Team 9

Daniel Wang, Maria Zhang, Trinh To, Phuong Vu, Safwaan Taher

Project Proposal: Final Topic

Class Project - Babs Burger Bonanza (BBB)

Project Proposal Narrative Description

Project Justification

Desirability**:** Our customer requires a management system that can be used in all operations and major areas of their business. Examples of areas that will be affected include food truck operations, payments, customer service, financial tracking and tracking employee data.

Feasibility**:** It is both technically and organizationally feasible to develop an application system as this will help connect with the consumer without interfering with the core business model. This can be used by both employees within their daily activities and the customer to connect with the business seamlessly. Internally, the system can be used by management to track finances, employees, profit margins and other relevant metrics. It will also be couple with customer interaction.

Viability**:** The system describe is financially viable as the productivity and customer connection promoted by the system will bring the business significant growth and revenue. Long term it will scale to the business's growth and potential future needs.

Quantification

In reference to quantifying the cost and benefits in a data driven way, one can use the provided model of change:

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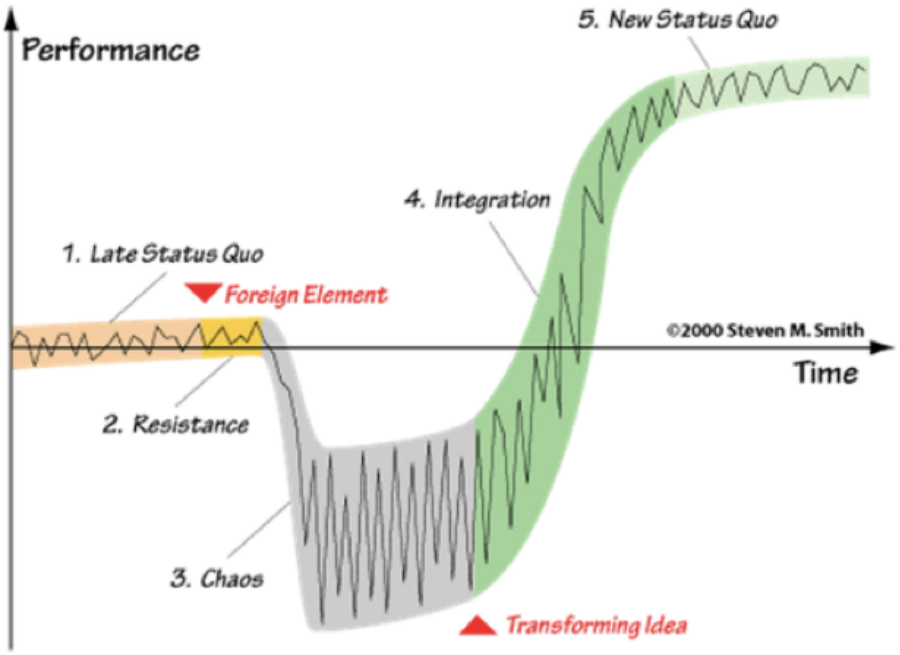

Initially at the introduction of a foreign element that the system will be it may be difficult to adapt. As illustrated in the diagram however later once the business reaches its transforming stage the growth will be exponential and reach a status quo that is much higher that the original. The system will provide extensive scalability and streamline the businesses operations. As such profits and productivity will increase leading to considerable overall growth and eventual expansion of the business.

Cost Estimates

Initial Investment: Because integrating a new system is costly this stage will involve the highest cost. The entire process of development (from modeling/requirements elicitation to implementation and testing) and the necessary infrastructure (web servers, hosting, and storage) will cost in the $600,000 - $700,000 range and span roughly 16 months

On-going Operations: Setting up infrastructure, support, and training for the employees of the company will take much less in terms of cost compared to the bulk of development. Integration would likely take place in a span of 2-3 months and deploying the application would likely cost <$8,000.

Continuing Development: Expanding on the original implementation, giving new support to critical issues, bug fixes, and adding new features based on user suggestions is essential to keeping a product sustained long term. A good estimate for this cost would be $20,000 but is very flexible to change given how well and how quickly the initial system will adapt and be integrated.

