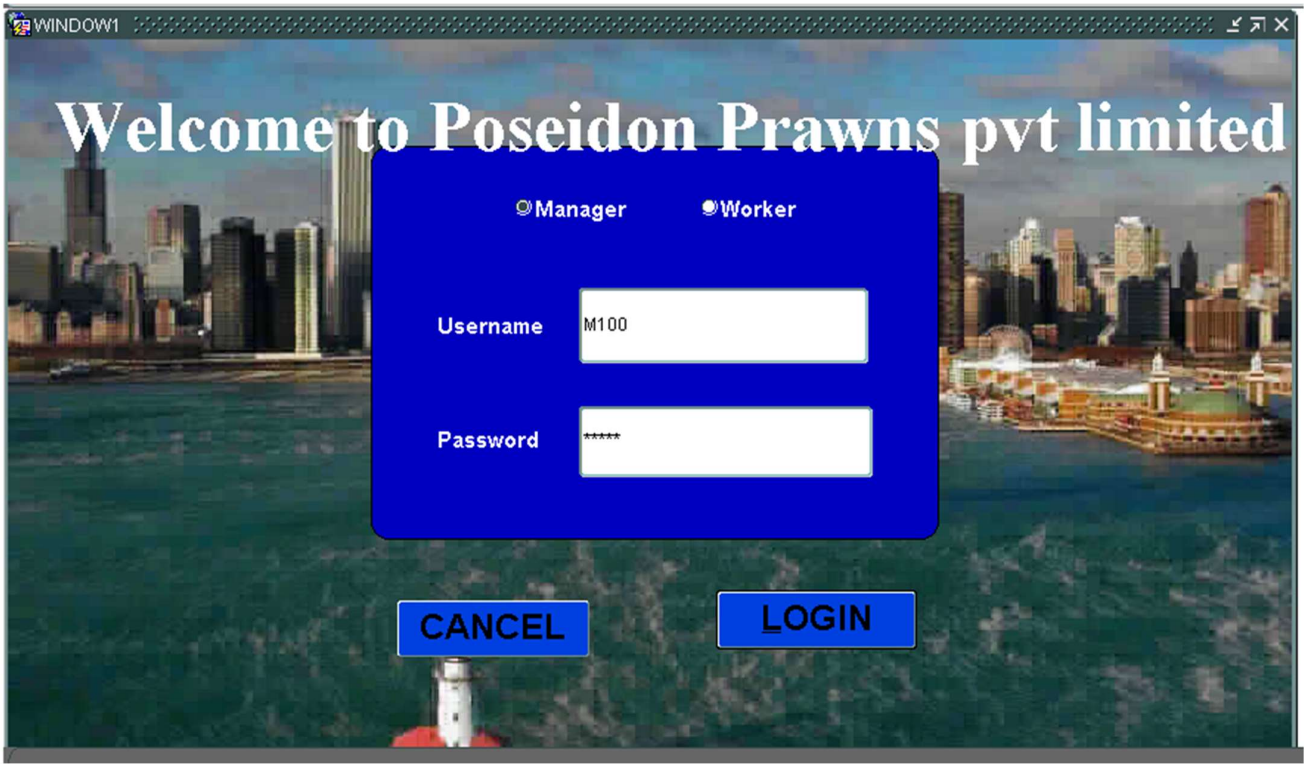
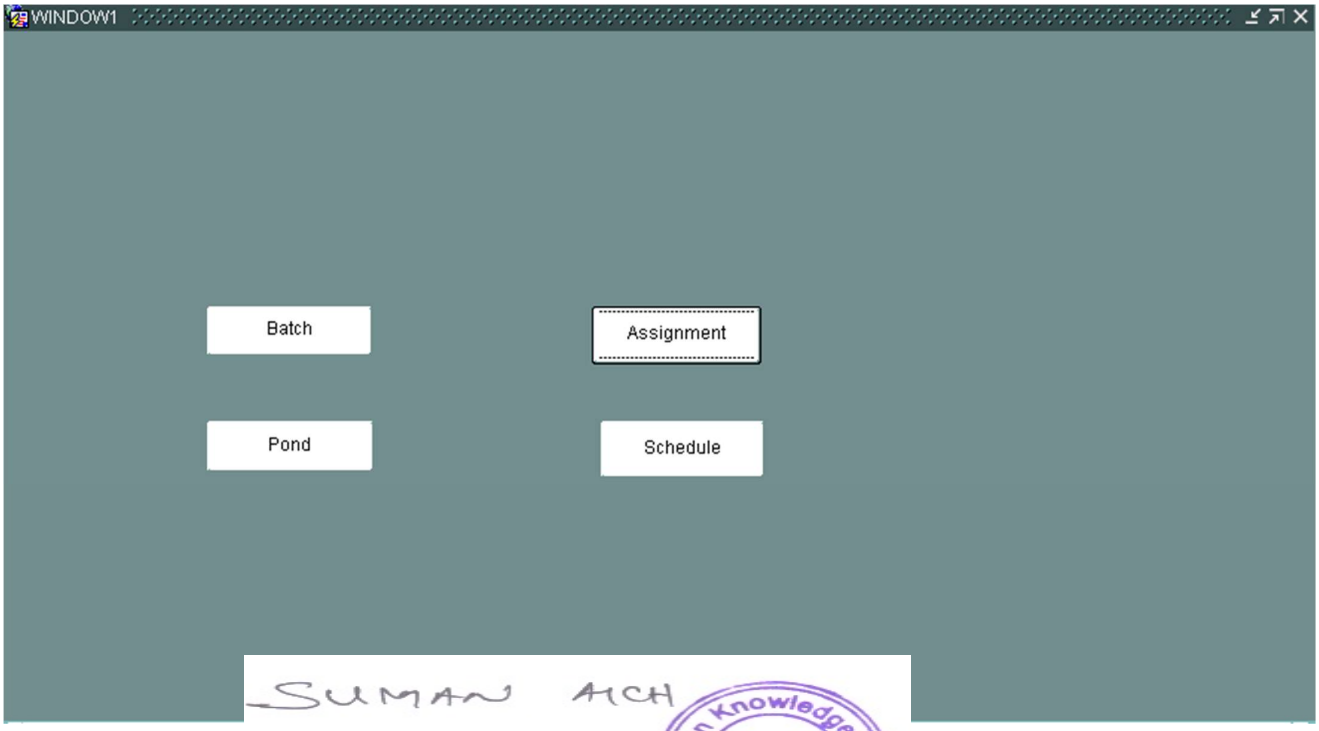
SCREENSHOTS

