DRIVECO : RIDE-SHARING APP FOR IUE STUDENTS
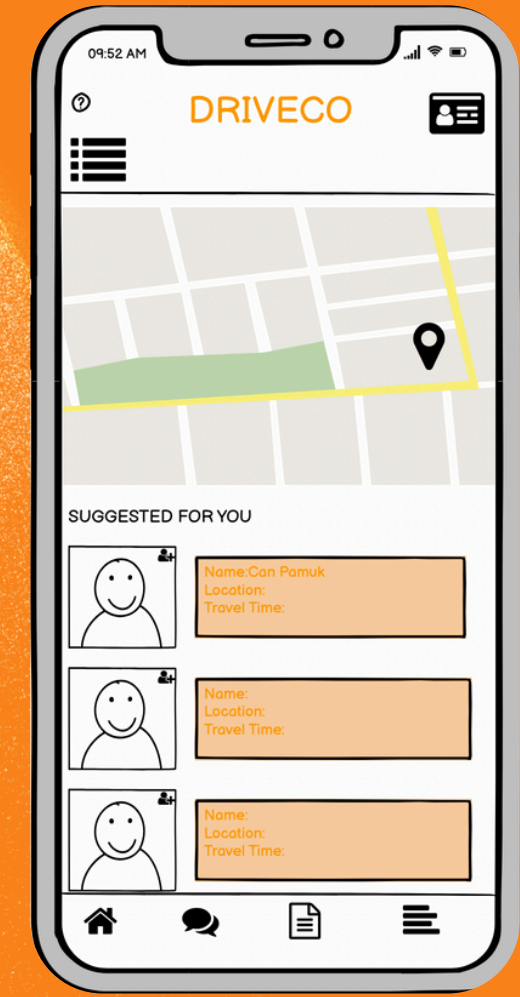
SAFE, CONVENIENT, AND AFFORDABLE CAMPUS TRANSPORT

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Functional Requirements

- User Registration and Login İnterfaces.

- ID Verification at Registration.

- Messaging and Appointment Creation.

- Offer Prices for Rides.

- Fetch Student Data From IUE.

- Access Users' Location.

- Help Button for Emergency Police Notification.

- Money Transfer Tool.

- Create Discount Coupons.

- Phone Number Verification via SMS.

Non-Functional Requirements

- Securely Store User Data.

- Robust ID and Phone Verification.

- Keep User Location Confidential.

- User-friendly Interface.

- Compatibility with Android, iOS, and Web Browsers.

- Handle IUE Student Volume.

- Regular Backups to Prevent Data Loss.

- Optimize Server Response Times.

Software Tool Selection

Software Tools For Map API:
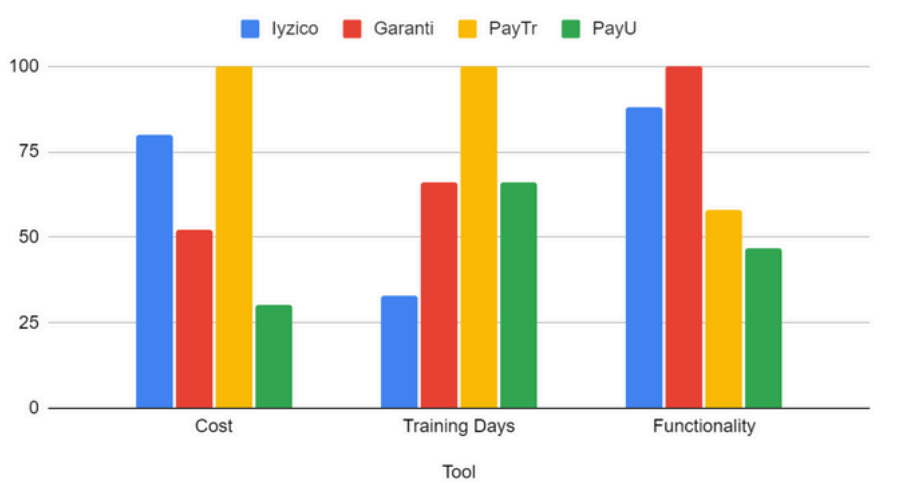
Normalized Cost/Training/Functionality Data			
Tool	Google Maps API	Yandex Map API	Flutter Map package
Cost	65	100	0
Training Days	100	100	40
Functionality	100	75	68
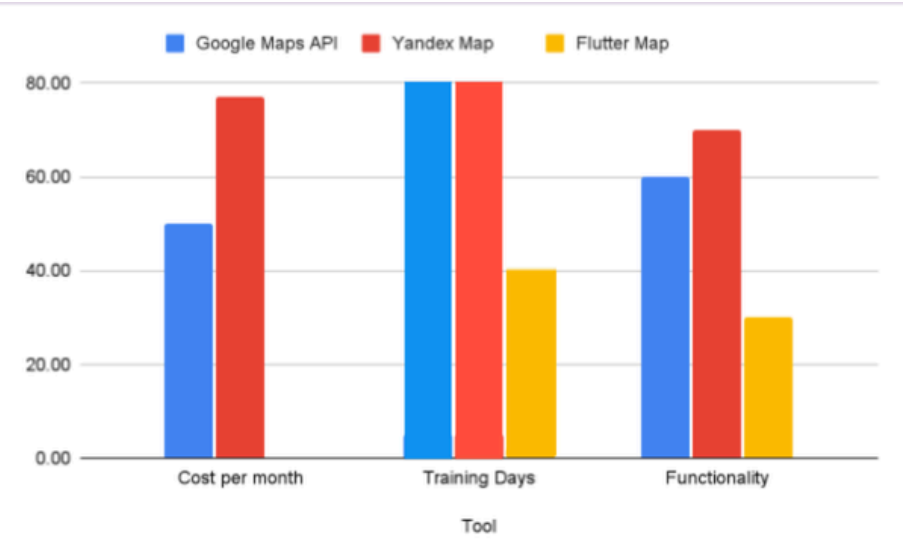
Software Tools For Payment:

