DineWise

Team 2 Pace Super Giants

TABLE OF CONTENTS

01

Project Foundation

- Team Member Roles and Responsibilities
- Problem Statement

02

Product Overview

- Project Description
- Personas

03

Technical Approach

- Technologies
- Algorithms

04

Team Process and Retrospective

- Project Schedule (Cadence)
- Team Working Agreement
- Retrospective

01.
Project Foundation

- Team Member Roles and Responsibilities
- Problem Statement

OUR TEAM

Deekshitha Navuluri

Full Stack Developer

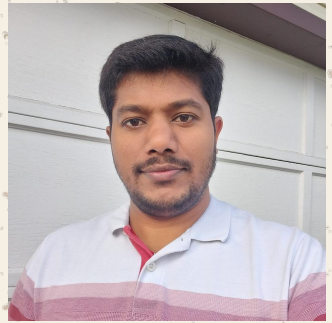
Panguluri Bhavya

Product Designer / Frontend Developer

Phanindhr Thota

Frontend Developer

OUR TEAM



Manoj Kumar Ambavarapu

Scrum Master /
Backend Developer

Sai Mahesh Sandeboina

Machine learning
Engineer

Problem Statement

The restaurants are facing an issues where they are unable to provide personalized recommendation on food to the customers. Even they are facing issues with optimizing the pricing as well. This two issues are causing restaurants having low customer satisfaction. The current models, they are unable to update real time based on the user preference, dietary restrictions, or external factors like demand and special events.

02. Product Overview

- Project Description
- Personas

Project Description

Project Name:	DineWise
Team:	Pace Super Gaints
Project Description:	For restaurant customers who wants personalized menu and even dynamic pricing options, the solution is the website which is machine learning based recommendation and handling dynamic pricing and this is an AI powered website that provides dishes based on your preference and pricing based on the demand unlike regular classic restaurants where they have single menu and even static pricing our application will provide personalized dine in experience with dynamic pricing.
Benefit Outcomes:	• This will improve the customer satisfaction rate through personalized dishes and on demand based pricing. • This will even increase the revenue for the restaurant. • This will even the operations for the restaurant efficient.
Github Link:	https://github.com/htmw/2024F-pace-super-giants/wiki


Persona

Sarah

- **Age:** 29
- **Occupation:** Fitness Instructor
- **Goals:** Sarah is always looking for healthy meal options that fit her dietary restriction (gluten-free, low-carb) while exploring new dishes.
- **Frustrations:** Most restaurant menus are not customized for her dietary needs, making it harder for her to find suitable dishes or restaurants.
- **How the app helps:** The app provides personalized menu suggestions based on her dietary preferences and tracks her past orders, offering healthy options without the need for constant searching.

David

- **Age:** 45
- **Occupation:** Restaurant Owner
- **Goals:** David wants to increase customer satisfaction and optimize pricing strategies to boost profitability during peak and off-peak hours.
- **Frustrations:** Struggles with pricing static menus efficiently, as well as managing inventory and customer preferences.
- **How the app helps:** The app uses dynamic pricing to adjust menu prices based on demand and time of day, while also offering personalized menu suggestions to customers, helping David increase sales and reduce food waste.

Emily

- **Age:** 21
- **Occupation:** College Student
- **Goals:** Emily wants to enjoy meals at restaurants without exceeding her budget, especially during social outings with friends.
- **Frustrations:** High prices during peak times make dining out expensive, and she struggles to find good deals or discounts.
- **How the app helps:** The app provides Emily with meal recommendations based on her preferences and budget, while offering her dynamic discounts based on off-peak times or restaurant promotions.

03. Technical Approach

Technologies & Algorithms

Technologies

Languages

- TypeScript
- Python
- NoSQL

Frameworks

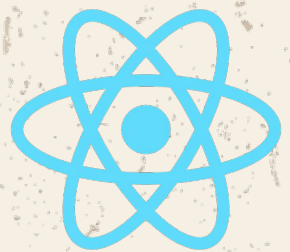
- ReactJS
- Node JS
- Flask
- Pytorch

Tools

- Github
- MongoDB
- Trello
- Azure
- Slack

Languages

- TypeScript is subset of Javascript with static typing, that makes the code easy to debug. It is useful in this project, as it code reliable and good for large scale projects and it's used for developing client side as well the server side of the application
- Python is high level programming language and its known for its readability and for this project is it used for developing machine learning models and models API.
- NoSQL is a database, where data storing is flexible. Schema less format like key value store. This is efficient in storing user profiles, past orders and many.