LOGIN PAGE



MANAGER LOGIN HOME PAGE



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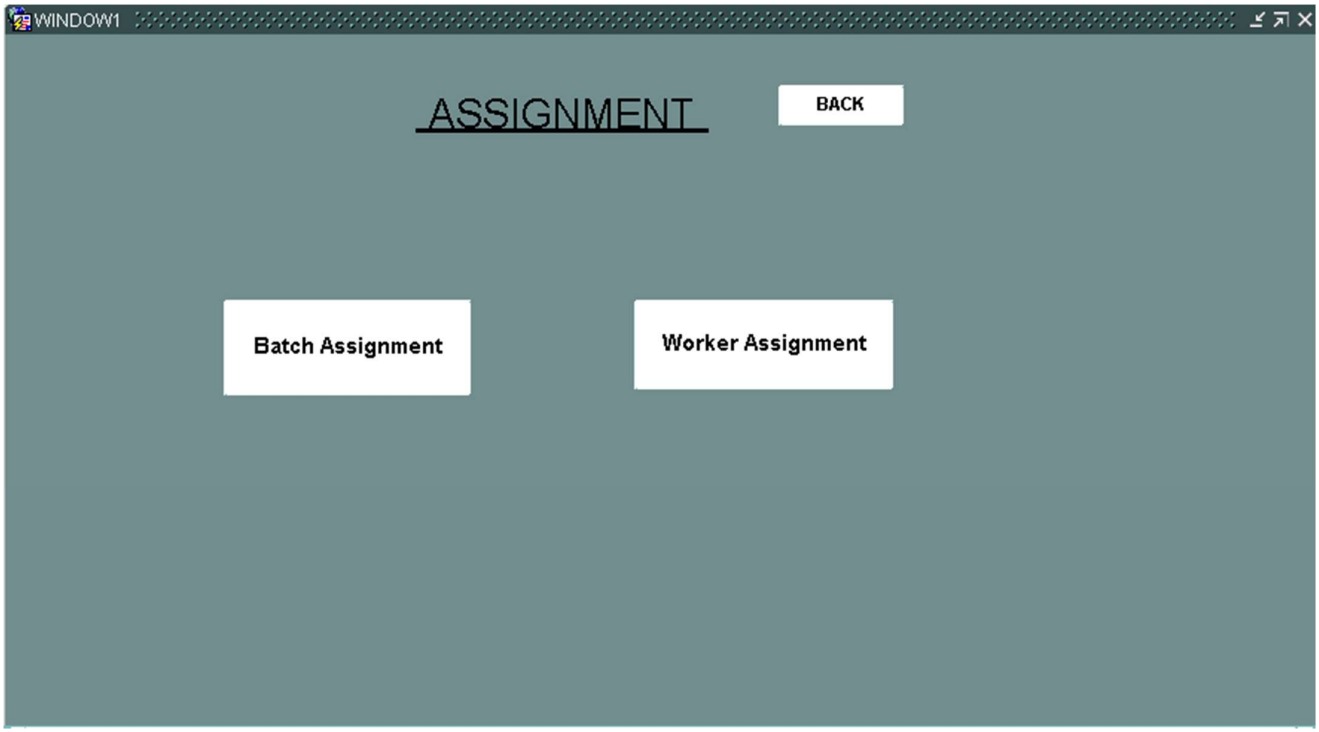
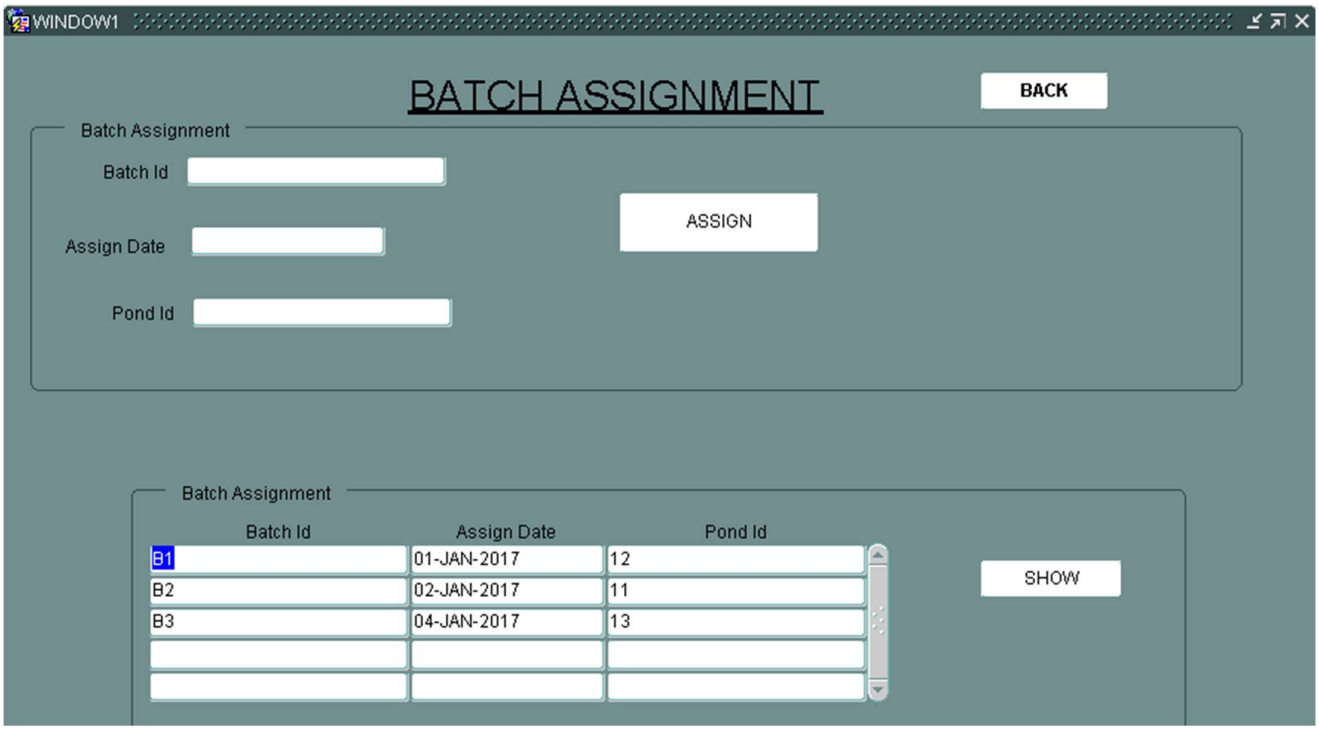
ASSIGNEMNT FORM PAGE



