Demo 1 Documentation

CSCI 441 Software Engineering

Group # 4:

ParkEZ Automated Parking Garage

Project URL: https://fhsu-park-ez.vercel.app/

11/10/2023

Team Members:
Benjamin Bylsma
Adrian Elgin
Mikael Mikaelian
Phongsavanh Mongkhonvilay
Geoffrey Sarpong
Christopher Smith (Team Leader)

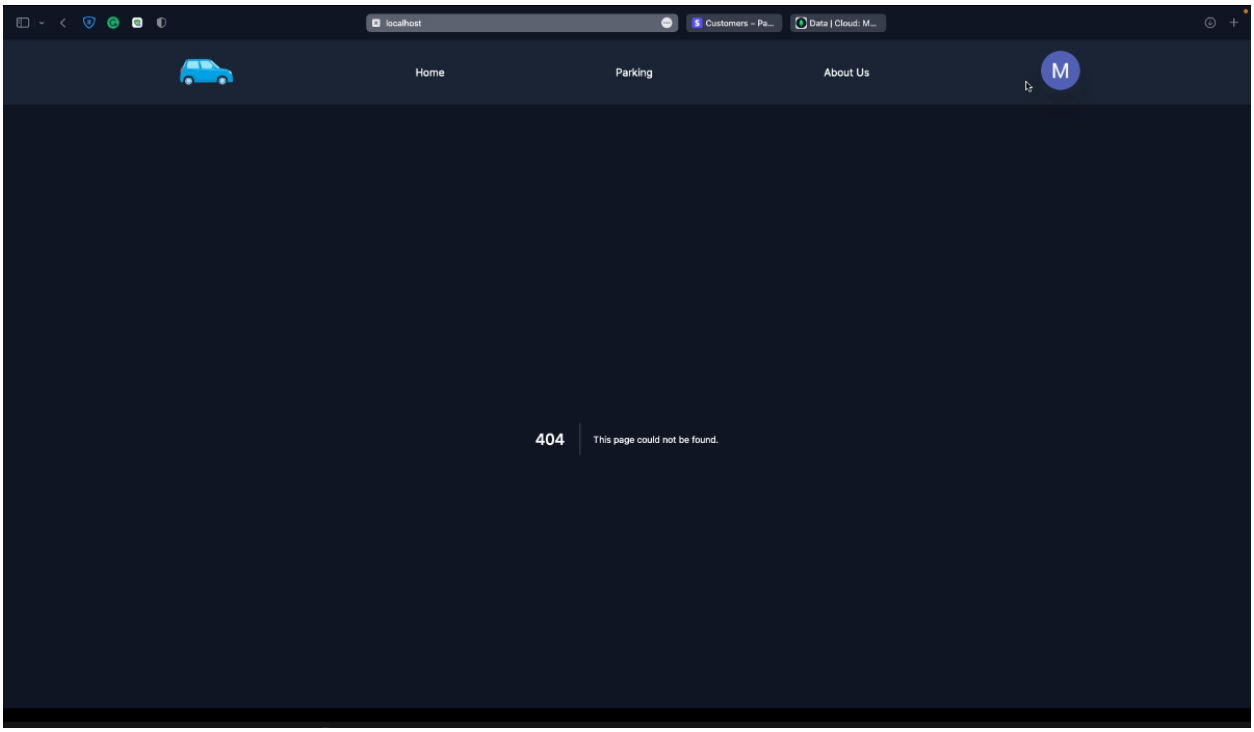
Table of Contents

Contribution Breakdown

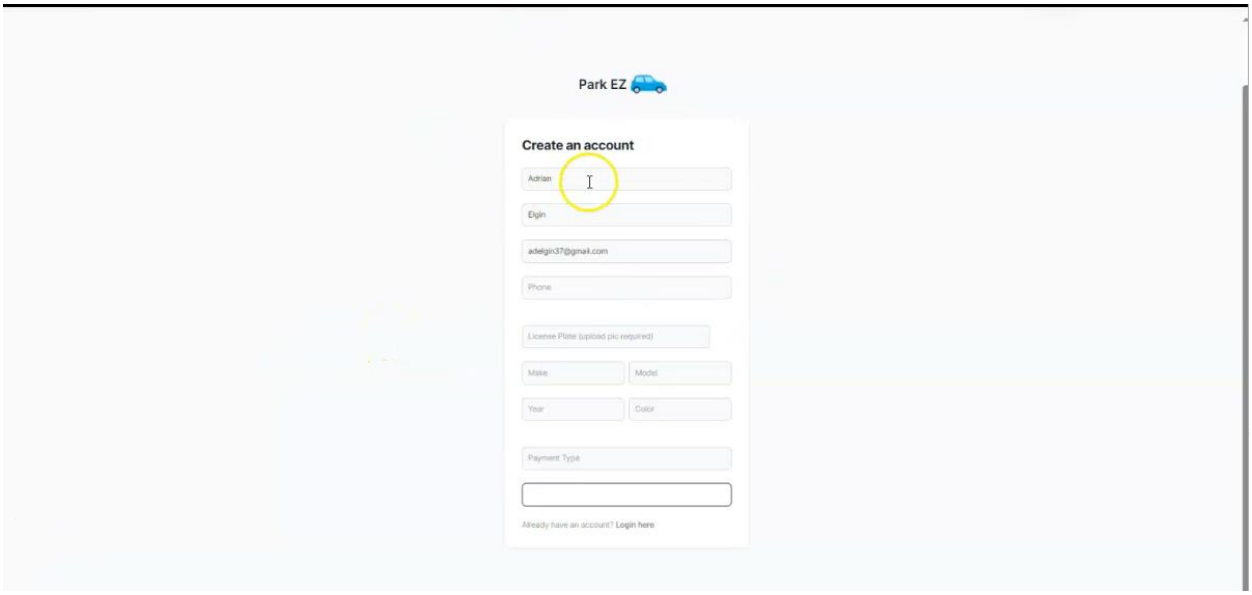
Task	Bylsma	Elgin	Mikaelian	Mongkhonvilay	Sarpong	Smith
Coversheet/Contribution Breakdown/Table of Contents	16.67%	16.67%	16.67%	16.67%	16.67%	16.67%
Payment Video			90.00%	10.00%		
Sign-In / Reservation Video		70.00%		30.00%		
ParkEZ Website	10.00%	10.00%	10.00%	50.00%	10.00%	10.00%
MongoDB Database				100.00%		
Video Editing						100.00%
Project Management	16.67%	16.67%	16.67%	16.67%	16.67%	16.67%
References	16.67%	16.67%	16.67%	16.67%	16.67%	16.67%

