SDU Food

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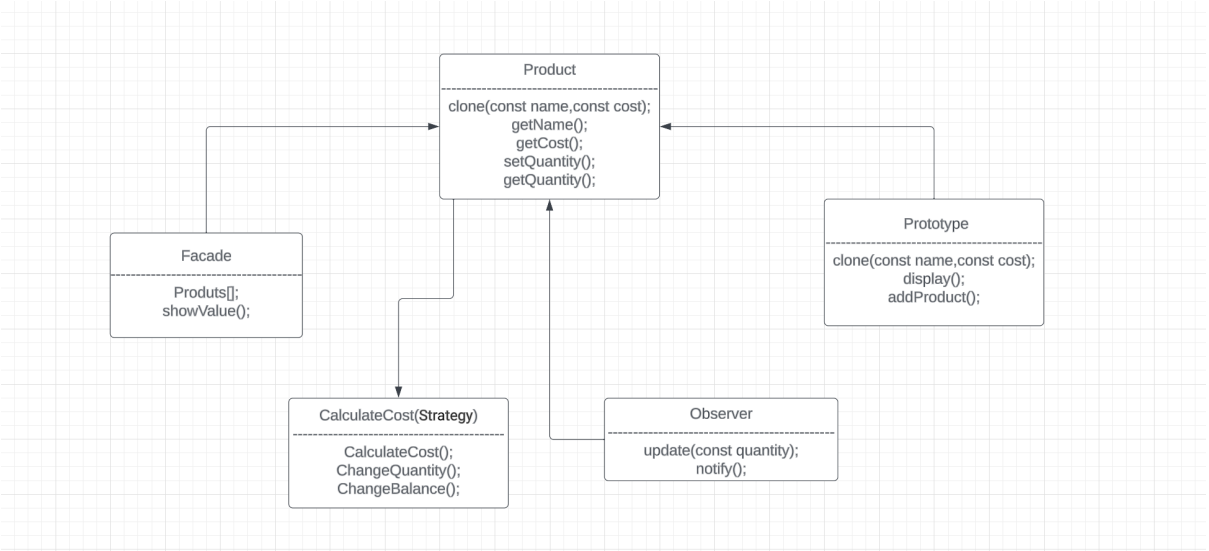
Description of the project:

Our team decided to look at university problems. Many of the students, in particular, spend most of their lunch time just standing in line. 1st floor RedCanteen and 3rd floor EatAndChat at lunchtime there are simply very long queues at the cash registers. With the idea of solving this problem, we decided to create a website for online orders, after which you can simply pick up your order from the distributor. As a basic function, we will have the opportunity to log into the system as a student or as a teacher. We have distinguished the roles of these persons. Project participants Islam Zhumabaev and Sauhanbek Bakytzhan.

Team information:

The collaborative endeavor commenced with participants pooling their intellectual resources, sparking the genesis of the project through the formulation of innovative ideas and a robust logical framework. As a collective, we seamlessly crafted a comprehensive diagram, meticulously delineating the intricate details of our vision. With the blueprint in hand, we embarked on the journey of diligent and concerted effort, translating our conceptualized notions into tangible and actionable tasks. This fluid and collaborative process ensured that every participant's input played a pivotal role in shaping the project's trajectory from ideation to implementation. We used languages such as HTML and CSS to create the visuals of the site, and used JavaScript to build the structure using design patterns.

Structure/diagram:



Problem statement and solution:

Addressing the prevalent issue of queues in public catering establishments, our project aimed to provide an efficient solution through the development of a user-friendly website accessible from any device. Recognizing the potential inconvenience associated with downloading a dedicated application, we opted for a web-based platform to ensure accessibility and convenience.

The decision to create a website, rather than an application, stemmed from the desire to offer a seamless experience without the need for lengthy downloads. This approach ensures that users, whether students or teachers, can effortlessly access the platform from computers or mobile devices, putting the solution right at their fingertips.

The core functionality of the website revolves around a straightforward ordering system that caters to the needs of both students and teachers. With easy access granted to anyone, users can efficiently place orders and manage their preferences. The inclusion of an administrative role further simplifies the process, with the admin having the ability to set daily preparation quantities effortlessly.

By implementing this web-based solution, our project aims to revolutionize the way public catering establishments manage queues, making it more accessible, efficient, and user-friendly for all stakeholders involved. Through seamless online access and intuitive management features, we anticipate a significant reduction in queues and an enhanced overall experience for both customers and staff.

Idea

Our inspiration for the project, born out of the common frustration experienced while standing in line, is both relatable and ingenious. The idea of creating a website to enable students to conveniently place orders just 15 minutes before the end of a lesson, ensuring their food is ready for pickup afterward, is a game-changer. This approach not only addresses a widespread issue but also aligns perfectly with the hectic schedules of university students.

The convenience of placing orders remotely, especially during the tight timeframe before the end of a lesson, is likely to resonate well with a large number of students at your university. By eliminating the need to physically wait in line, your project not only provides a practical solution to a common problem but also enhances the overall efficiency and experience of the food ordering process.

It's evident that your team has identified a real pain point and is determined to make a positive impact on the daily lives of students. The decision to leverage technology, specifically through a website accessible from various devices, underscores a forward-thinking and inclusive approach to solving this challenge. Best of luck with your project, and may it bring much-needed relief to students facing similar inconveniences!

Rationale for using design patterns:

In our innovative project, we harnessed the power of design patterns to streamline and enhance various aspects of our product development and management processes.

Leveraging the Prototype pattern, we ingeniously employed cloning techniques to create products swiftly, seamlessly customizing their names and costs. This approach not only facilitated efficiency but also provided a flexible foundation for diverse product iterations.

Our utilization of the Facade pattern was particularly noteworthy, offering a user-friendly interface to showcase vital product information such as cost and quantity. This not only simplified the user experience but also contributed to a more transparent and accessible overview of our product catalog. For the intricate task of order cost calculation, product quantity adjustment, and balance management, we seamlessly integrated the Strategy pattern. This strategic approach allowed us to define and interchange algorithms dynamically, adapting to various scenarios and ensuring optimal order processing efficiency.

The Observer pattern played a pivotal role in enhancing our administrative functionalities. Our admin page, acting as the central observer, efficiently communicated the daily sales targets to all relevant products. This streamlined communication ensured that each product stayed informed and could appropriately adjust its operations based on the overarching administrative directives.

In summary, our project's incorporation of these design patterns, including Prototype, Facade, Strategy, and Observer, reflects a thoughtful and systematic approach to product development, user interaction, cost calculation, and administrative coordination. These patterns not only exemplify best practices in software design but also contribute significantly to the overall robustness and adaptability of our system.