BATCH ASSIGNMENT



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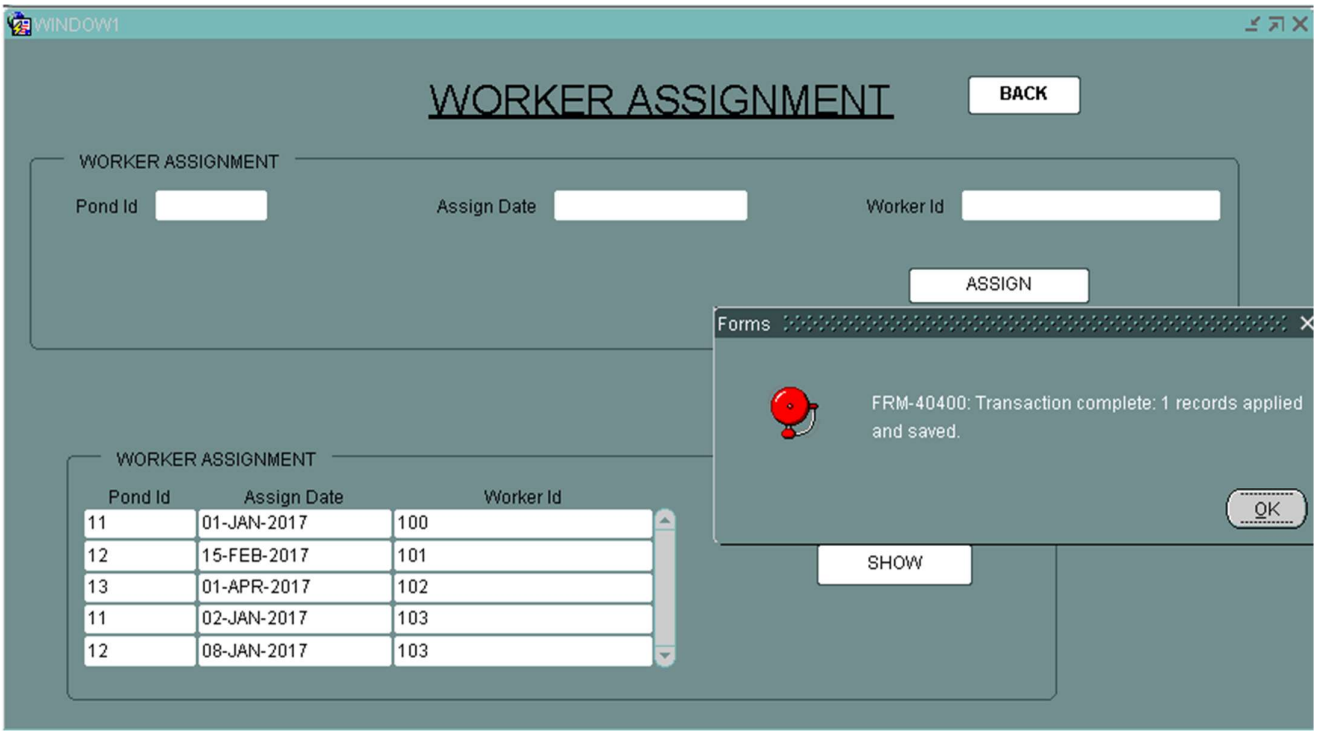
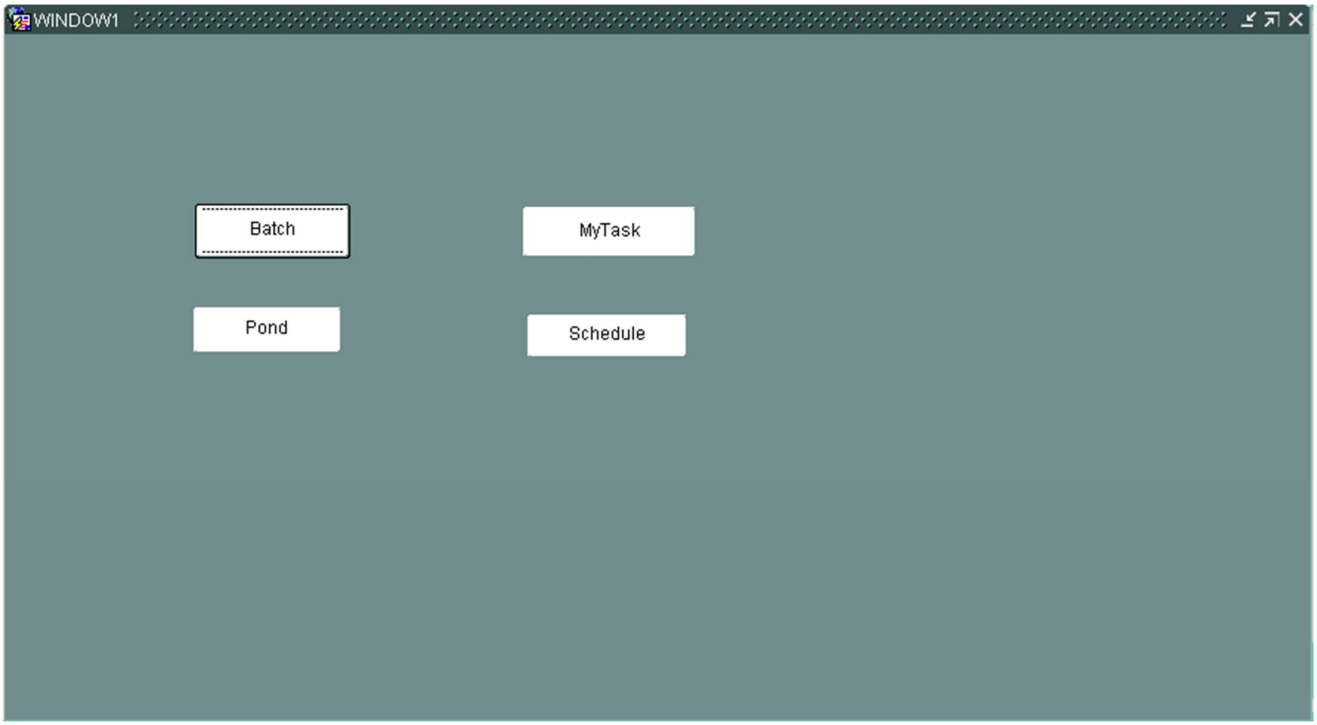
WORKER ASSIGNEMT