Normalized Cost/Training/Functionality Data				
Tool	Iyzico	Garanti	PayTr	PayU
Cost	79.8	52	100	30
Training Days	75	100	50	50
Functionality	88	100	70	64

Software Tools For Server & Database:

Normalized Cost/Training/Functionality Data			
Tool	Microsoft Azure	Google Cloud	Amazon RDS
Cost	100	76	70
Training Days	75	100	62.5
Functionality	94	100	84
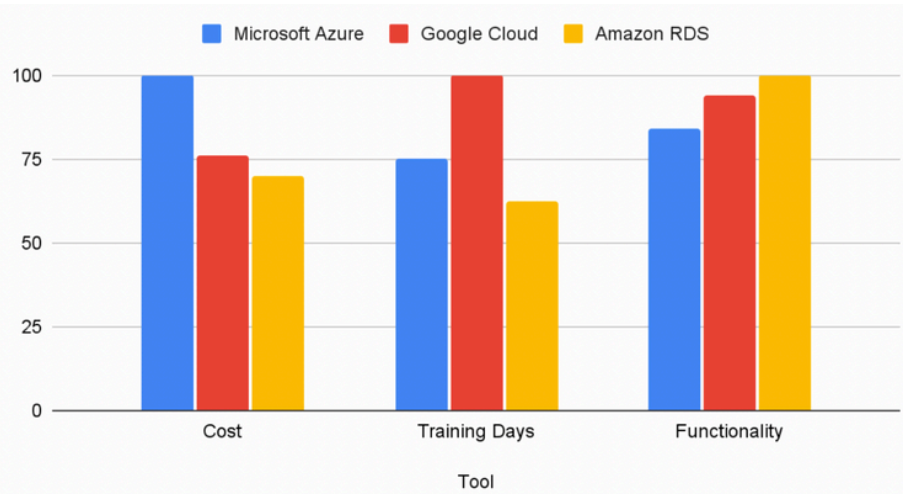
Necessary Needs From The Organizational Process

- Efficient Management of the Development Process

- Permission from IUE

- Rapid Adaptation to Requirement Changes

- Flexible Planning Based on Feedback

- Establishing Sponsorship Agreements

- Ongoing Feedback and Iterative Improvement

Software Process Model : Scrum

- Sprint 1: Project Setup and User Authentication

- Sprint 2: Messaging and Appointment Creation

- Sprint 3: Location Services and Map Integration

- Sprint 4: Payment System and Security Enhancements

- Sprint 5: User Interface and Compatibility

- Sprint 6: Testing and Deployment

Questions to Identify Measurements

- How close are we to reaching the targeted deadline?

- How much of our budget have we consumed?

- How much of our requirement list were we able to add to our project?

- How many of the set milestones have we reached?

- How many of the sprints we determined have we completed?

Identified Measurements

- The time difference between actual and planned activities will be calculated to evaluate the achievement of the target deadline

- The amount we spent including the software team since the beginning of the project.

- The implementation status of the functional and non-functional requirements in our requirements list into our project

- How many of the predetermined milestones were passed without any problems.

- The completion status of sprints will be determined by examining sprint deliveries.

