

Process Workflow Automation

Automate your process using our checklist

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Abstract—Collaboration is one of the most important features when working as a team. It is getting annoying when a project managers have to ask their members the progress on each task individually. As a result, we introduce progress 9, a web base platform which allow users to manage and keep track the progress on their project.

Keywords—Process 9, checklist, task, template;

I. INTRODUCTION

Process 9 is a process workflow automation. Process 9 will make the process workflow automation a template based service that can be deployed in a public cloud using container. The main features will be creating the process template, running instances of the template as a checklist and track progress and perform collaboration with your team. The purpose of Process 9 is to make the collaboration between each members in the team more efficient. Each members will be able to track and follow their tasks throughout Process 9.

In Process 9, our team chose to design our backend by using python as our primary programming language, and Django as our framework for the entire project. For the front end, we use HTML, CSS, and JavaScript to design the GUI. In addition, we deploy Process 9 on AWS and connect it with MySQL database to store all data.

II. FUNCTIONS AND FEATURES

In process 9, visitors can try and experience all functions and features without create and login into account by simply click on the “try me” button on the bottom of the front page. However, visitor can only create temporary checklist, and process 9 will not save any data for visitors. For users who have login, Process 9 will save and collect all their checklist information. Each user will be able to check their current checklist in mychecklist section under services. When creating checklist, user will have to choose to use one of the three basic template, constructing a building, setting up a coffee shop or software development process. Each template will have its own format and checklist for user to follow. User have to enter the checklist title and due date for each checklist. Each checklist will have multiple sections depends on which template user choose, and user will be able to select any sections they would like to add into their checklist. For example, there will be three sections in the construction a

building template, which is construction planning, environmental testing and surveying and buying the land for construction. User can select any sections but have to select at least one section to create the checklist. Once the checklist created, other user can view and working on their assigned checklist. Dashboard will present a pie and bar chart of the performance on each users in a specific checklist. Therefore everyone will have an ideas on the progress of the current task.

III. FRONT END DESIGN

This is the homepage of Process 9 application. It has information about the application. It has the following tabs:

1. About Us- This tells us about the advantages of this application and how it exactly works. It also gives information about the owners of the application.
2. Services- It gives information about all the features of this application in detail and how to start using the application.
3. Contact- It gives the contact details of the owners of the application in case the users need any help in using the application.
4. Login- We can create a new account or login to an existing account here. Creating an account is necessary to access the premium features of the application. Document. Please do not revise any of the current designations.



"Automate Your Process Using Our Checklists!"
you can create your own checklist or use ours...

Here, we can create our own checklist or use the sample templates to create one by choosing ‘Templates’. The user can view to see the progress of the work done by the employees to whom the created checklist is assigned by choosing ‘Dashboard’.

Choose from below to 'View your Dash Board' or 'Create/View template



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Here, the user can choose one or more steps to create a checklist for his Construction Project. After he clicks on Create, he will see a message that the checklist is created successfully. He will be able to view the checklist created by him under 'My Checklists.'

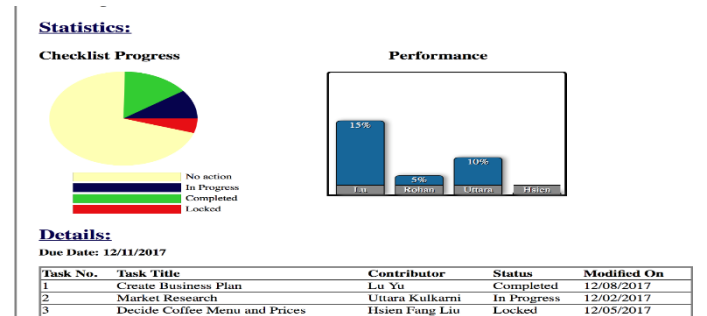
Here, the user can view the checklists created by him. We can see that the user has created two checklists- one for setting up a Coffee shop and another one for a Construction project. In addition, the user can also view the sample templates here. He can use these sample templates to create his own checklist.



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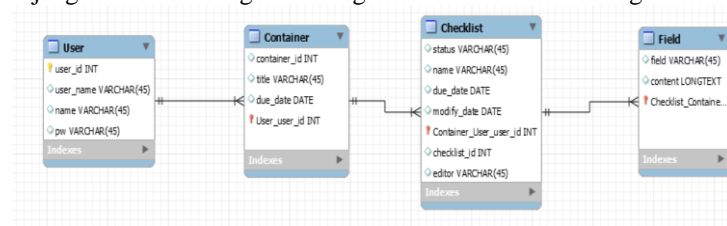
The user can view the progress of his created checklist under 'Dashboard.' Here, we can see that 30% work of the checklist for setting up a coffee shop has been completed. The user has also assigned the checklist to four employees as shown above. Here, we can see the statistics about the checklist created by the user. Here, we can see what task is assigned to which

employee by the user. We can also see the percentage of the work completed by each employee to whom the task is assigned by the user. In addition, user can also check the table in the dashboard to see the detail report of the checklist. It will shows what section in the checklist is working on which users and the progress status of each section. It is helpful to provide an over view of the checklist.



IV. BACK END AND DEPLOY

In progress 9, we use Sqlite as our database choice, because it is supported by python and Django can easily implement and create tables for users with the model feature provided by Django. The following is the diagram for our database design.



As shown from the table above, we have totally four tables to store all data for Progress 9. The user table will store the user id, user name, user's real name, and the password. The container table will have the container_id, title (title of checklist), due_date, and a user_id as primary key. The user_id key in container table is the foreign key of the user_id from User table. The checklist table have attributes of status, name, Container_User_user_id, due_date, modify_date, checklist_id, and editor. Container_User_user_id is the foreign key of the container_id in the table container table. The field table have attributes of field, content, and Checklist_Container_User_id which is also a foreign key of the checklist table. By keep depending with each table, we can access all data related to the user and the checklist. The following schema is how to use Django to create user tables in Django.

```
class User(models.Model):
    name = models.CharField(max_length=38)
    username = models.CharField(max_length=38)
    pw = models.CharField(max_length=38)
    created_at = models.DateTimeField(auto_now_add=True)
    updated_at = models.DateTimeField(auto_now=True)
```

As shown in the schema above, the class User will be the User table, then we have all attributes in it such as name, username password, and etc. Django will automatically create an id for each table and set it as auto increment primary key.

When connect with front end, Django allow user to use a template View to get and post the value from front end to database and vice versa. In the end, we deploy progress 9 on AWS.

V. CONCLUSION

The users can successfully create their own checklist or use the sample templates to create one with the help of our application. The users can assign checklist tasks to their team members and also track everyone's progress in real time. The application will help the users to complete their project successfully and in a timely manner.

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