WORKER LOGIN HOME PAGE



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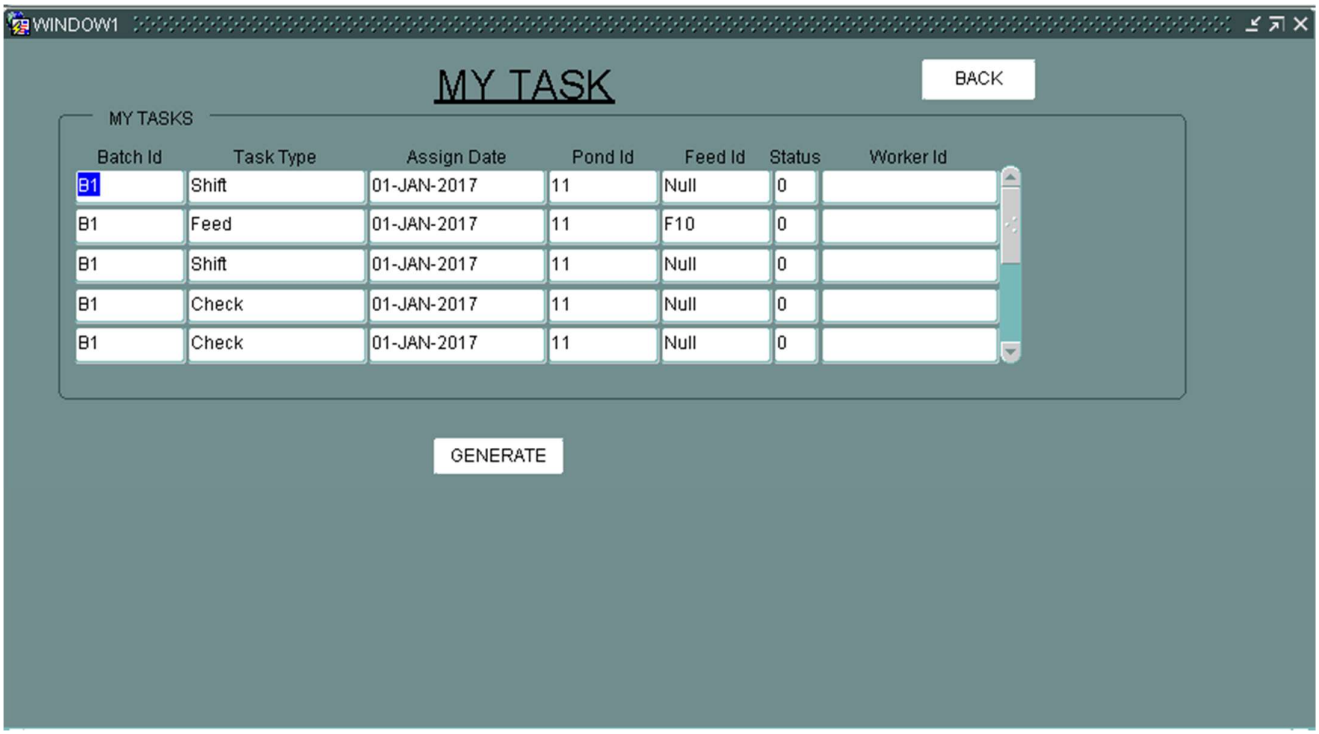
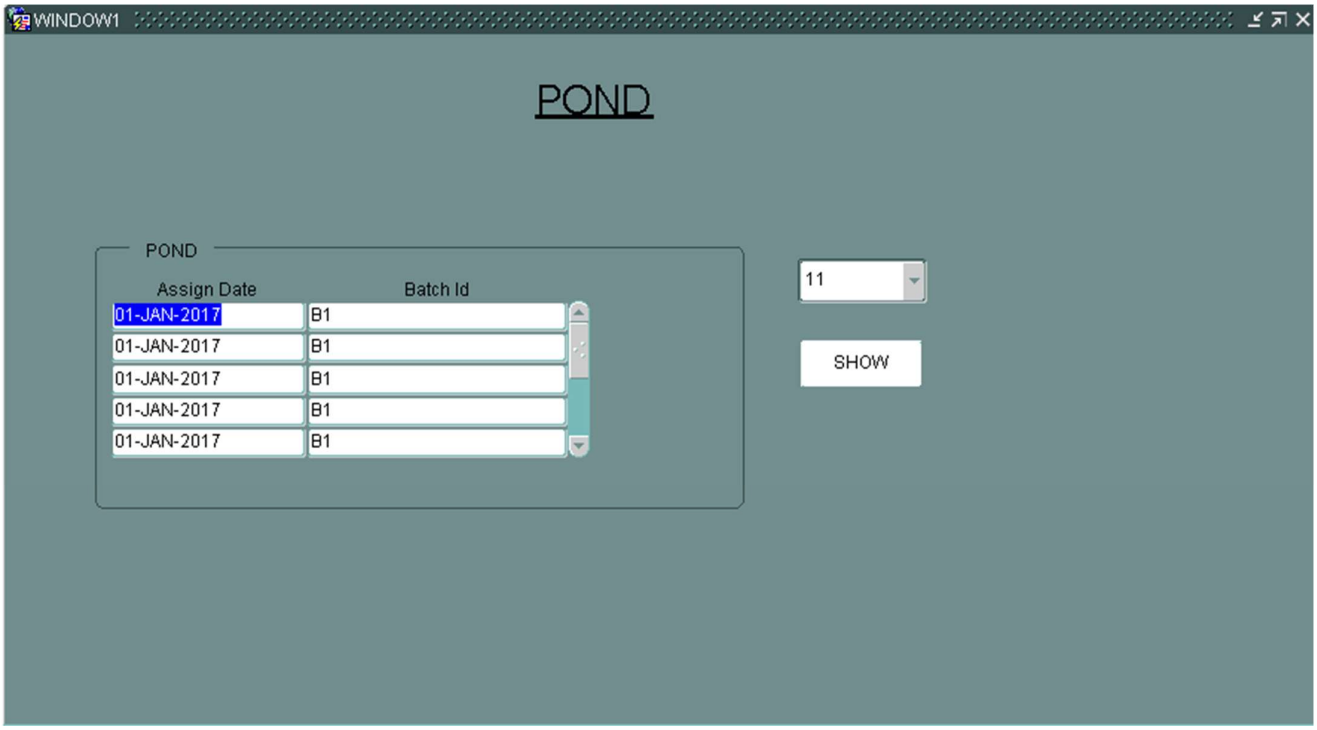
MYTASK FORM PAGE