Sample table of a way we can breakdown the cost and its benefit:

Cost	Benefit
Development: ● Hiring UX designers: $3000 ● Hiring technical developers: $3000	Appealing and functional app: ● Attract new customers: $500/month
Deployment: ● Website domain: $14/year ● Publish app on app store: $99/year ● Publish app on google play store: $25	App is easy to locate: ● Returning customers profit: $31360/month ○ Avg cost of food-$14 ○ Avg # of customers/day-80
Operations: ● Maintaining systems: $500/year ○ Online ordering ○ Inventory ○ Reservation ○ Finance	Systems improve organization and productivity: $1000/month ● Rarely missed orders ● Consistently staying on top of inventory ● Track finances

Risk Management

- Payment/financial transaction: mishandling, leaking customers', and company's financial and payment information. This risk's impact can be measured via costs and satisfaction. This risk has the highest risk exposure.
    - Estimate Probability: Low/Remote or Improbable
    - Impact: Critical/ Catastrophic
    - Priority: High Priority
    - Control: Mitigation. A leak in customer privacy and payment information will destroy the reputation of the company. It is very important to mitigate the chances of leaking information or allowing others to access information. We can't avoid this since saving payment profiles and customer profiles will make ordering more convenient for our customers.
- Company's database: company's database gets leaked out to the public and opponents. Opponents may utilize the company's confidential information to go against them. This risk's impact can be measured via failure, quality, and satisfaction. This risk also has very high-risk exposure.
    - Estimate Probability: Low/Remote or Improbable
    - Impact: Critical/ Catastrophic
    - Priority: High Priority
    - Control: Mitigation. A leak in data storage will also destroy the reputation of the company. It is very important to mitigate the chances of allowing unwanted/illegal access to storage and databases. Our databases will contain sensitive information on customers, workers, suppliers, and other important information.

We can't avoid this since saving information on databases is a necessity for the business.

- BBB can also control this risk by avoiding or deferring the risks. The solution can be hiring professional data storage company or location to host the company's database. If the first solution is not feasible, BBB can defer the risks to research further on how to secure their database better.

- Communication channel: miscommunication between customers and employees of the companies, or employees and suppliers. This risk's impact can be measured via costs, quality, and satisfaction. This risk has high-risk exposure.
  - Estimate Probability: Low/Remote or Improbable
  - Impact: Critical
  - Priority: High Priority
  - Control: Mitigation. Encryption in communication is important since we don't want unwanted access to our servers through a way in communications. We can't avoid it since we need to communicate with customers about their orders. The application will also communicate between the food truck, managers, and warehouse. Thus avoidance is not an option.
    - BBB can also control this risk by avoiding the risks. The solution can be adding customer service and a communication office to ensure that the communication went through correctly.
- Warehouse system: malfunctioning warehouse system may cause a delay in the company's operation and profits. This risk's impact can be measured via schedule and costs. This risk has high-risk exposure but not as high compared to previous risk's
  - Control: BBB can only accept this risk for this moment since they do not have the ability to control the whole warehouse system. And bugs in software can happen at any time. The solution to this is to invest more into their software system so that they can reduce the chance of system breakdown.
- Food truck records: incorrect food truck records of maintenance, driver handbook, ... may cause damage to the vehicle, which may cause harm to other people if unnoticed. This risk's impact can be measured via cost, schedule, and failure.
  - Control: BBB can defer this risk for this moment to focus on implementing another system for the food truck vehicle's health and operation.
- Inventory records: Incorrect inventory records can lead to inventory shortage, causing a delay in the company's operation, profit, and customer satisfaction. This risk's impact can be measured via schedule, costs, quality, and satisfaction.
  - Control: BBB can mitigate this risk by coming up with plans and policies to schedule inventory reviews and cross-check inventory records.
- Employees' schedule: Inappropriate schedule for employees may result in over schedule, which would cause the company more cost for fines and overtime payments, as well as affect employees' efficiency while working. This risk's impact can be measured via schedule, costs, and satisfaction.
  - Control: BBB can avoid this risk by changing their scheduling system to ensure that no employee would need to work overtime.