Frameworks

- ReactJS its a Javascript library which is used for building UI and for single page applications.
- NodeJS is a Javascript runtime which allows to build scalable applications and for this project it is used for handling APIs requests and managing connection between client and server side.
- Flask is lightweight python framework and for this project is it used for building Machine learning API.
- Pytorch is deep learning library and it is used for building deep learning models for this project.

Tools

- Github is a platform used for version control and collaboration. In this project it is used for tracking the code and manage the code base.
- MongoDB its a NOSql data and its used for storing the data.
- Trello is project management tool using boards and cards and for this project it is used for track progress and managing tasks.
- Azure is a cloud computing platform where the website services are hosted.
- Slack is a communicable tools which is designed for teams and for this project, it is used for communication among team members.

Algorithms

Neural Collaborative Filtering (NCF)

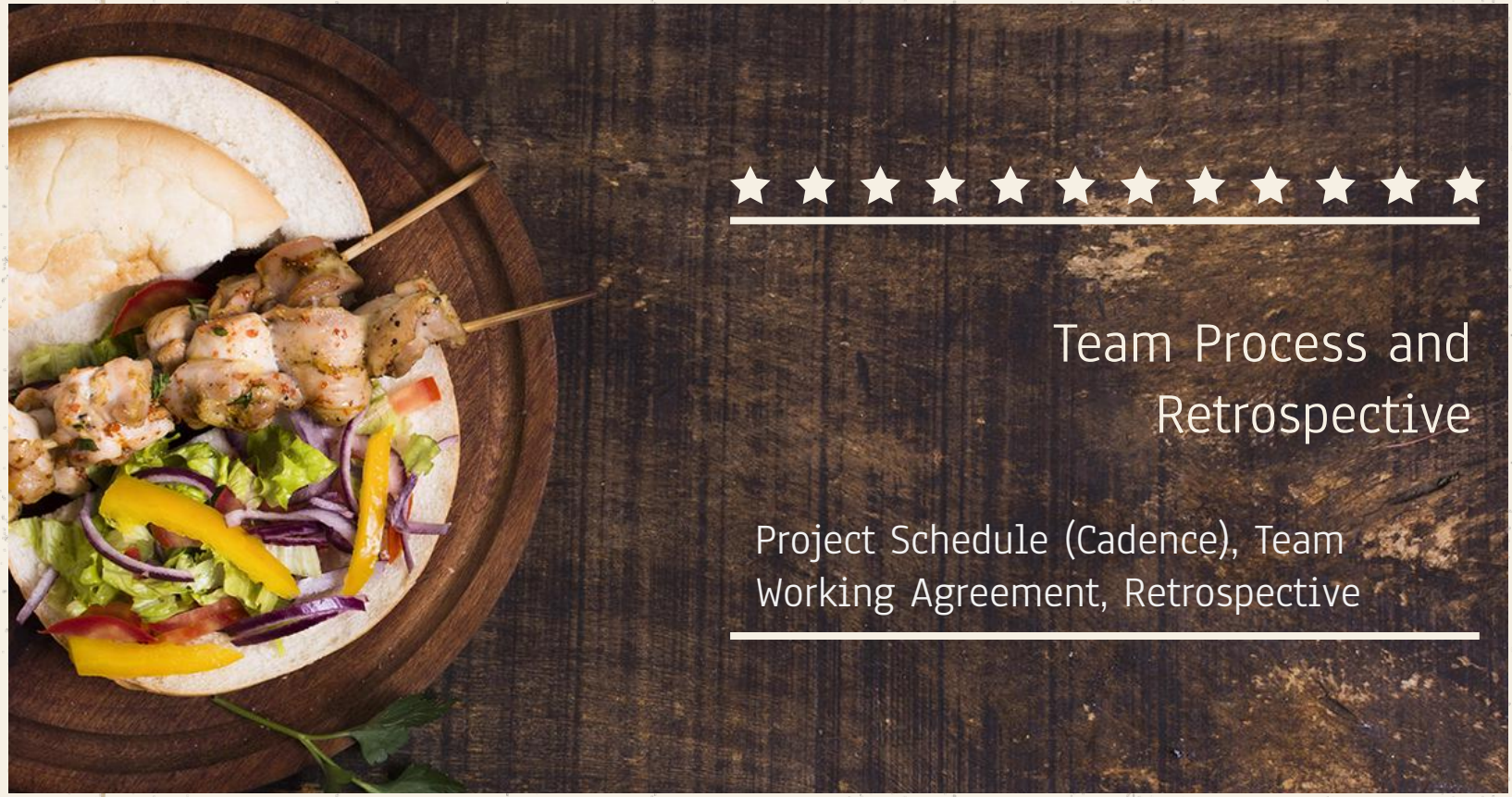
This Algorithms is just combining the traditional collaboration approach with neural networks. NCF captures the complex patterns with users needs and how they interact based on that, it recommends the dishes.