POND



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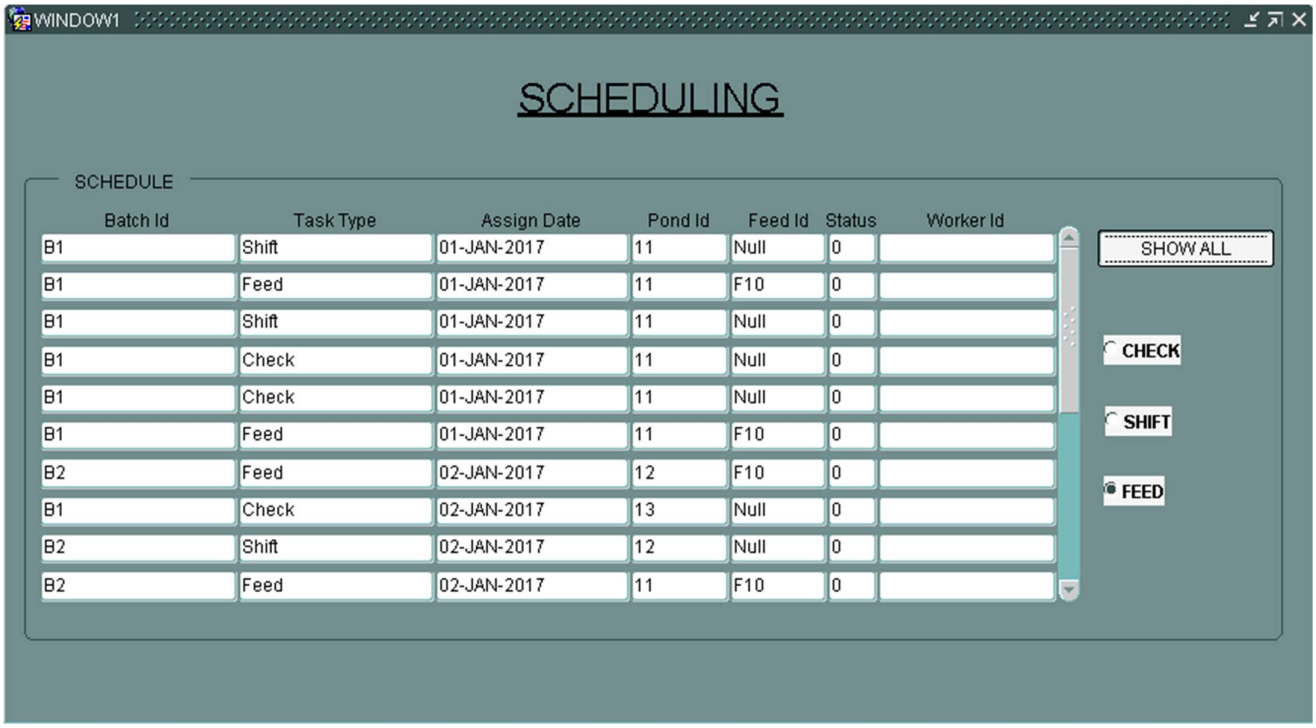
SCHEDULE



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Future Scope Of Improvements

1. Additional constraints can be added to the database to implements various factors to be maintained while making schedule and assignment.

2. This software can be extended by adding additional routines to make it a management system for multiple breeds instead of just one. This would require further implementation of algorithms.

3. Hybrid breeding routine can also be added as a complementary task to this software routine

4. Different cultivation software for different commodities can be merged together to make a holistic routine, on the ground of biological dependencies.

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CODES

Database:-

1].....Manager.....

```
create table Manager
(
Mgr_Id          varchar2(15),
Name            varchar2(20),
Password        varchar2(20),
Gender          varchar2(10),
Age         number(3)
);
alter table Manager add constraint pk1 Primary key(Mgr_Id);
```

2].....Worker.....

```
create table Worker
(
Worker_Id   varchar2(15),
Name            varchar2(20),
Password        varchar2(20),
Gender          varchar2(10),
Age         number(10),
Wage            number(10)
);

alter table Worker add constraint pk2 Primary key(Worker_Id);
```

3].....Pond.....

```
create table Pond
(
Pond_Id         number(5),
Pond_type   varchar2(15)
);

alter table Pond add constraint pk3 Primary key(Pond_Id);
```

4].....Batch.....

```
create table Batch
(
Batch_Id        varchar2(15),
Cost
);
```

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```
alter table Batch add constraint pk4 Primary key(Batch_Id);

5].....Feed.....

create table Feed
(
Feed_id          varchar2(15),
Feed_type  varchar2(15)