Measurement Storage and Collection

- The number of days remaining until the deadline

- Finding the used portion of the amount initially set for the budget

- The status of implementation of the requirements determined for the project.

- Achievement of milestones determined at the beginning of the project.

- The number of completed sprints.

Measurement Type

- Time Management

- Budget Management

- Requirement Process

- Quality Control

- Milestone Process

- Sprint Process

Software Stakeholders

- Sponsorships/Izmir Chamber of Commerce

- Product Owner

- DRIVECO Users

- Izmir University of Economics

- Competitors

- Bank

- Emergency Services

- Staff and Managers

- Government

Combined Rank Project Risks

- Hardware / Operating System

- Database - Data Storage Problems

- Safety Issues

- Scheduling

- Unavailability of Sponsor

- Limited Resources

- Training and Tools

- Communication Difficulties

- Budget Control

- Changing Requirements

Software Needs

- Server-Based Database

- User Interface (UI) and User Experience (UX) Design

- API (Application Programming Interface)

- Real-Time Notifications

- Data Analytics and Monitoring

- Google Maps

- Project Management Tools and Programming Languages

Hardware And Support Needs

- Servers

- Computers

- Maintain Supports

- Security Support

- Data Backup and Recovery

- Performance and Scalability Support

Project Schedule

Task	Duration	Start	Finish	Pred
Planning	**13 days**	**Mon 15.04.24**	**Wed 1.05.24**	
Backlog Investigation	5 days	**Mon 15.04.24**	Fri 19.04.24	
Analyze Requirements	1 day?	Mon 22.04.24	Mon 22.04.24	2
validation of Requirements	0 days	Mon 22.04.24	Mon 22.04.24	3
Setting Sprint Goals	3 days	Tue 23.04.24	Thu 25.04.24	4
Work Estimation	2 days	Fri 26.04.24	Mon 29.04.24	5
Creating a Sprint Plan	1 day	Tue 30.04.24	Tue 30.04.24	6
Prepare Reports	1 day	Wed 1.05.24	Wed 1.05.24	7
Designing	**29 days**	**Thu 2.05.24**	**Tue 11.06.24**	**8**
Database Design	15 days	Thu 2.05.24	Wed 22.05.24	
UML Design Creation	2 days	Thu 23.05.24	Fri 24.05.24	10
Architectural Design	2 days	Mon 27.05.24	Tue 28.05.24	11
User Interface Design	3 days	Wed 29.05.24	Fri 31.05.24	12
Testing	5 days	Wed 5.06.24	Tue 11.06.24	13
Development	**93 days**	**Tue 28.05.24**	**Thu 3.10.24**	**13**
Messaging and Appointment Creation	**24 days**	**Tue 28.05.24**	**Fri 28.06.24**	
Implement messaging functionality between users.	6 days	Tue 28.05.24	Tue 4.06.24	
Develop appointment creation feature.	3 days	Wed 5.06.24	Fri 7.06.24	17
Store appointment information securely.	5 days	Mon 10.06.24	Fri 14.06.24	18
Testing	3 days	Mon 17.06.24	Wed 19.06.24	19
Allow users to filter appointments by time, day, and price.	7 days	Thu 20.06.24	Fri 28.06.24	19;20
Location Services and Map Integration	**13 days**	**Thu 30.05.24**	**Mon 17.06.24**	
Implement location services for users.	3 days	Thu 30.05.24	Mon 3.06.24	
Integrate map functionality to show active appointments.	5 days	Tue 4.06.24	Mon 10.06.24	23
Show routes to destination points.	1 day	Tue 11.06.24	Tue 11.06.24	24
Calculate estimated arrival time and cost.	1 day	Wed 12.06.24	Wed 12.06.24	25
Testing	3 days	Thu 13.06.24	Mon 17.06.24	26
Project Setup and User Authentication	**13 days**	**Thu 13.06.24**	**Mon 1.07.24**	**26**
Set up project environment and version control.	3 days	Thu 13.06.24	Mon 17.06.24	
Implement user registration and login interfaces.	3 days	Tue 18.06.24	Thu 20.06.24	29
Implement ID verification for user registration.	2 days	Fri 21.06.24	Mon 24.06.24	30
Implement phone number verification through SMS.	2 days	Tue 25.06.24	Wed 26.06.24	31
Ensure secure storage of user data.	0 days	Wed 26.06.24	Wed 26.06.24	32
Testing	3 days	Thu 27.06.24	Mon 1.07.24	33
Payment System and Security Enhancements	**40 days**	**Thu 27.06.24**	**Wed 21.08.24**	