Slide Overview

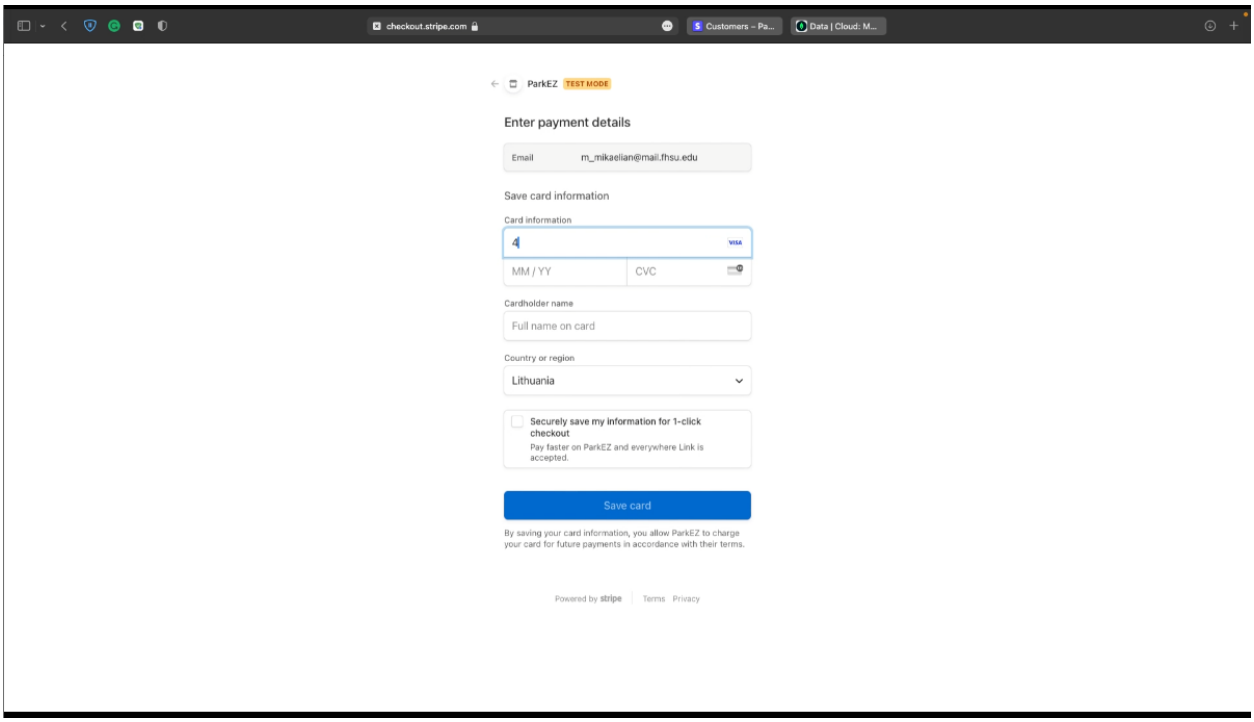
ParkEZ Home Page.



Sign-Up Screen



Payment screen.



Project Management

Merging the Contributions From Individual Team Members:

Putting together a final report out of pieces from six team members, with sometimes much different schedules, does present its challenges. What we have discovered is that the earlier we can get our individual parts completed the better. Aside from getting things done as early as possible, the use of Google Docs has helped us come together, as a team, on the final report by allowing everyone to share, update and edit a single document. It is easy to see which parts of the report have been addressed and what still needs to be done. Once everyone has completed their assigned sections the final report gets a final read through and edit before submission.

Progress Coordination and Progress Report:

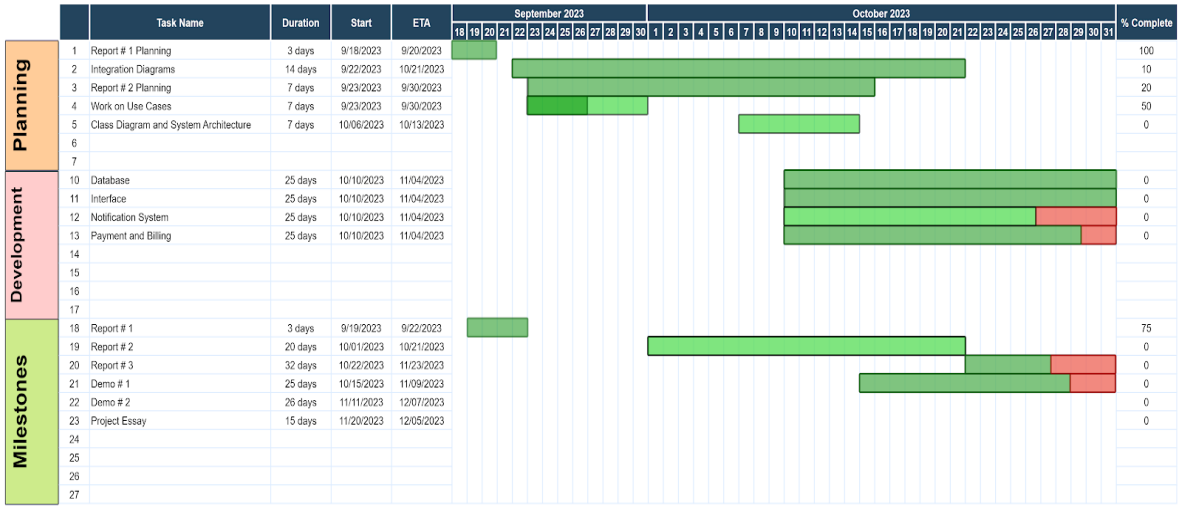
A basic home page shell for the ParkEZ Automated Parking Garage has been developed along with pages for Parking and About Us. Also there is a drop down site menu present, but is not fully functional. Also there is a sign in form that has been developed. The MongoDB database is in the design phase.