);

alter table Feed add constraint pk5 Primary key(Feed_Id);

6].....Worker_Assignment.....

create table Worker_Assign
(
Pond_Id          number(5),
Assign_Date      date,
Worker_Id  varchar2(15)
);

7].....Batch_Assignment.....

create table Batch_Assign
(
Batch_Id         varchar2(15),
Assign_Date      date,
Pond_Id          number(5)
);
alter table Batch_Assign add constraint pk9 Primary key(Batch_Id);

8].....Task_Scheduler.....

create table Task_Scheduler
(
Pond_type  varchar2(15),
Sequence_number  number(5),
Task_type        varchar2(15),
Feed_Id          varchar2(15),
Days_offset number(10)
);

alter table Task_Scheduler add constraint pk6 Primary key(Sequence_number);


9].....Task_Assignment.....

create table Task_Assign
(
Batch_Id         varchar2(15),
Task_type        varchar2(15),
Assign_Date      date,
Pond_id          number(5),
Feed_id          varchar2(10),
Status           number(1) default 0
Worker_I
);
```

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```
alter table Task_Assign add constraint fk1 foreign key references Worker(Worker_Id);

10].....Pond_Type.....


create table Pond_Type
(
Pond_type  varchar2(15),
Description varchar2(30)
);

alter table Pond_Type add constraint pk7 Primary key(Pond_type);


11].....Task_Type.....

create table Task_Type
(
Task_type              varchar2(15),
Description varchar2(30)
);


alter table Task_Type add constraint pk8 Primary key(Task_type);
```

Application:-

_____FORM1_____

LOGIN

ITEMS:

USER_NAME,
PASSWORD,
RADIO BUTTON GROUP
    MANAGER: RADIO_BUTTON_VALUE: 1
    WORKER: RADIO_BUTTON_VALUE: 2

LOGIN-> WHEN-BUTTON-PRESSED

CODE:

```
declare
      v varchar2(30);
      Y varchar2(30);
begin
      if :LOGIN.LOGIN_TYPE=1 then
      select Mgr_Id,Password
      into v,y
      from Manager
      where
      Mgr_
  and
```