Deep Reinforcement Learning (DRL

This Algorithm is just a combination of reinforcement learning with neural network. This helps the this system in dynamic pricing by learning it through trail and error.

AutoEncoders

This Algorithm is used unsupervised for unsupervised learning approach and it is used for understanding the dishes content based on their ingredients.



Team Process and Retrospective

Project Schedule (Cadence), Team Working Agreement, Retrospective

Project Schedule (Cadence)

STANDUPS

- There will be a daily standup meeting for 15 min regarding progress.
- weekly meeting on whole progress regrading the project

SPRINT CYCLE

- Sprint 1
- Sprint 2
- Sprint 3

Team Agreement

Team Collaboration Agreement

Purpose:

This document outlines the expectations, roles, and code of conduct for our 5-member team and sets priority for a positive, collaborative, and productive work environment. It will create the basis on which we will interact with each other to reach our goals for the project.

Guiding Principles:

1. Respect and Communication
Respect: All ideas, opinions, and contributions of every team member shall be valued. We will maintain the atmosphere of professionalism and support.
Open Communication: There shall be proper, straight forward, and timely communication. Any team member can share whatever they think, feedback, or any concern that comes to their mind.
Constructive Feedback: Regular feedback and at all times for the betterment of each other.

2. Roles and Responsibilities
Specific roles within the team will be assigned to each member, based on individual strengths and experience.
The roles can change as time progresses, since project needs will change. Any role should be subject to discussion and agreed upon among the team members.

3. Meetings and Communication Channels
Weekly Meetings: Our team shall meet once a week every Saturday at 3 pm for a full project update.
Daily Sync: A light check-in every day on Slack at 10 pm to take a call on immediate progress and blockers of the day.
Agenda: An agenda for the meeting shall be shared at least 24 hours in advance of each meeting by the team lead so that everyone comes prepared to the meeting.
Attendance: All members shall be present in each and every meeting. In case a member needs to miss any meeting, the member needs to be intimate in advance. Also, the member needs to go through the summary of the meeting shared on Slack.Primary
Communication Channel: Slack will serve as our main communication channel, where the flow of information, discussion, and notifications will be shared.

4. Decision-Making Process
Consensus-Based Decisions: Most decisions will be made through consensus as a means of keeping everyone's opinions heard.
Majority Vote: If we cannot reach a consensus, there will be a majority vote.
Documentation: Key decisions are to be documented down on Slack for reference and transparency.

5. Conflict Resolution
Open Discussions: Any kind of conflict or misunderstanding will be discussed openly and resolved respectfully among the team members.

6. Task Allocation and Management
Task Assignment: Tasks will be assigned by expertise and workload balance to ensure an equal amount of responsibilities.
Flexibility: Group members can seek help and/or redistribute the tasks among themselves if someone feels overwhelmed.
Tools: We will be using GitHub for version control and Slack for updating on task management.