Plan to Work:

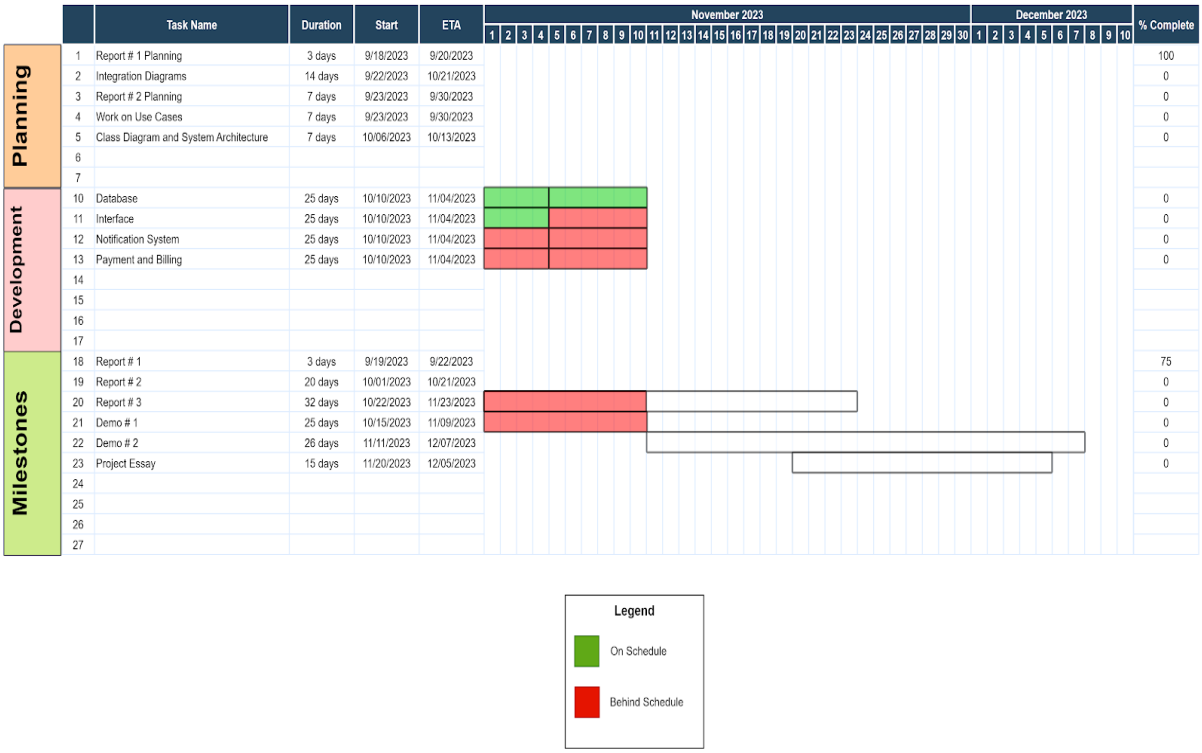
This project is in the planning phase and all of the foundation laid so far has been a team effort. Our group discussions have been conducted on a Discord text server that was created for the purpose of this project. We have also attended a weekly Discord voice chat for project discussion, planning and design. The Report was created on Google Docs and was shared with the entire group so that each member could contribute in real time to the content of the document and participate in the editing process. We will continue to use Discord for meetings and Google Docs for future reports.