- UI/UX displaying Data
    - Estimate Probability: Probably
    - Impact: Minor
    - Priority: Low priority
    - Control: Defer. There might be UI/UX issues in displaying the data that can turn away customers. Instead of mitigating, we can just defer and wait to see the issues and bugs that can pop up. This way we can fix at a later time stage of prototyping.
- Connection/Connectivity
    - Estimate Probability: Low/Remote or Improbable
    - Impact: Will cost to fix, delay schedule as well.
    - Priority: Low Priority
    - Control: Mitigation. Connectivity with the server can cause a loss of functionality in the application. There is no way to avoid this issue so the best way to combat the risk is to mitigate.
- Reliability
    - Estimate: Low/Remote
    - Impact: Will cost to fix, delays the schedule, decrease customer satisfaction,
    - Priority: Medium Priority
    - Control: Defer. This will take testing and load after creation to test. The application must be able to handle heavy load from orders, updates, and communication. Thus the application must be reliable and stable. If there are issues for customers due to heavy order numbers, BBB will lose out on customers and profits.

Artifact Appendices

UX Design

1, WireFrame

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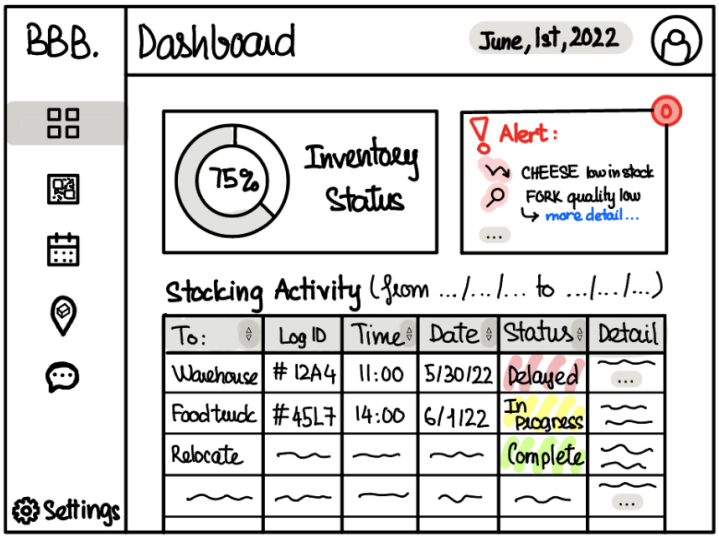

