

SkyNet

CS 691
Capstone Project



Agenda

① Meet the Team

② Problem Statement

③ Project Description

④ Technologies

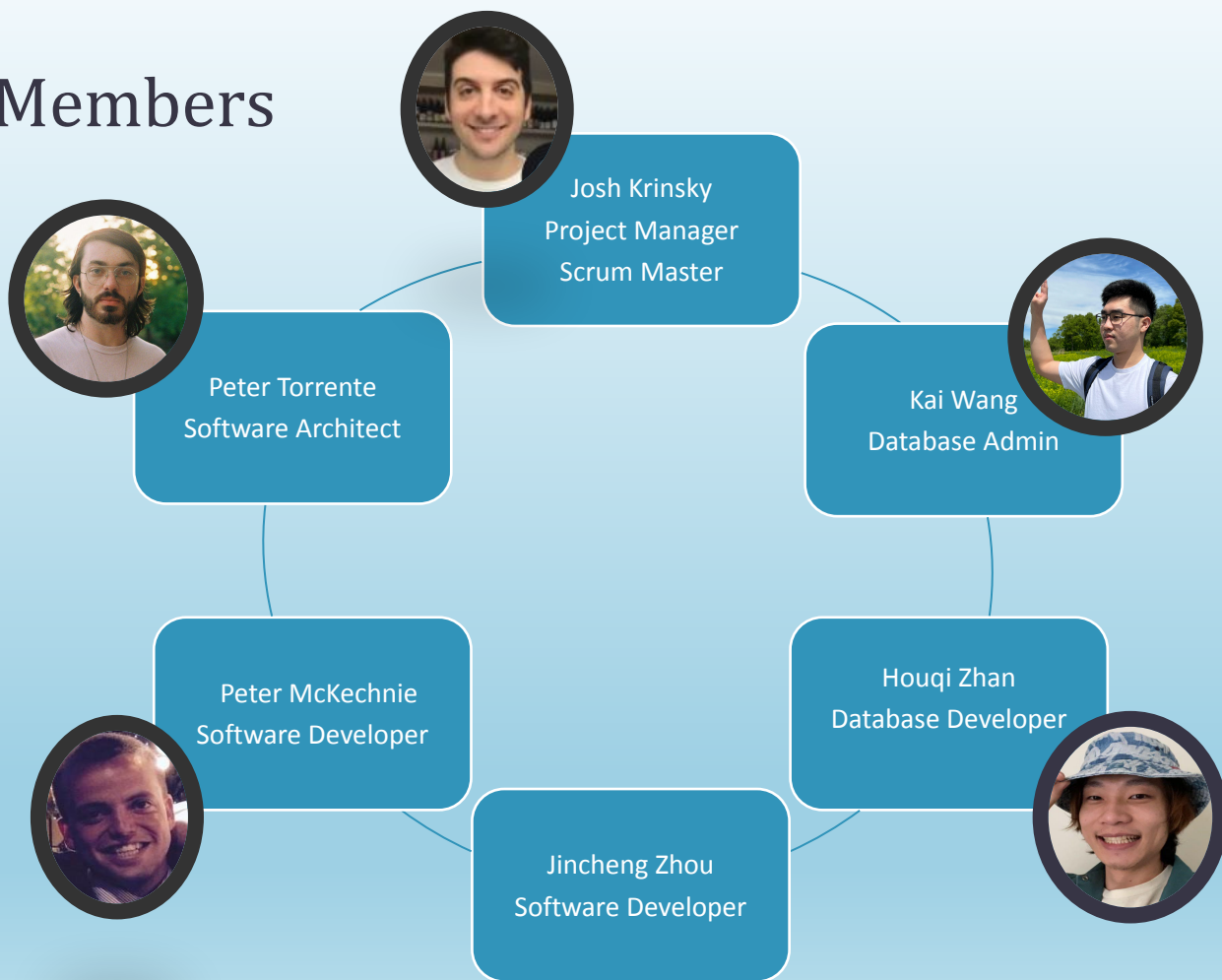
⑤ Personas

⑥ Projected Schedule

⑦ Retrospective

⑧ Conclusion

Team Members



Problem Statement

- Companies rely heavily on CRM and POS software to control the customer experience. These are complex software platforms offering a variety of features.
- Large and expensive packages dominate the market and are tailored to larger companies.
- Many customers do not have the budget, nor the technological aptitude, to effectively employ popular CRM and POS platforms.

Problem Statement (cont.)

Market Research

- The average American small business owner is over 50 years old.¹
- This demographic is not very technologically inclined (40% of Americans aged 50 to 64 have never owned a smart phone.)²
- Very few options on the market day have been designed with the technologically unsavvy business owner in mind.
- Most start up ventures ultimately fail, citing cash-flow shortages as the primary reason.
- For those that do succeed, most take 3 - 5 years to turn a profit.³
- Few things are more unappealing to a struggling start up than hefty subscription fees on essential software.
- Many CRMs and POS platforms offer cheaper packages, which are frequently stripped down and have numerous features removed.