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```
    Password =:login.password;
    if sql%found then
            open_form('D:\Poseidon\MANAGER.fmx');
    end if;


    elsif :LOGIN.LOGIN_TYPE=2 then
  select Worker_Id,Password
    into v,Y
    from Worker
    where
    Worker_Id = :login.user_name
  and
    Password =:login.password;
    if sql%found then
            open_form('D:\Poseidon\WORKER.fmx');
    end if;







    end if;


    exception
            when no_data_found then

            message('Invalid User Name or Password!');
    message('Invalid User Name or Password!');

end;
```

_____FORM2_____

MANAGER

ITEMS:

ASSIGNMENT
TRIGGER: WHEN-BUTTON-PRESSED
CODE:

```
open_form('D:\Poseidon\ASSIGNMENT.fmx');
```

BATCH
TRIGGER: WHEN-BUTTON-PRESSED
CODE:

```
open_form('D:\Poseidon\BATCH.fmx');
```

POND
TRIGGER: WHEN-BUTTON-PRESSED
CODE:

```
open_form('D:\Poseidon\POND.fmx');
```

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SCHEDU

TRIGGER: WHEN-BUTTON-PRESSED
CODE:
open_form('D:\Poseidon\SCHEDULE.fmx');

_____FORM3_____
ASSIGNMENT

ITEMS:

BATCH_ASSIGNMENT
TRIGGER: WHEN-BUTTON-PRESSED
CODE:

open_form('D:\Poseidon\BATCH_ASSIGNMENT.fmx');

WORKER_ASSIGNMENT
TRIGGER: WHEN-BUTTON-PRESSED
CODE:

open_form('D:\Poseidon\WORKER_ASSIGNMENT.fmx');

BACK
TRIGGER: WHEN-BUTTON-PRESSED
CODE:

open_form('D:\Poseidon\ASSIGNMENT.fmx');

_____FORM4_____
BATCH_ASSIGNMENT

DATA BLOCKS:
BATCH_ASSIGN
ITEMS:
BATCH_ID
ASSIGN_DATE
POND_ID
SHOW
TRIGGER: WHEN-BUTTON-PRESSED
CODE:
GO_BLOCK('BATCH_ASSIGN');
execute_query;

BATCH_ASSIGN1
ITEMS:
BATCH_ID1
ASSIGN_DATE1
POND_ID1
ASSIGN
TRIGGER: WHEN-BUTTON-PRESSED
CODE:
DECLARE
ass_date TASK_ASSIGN.ASSIGN_DATE%TYPE;
ass_date2 TASK_ASSIGN.ASSIGN_DATE%TYPE;
batch
pond TA
pond2 T

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```
 tasktype TASK_ASSIGN.TASK_TYPE%TYPE;
 feed TASK_ASSIGN.FEED_ID%TYPE;
 offset TASK_SCHEDULER.DAYS_OFFSET%TYPE;



begin


 ass_date := :ASSIGN_DATE1;
 batch := :BATCH_ID1;
 pond := :POND_ID1;

 for i in 1..13
 loop

 select days_offset into offset from task_scheduler where sequence_number=i;

 select days_offset+ass_date into ass_date2 from task_scheduler where sequence_number=i;

 select task_type into tasktype from task_scheduler where sequence_number=i;

 select feed_id into feed from task_scheduler where sequence_number=i;


 if tasktype = 'Shift' and i>2 then

    pond:=pond+10;

    end if;

 insert into task_assign values(batch,TASKTYPE,ass_date2,pond,FEED,0,null);


 end loop;



   commit_form;
   clear_BLOCK(no_validate);
end;

BACK
 TRIGGER: WHEN-BUTTON-PRESSED
       CODE:
OPEN_FORM('D:\Poseidon\ASSIGNMENT.fmx');


_____FORM5_____

WORKER_ASSIGNMENT
DATA BLOCKS:
WORKER_ASSIGN
ITEMS:
POND_ID
ASSIGN_
WORKEF
SHOW
```

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TRIGGER: WHEN-BUTTON-PRESSED
CODE:
execute_query;

WORKER_ASSIGN1
ITEMS:
POND_ID1
ASSIGN_DATE1
WORKER_ID1
ASSIGN
TRIGGER: WHEN-BUTTON-PRESSED
CODE:

```
declare
    pond TASK_ASSIGN.pond_id%type;
    assdate task_assign.assign_date%type;
    worker task_assign.worker_id%type;

begin
    commit_form;
  clear_BLOCK(no_validate);
    pond := :POND_ID1;
    assdate := :ASSIGN_DATE1;
    worker := :WORKER_ID1;
    update task_assign set worker_id= worker where pond_id=pond and assign_date=assdate;
  MESSAGE('VALUE UPDATED');


  commit_form;
  clear_BLOCK(no_validate);
  END;
```

BACK
TRIGGER: WHEN-BUTTON-PRESSED
CODE:
OPEN_FORM('D:\Poseidon\ASSIGNMENT.fmx');

_____FORM6_____

WORKER
ITEMS:
BATCH
TRIGGER: WHEN-BUTTON-PRESSED
CODE:
open_form('D:\Poseidon\BATCH.fmx');

POND
TRIGGER: WHEN-BUTTON-PRESSED
CODE:
open_form('D:\Poseidon\POND.fmx');