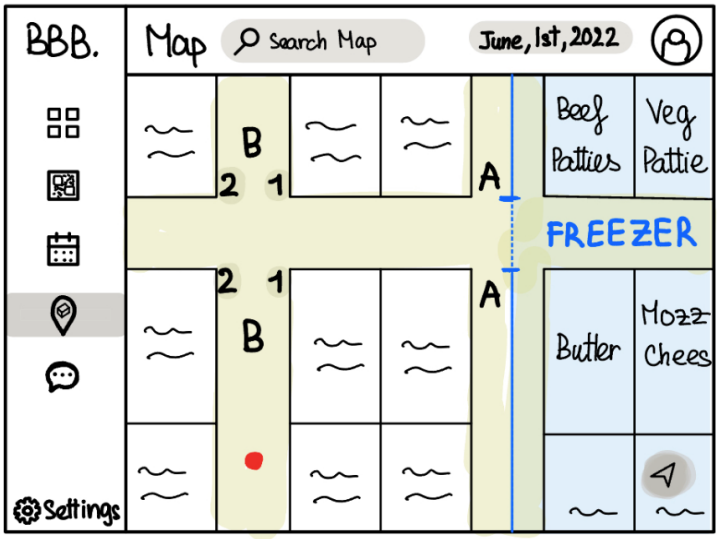

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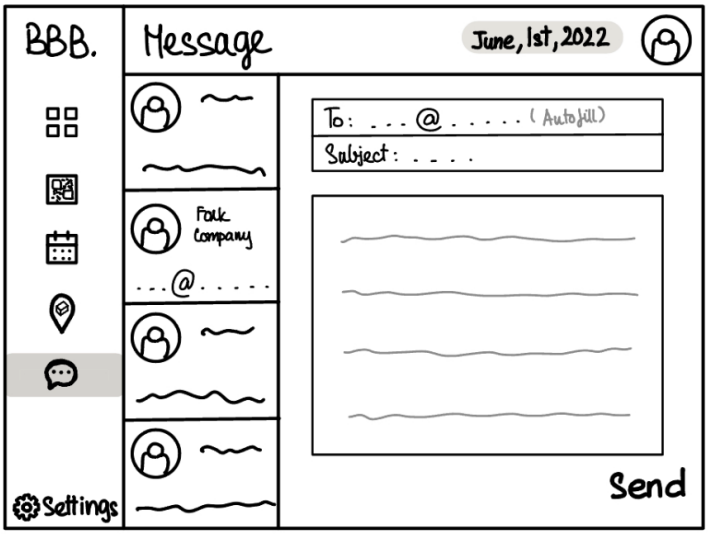
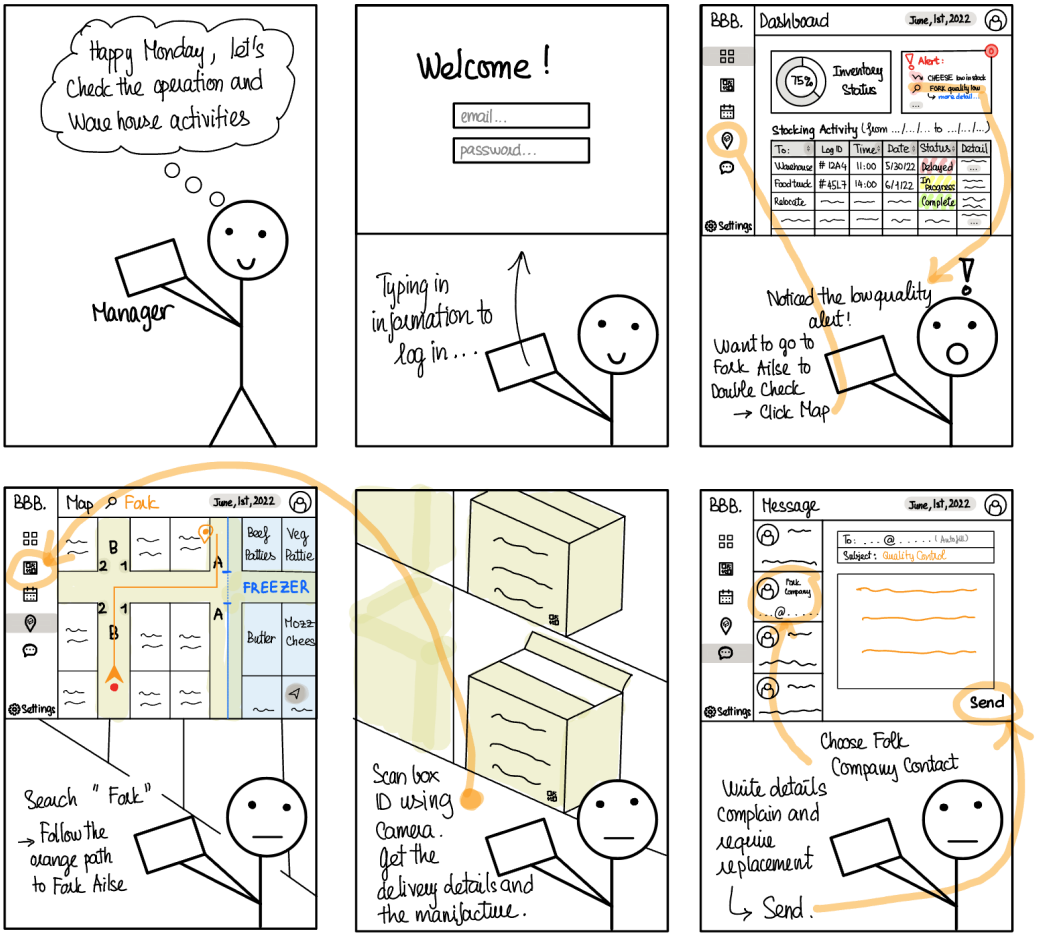


2, Storyboard



3, Meaningful aspect

With this UX, The Alert is very noticeable, making the resolving process very early and avoiding more food trucks getting restocking using this low-quality fork. The Dashboard also gives an overview of the upcoming operations and restocking activity.

The Map allows managers and warehouse employees to navigate around the large warehouse. The search bar makes it even more convenient.