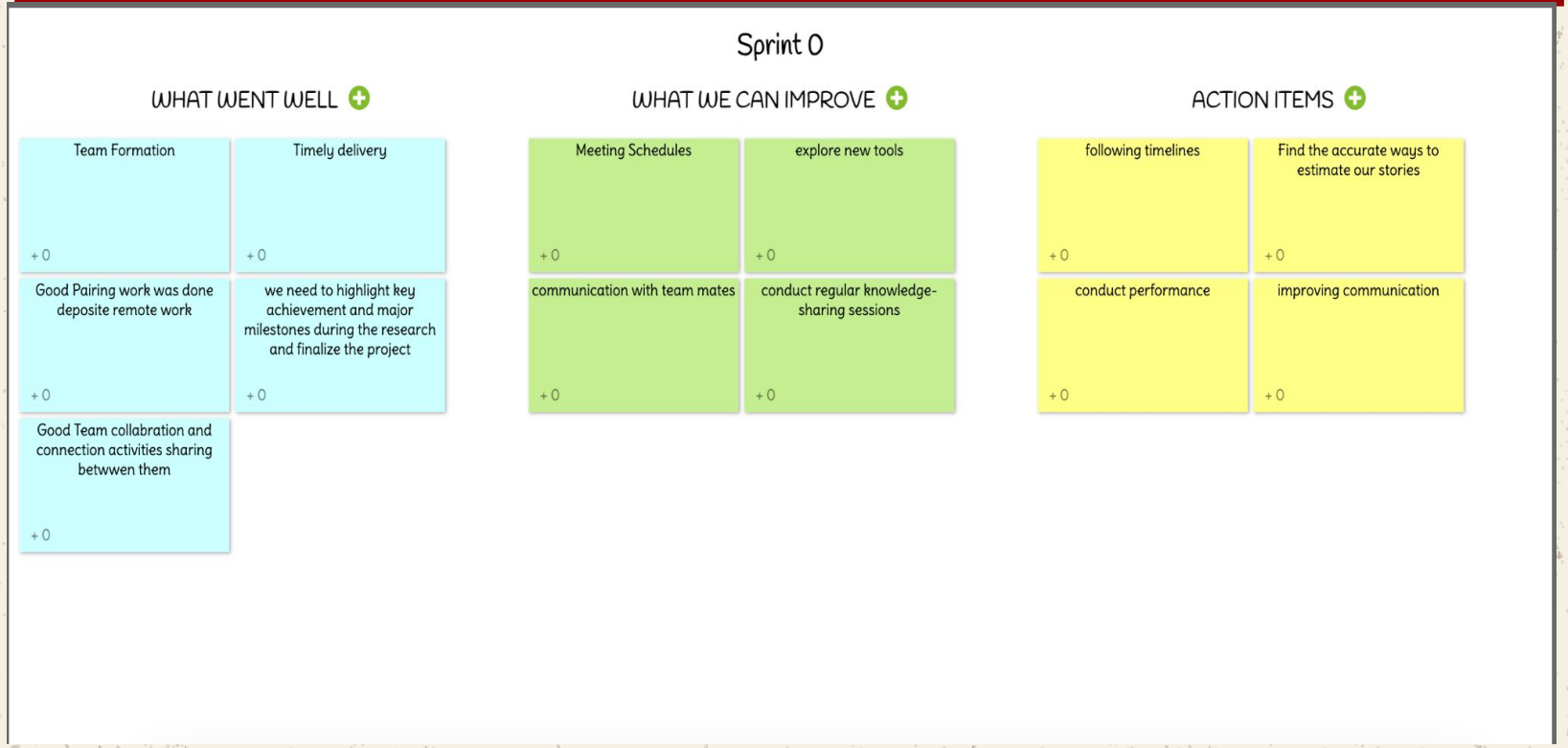
7. Performance and Feedback
Weekly Performance Reviews: Individual and team performance will be reviewed each week in order to keep aligned with project goals.
Continuous Improvement: Regular sessions of constructive feedback will enable us to identify the problems at an early stage and fine tune our approach with time.

8. Change in Agreement
This is a living agreement: hence, the team has reserved the right to change it at any time if needed. Proposed changes will be discussed and mutually agreed upon by all parties concerned.

Team Members

1. Deekeshitha Navuluri
2. Bhavya sri Panguluri
3. Manoj kumar Ambavarapu
4. Sai mahesh Sandeboina
5. Phanindhr Thota

Retrospective



Wikipage Link

https://github.com/htmw/2024F-pace-super-giants/wiki

Thank You

DineWise