Project Description

- We aim to design a POS styled system with greater simplicity for customers.
- We will prioritize fundamental services for day to day operations of a small business.
- Users will be able manage inventory, track sales, compare vendors, analyze production outputs and more.
- Easy-to-use interface means even the most novice users are capable of creating custom data visualizations and analysis.

Software Features

Inventory management

Sales and production analysis

Vendor relations management

Sync with distributors

Consumer industry market reports

Personas

Persona one - David's warehouse, a small retail business

Issue: David, the owner of the retail store, spends a huge amount of time each week comparing offers from different suppliers, even though he doesn't have many products on his shelves. Since the prices of different products offered by different suppliers often change, David needs to do a lot of calculations and comparisons based on stock availability and expectations of sales. He also has very little free time to spend with his wife and children, despite his off-hours.

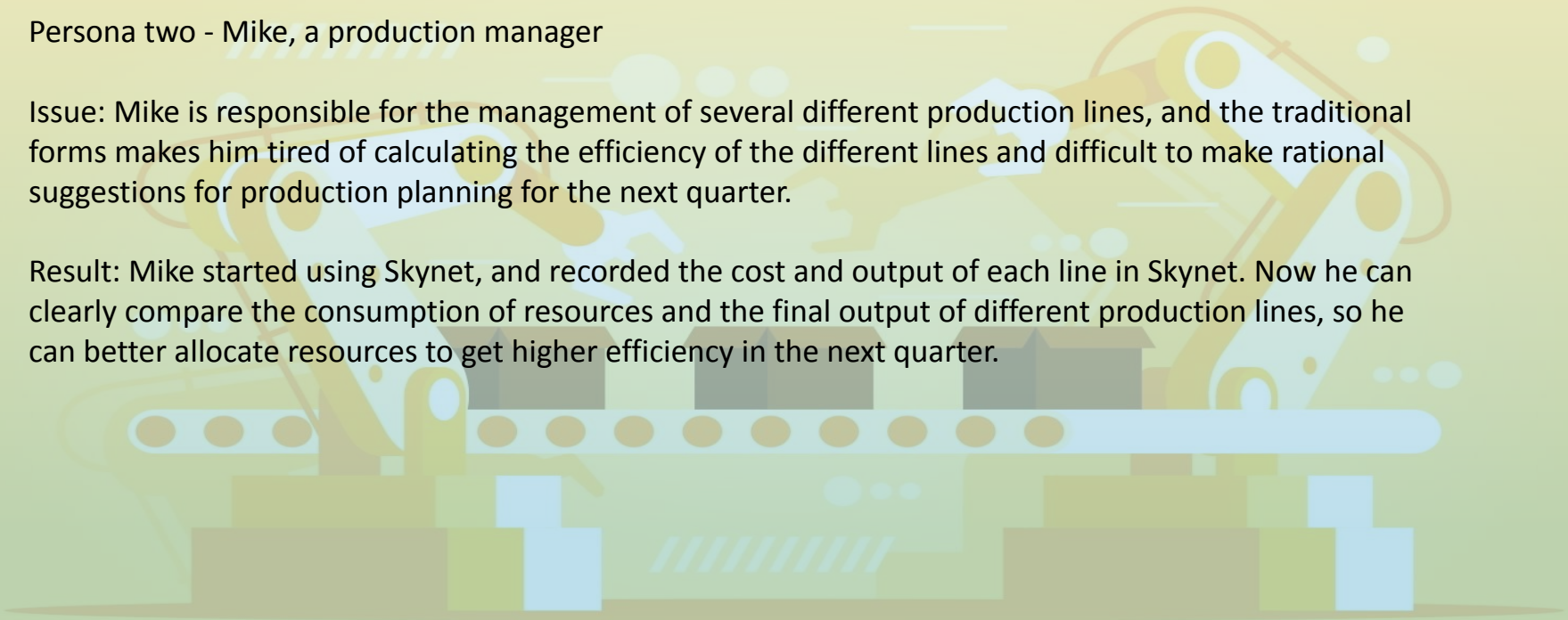
Result: David happened to see an ad for Skynet and decided to try it out. All he needed was for his raw inventory and sales status to be networked with Skynet's database and he would have a clear picture of his real-time inventory. He can also get a visual cost comparison chart to help him choose the right supplier by updating his Skynet-supplier information whenever a supplier offers a new quote, and the chart can also include the historical sales status of each product to allow him to make better decisions. Now David doesn't have to spend a lot of time on tedious calculations, he just needs to do the most important job of a manager - making decisions! Now he has more time to spend with his family.