ParkEZ Gantt Chart

		Task Name	Duration	Start	ETA	% Complete
Planning	1	Report # 1 Planning	3 days	9/18/2023	9/20/2023	100
	2	Integration Diagrams	14 days	9/22/2023	10/21/2023	10
	3	Report # 2 Planning	7 days	9/23/2023	9/30/2023	20
	4	Work on Use Cases	7 days	9/23/2023	9/30/2023	50
	5	Class Diagram and System Architecture	7 days	10/06/2023	10/13/2023	0
	6					
	7					
Development	10	Database	25 days	10/10/2023	11/04/2023	0
	11	Interface	25 days	10/10/2023	11/04/2023	0
	12	Notification System	25 days	10/10/2023	11/04/2023	0
	13	Payment and Billing	25 days	10/10/2023	11/04/2023	0
	14					
	15					
	16					
	17					
Milestones	18	Report # 1	3 days	9/19/2023	9/22/2023	75
	19	Report # 2	20 days	10/01/2023	10/21/2023	0
	20	Report # 3	32 days	10/22/2023	11/23/2023	0
	21	Demo # 1	25 days	10/15/2023	11/09/2023	0
	22	Demo # 2	26 days	11/11/2023	12/07/2023	0
	23	Project Essay	15 days	11/20/2023	12/05/2023	0
	24					
	25					
	26					
	27					



ParkEZ Gantt Chart



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	24					
	25					
	26					
	27					

Product Ownership:

Breakdown of Teams	Team Member Assignment	Coordination Activities
Team Pair #1: Benjamin Bylsma Mikael Mikaelian	Benjamin Bylsma • Customer registration and profile management. Mikael Mikaelian • Payment processing and billing.	Functionalities: Customer registration and profile management Qualitative Property: Develop an intuitive and user-friendly online registration process that securely stores customer data and reservation data in a database.

		Treatment: Address the problem of user registration complexity and ensure a seamless onboarding experience.
Team Pair # 2: Christopher Smith Adrian Elgin	Christopher Smith • Real-time parking space availability updates. Adrian Elgin • Reservation system with confirmation.	Functionalities: Real-time parking space availability updates by integrating parking space sensors, license plate cameras and customer check-in software. Qualitative Property: Ensure system performance to display availability within Seconds. Treatment: Alleviate the problem of customer frustration due to inefficient parking space searches.
Team Pair # 3: Phongsavanh Mongkhonvilay Geoffrey Sarpong	Phongsavanh Mongkhonvilay • Integration with security and surveillance. Geoffrey Sarpong • Automated entry and exit for vehicles.	Functionalities: Automated entry and exit for vehicles using license plate recognition camera system. Qualitative Property: Develop and evaluate a user-friendly interface for the entry and exit process. Treatment: Resolve the issue of congestion and delays at entry and exit points. Additionally, we will collectively work on payment processing, billing, and the reservation system to enhance overall system efficiency.

References

Marsic, I. (2009). *Software Engineering*. Ivan Marsic. https://www.ece.rutgers.edu/~marsic/books/SE/book-SE_marsic.pdf.

Marsic, I. (2009). *Software Engineering Course Project Parking Garage/Lot*. Ivan Marsic. https://www.ece.rutgers.edu/~marsic/books/SE/projects/ParkingLot/ParkingLot.pdf

Gantt Chart and Use Case Diagram Design: https://app.diagrams.net/

Tran, L., Nguyen, K., Choudhury, S., Ngo, T., Nguyen, D., Xiao, Z., Patel, N. (2019). *Blockchain And Docker Assisted Secure Automated Parking Garage System*. Ivan Marsic. https://www.ece.rutgers.edu/~marsic/books/SE/projects/ParkingLot/2019f-g4-report3.pdf