MY_TASK
TRIGGER
CODE
open_form

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SCHEDULE
TRIGGER: WHEN-BUTTON-PRESSED
CODE:
open_form('D:\Poseidon\SCHEDULE.fmx');

_____FORM7_____
MY_TASK

DATA BLOCKS:

TASK_ASSIGN
ITEMS:
BATCH_ID
TASK_TYPE
ASSIGN_DATE
POND_ID
FEED_ID
STATUS
WORKER_ID

BLOCK9
ITEMS:
BACK
TRIGGER: WHEN-BUTTON-PRESSED
CODE:
open_form('D:\Poseidon\WORKER.fmx');

GENERATE
TRIGGER: WHEN-BUTTON-PRESSED
CODE:
```
/*declare
    WW TASK_ASSIGN.WORKER_ID%TYPE;

    v varchar2(30);
    Y varchar2(30);
begin
  WW := :BLOCK9.TEXT_ITEM8;
 select Worker_Id,Password INTO V,Y
    from Worker
    where
    Worker_Id = :BLOCK9.TEXT_ITEM8
  and
    Password =:BLOCK9.TEXT_ITEM10;
    if sql%found then
            MESSAGE('TRUE!');
            MESSAGE('TRUE!');
            set_block_property('TASK_ASSIGN',order_BY,'ASSIGN_DATE');
  SET_BLOCK_PROPERTY('TASK_ASSIGN',ONETIME_WHERE,'WORKER_ID='||v);
  GO_BLOCK('TASK_ASSIGN');
  Execute_query;

    end if;


END;*/
    set_                                                    );
```

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```
   GO_BLOCK('TASK_ASSIGN');
   Execute_query;
```

_____FORM8_____

POND

TRIGGER: WHEN-NEW-FORM-INSTANCE
CODE:

```
DECLARE
        a varchar2(100);
begin
    a :=populate_group('RECORD_GROUP10');
    populate_list('LIST8','RECORD_GROUP10');
END;
```

RECORD GROUP QUERY: SELECT TO_CHAR(POND_ID), TO_CHAR(POND_ID) FROM POND

DATA BLOCKS
TASK_ASSIGN
ITEMS:
TASK_TYPE
FEED_ID
POND_ID
STATUS
WORKER_ID
ASSIGN_DATE
BATCH_ID

BLOCK9
ITEMS:
LIST8
SHOW
TRIGGER: WHEN-BUTTON-PRESSED
CODE:

```
declare
    v_pond varchar(100);

begin

    v_POND := :LIST8;

    set_block_property('TASK_ASSIGN',order_BY,'ASSIGN_DATE');

SET_BLOCK_PROPERTY('TASK_ASSIGN',ONETIME_WHERE,'POND_ID='||""||to_number(V_POND)||"'
');
  GO_BLOCK('TASK_ASSIGN');
  Execute_query;



end;
```

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_____FORM9_____
BATCH

TRIGGER: WHEN-NEW-FORM-INSTANCE
CODE:

```
declare
    a varchar2(100);
begin
    a :=populate_group('RECORD_GROUP12');
    populate_list('LIST7','RECORD_GROUP12');
END;
```

RECORD GROUP QUERY: select batch_id,batch_id from batch_assign

DATA BLOCK:
TASK_ASSIGN1
ITEMS:
BATCH_ID
TASK_TYPE
ASSIGN_DATE
POND_ID
FEED_ID
STATUS
WORKER_ID

BLOCK10
ITEMS:
SHOW
TRIGGER: WHEN-BUTTON-PRESSED
CODE:

```
declare
    v_batch varchar(100);

begin

    v_batch := :LIST7;

    set_block_property('TASK_ASSIGN1',order_BY,'ASSIGN_DATE');
 SET_BLOCK_PROPERTY('TASK_ASSIGN1',ONETIME_WHERE,'BATCH_ID='||""||V_BATCH||"");
 GO_BLOCK('TASK_ASSIGN1');
 Execute_query;



end;
```

LIST7

_____FORM10_____
SCHEDULE

DATA BLOCKS:
TASK_ASSIGN
ITEMS:
BATCH_ID
TASK_TY
ASSIGN_
POND_ID

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FEED_ID
STATUS
WORKER_ID
SHOW_ALL
TRIGGER: WHEN-BUTTON-PRESSED
CODE:
set_block_property('TASK_ASSIGN',order_BY,'ASSIGN_DATE');
execute_query;

BLOCK9
ITEMS:
RADIO_GROUP6
TRIGGER: WHEN-RADIO-CHANGED
CODE:
set_block_property('TASK_ASSIGN',order_BY,'ASSIGN_DATE');
SET_BLOCK_PROPERTY('TASK_ASSIGN',ONETIME_WHERE,'TASK_TYPE='||""||:BLOCK9.RADIO_GROUP6||"");
GO_BLOCK('TASK_ASSIGN');
Execute_query;

RADIO BUTTONS
CHECK: RADIO BUTTON VAULE=Check
SHIFT: RADIO BUTTON VAULE=Shift
FEED: RADIO BUTTON VAULE=Feed

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Certificate

This is to certify that *SHUBHAM KUMAR* of *DR B.C. ROY ENGINEERING COLLEGE, 14120011010*5, has successfully completed a project on *PRAWN CULTIVATION MANAGEMENT SYSTEM* Using *Oracle Forms* under the guidance of *Mr SUMAN AICH*.

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