Personas

Persona two - Mike, a production manager

Issue: Mike is responsible for the management of several different production lines, and the traditional forms makes him tired of calculating the efficiency of the different lines and difficult to make rational suggestions for production planning for the next quarter.

Result: Mike started using Skynet, and recorded the cost and output of each line in Skynet. Now he can clearly compare the consumption of resources and the final output of different production lines, so he can better allocate resources to get higher efficiency in the next quarter.



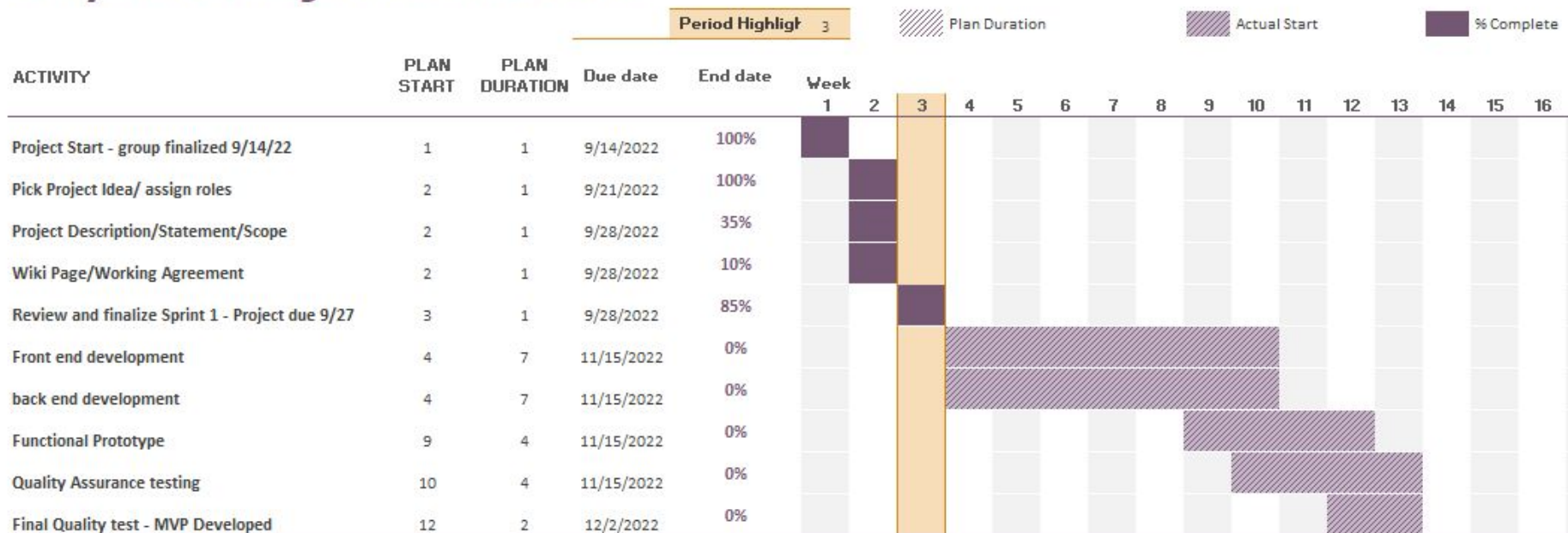
Personas

Persona three - Alex, pet transport services company.

Issue: Alex runs a small pet transportation company. The company offers a variety of services to help clients transport their pets anywhere in the world with peace of mind. Since Alex works transporting pets across multiple countries, they need a way to keep track of the different vendors, airlines, groomers, etc., they work with. They do not have the budget or the staff to use other larger software packages.

Result: Using SkyNet, Alex is now able to clear keep track of the different vendors they use, making sure they can get the best prices and results for their clients. The company is now able to effectively keep track of each client's pet and their needs. All the while, Alex is able to maintain this without committing a lot of their resources to training and expensive software.

SkyNet Project Schedule



Team Working Agreement

- Vertical top-down approach to software development
- Adhere to quality standards ISO 9000, ISO 9126
- Capability Maturity Model (CMM)
 - Maturity Levels
 - Key Process Areas
 - Goals
 - Common Features
 - Key Practices

System Test Plans

Section	Input	Expected Result	Actual Result

Retrospective

- While we did quite well overall, after our first sprint we fell short by not clearly defining our project.
- By not defining the features and capabilities of the software from the outset, it caused some minor headaches as a change to one potential feature of the software necessitates fixes across the rest of the project.
- Our group lacks experienced programmers, which likely contributed to the discrepancies between our initial software concept and the product actually described here.

Conclusion

- <https://github.com/CarviS0302/Pace-MS-Capstone>

Citations

Kiisel, T. (2021, January). *Small Business Statistics*. Nav.
<https://www.nav.com/small-business-statistics/>

Anderson, M. (2015, October). *The Demographics of Device Ownership*. Pew Research Center.
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