Project Schedule
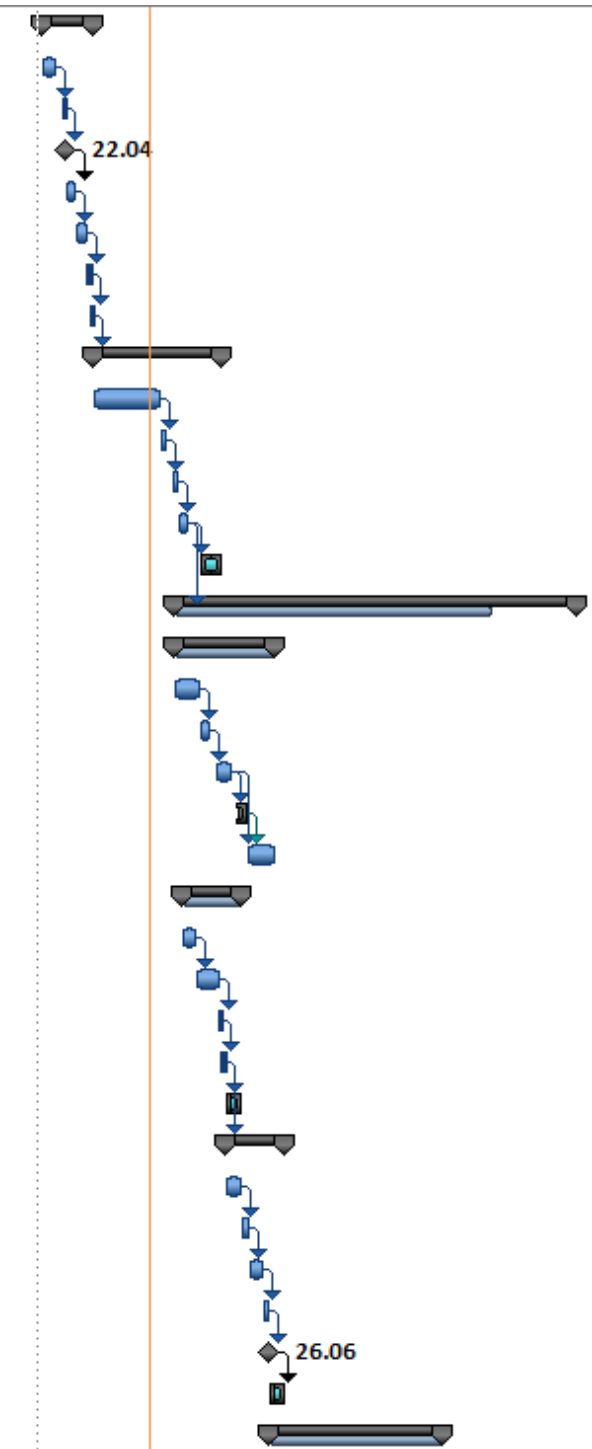
		Duration	Start	Finish	Pred
	Payment System and Security Enhancements	**40 days**	**Thu 27.06.24**	**Wed 21.08.24**	
	Implement an online payment system.	8 days	Thu 27.06.24	Mon 8.07.24	
	Ensure secure storage of payment details.	3 days	Tue 23.07.24	Fri 26.07.24	36
	Implement an algorithm for matching students with similar schedules.	10 days	Mon 29.07.24	Fri 9.08.24	37
	Enhance security features, such as blocking users and emergency help buttons.	5 days	Mon 12.08.24	Fri 16.08.24	38
	Testing	3 days	Mon 19.08.24	Wed 21.08.24	39
	User Interface and Compatibility	**16 days**	**Sat 17.08.24**	**Fri 6.09.24**	**39**
	Design and implement user-friendly interface.	8 days	Mon 19.08.24	Wed 28.08.24	
	Implement light and dark mode options.	3 days	Thu 29.08.24	Mon 2.09.24	42
	Ensure compatibility with Android and iOS.	0 days	Mon 2.09.24	Mon 2.09.24	43
	Optimize server response times for smooth user experience.	4 days	Tue 3.09.24	Fri 6.09.24	44
	Testing	**27 days**	**Sat 7.09.24**	**Mon 14.10.24**	**45**
	Conduct unit testing	5 days	Mon 9.09.24	Fri 13.09.24	
	User acceptance testing	3 days	Mon 16.09.24	Wed 18.09.24	47
	Compatibility Testing	3 days	Thu 19.09.24	Mon 23.09.24	48
	Bug fixing and optimization	10 days	Tue 24.09.24	Mon 7.10.24	49
	Load Testing	5 days	Tue 8.10.24	Mon 14.10.24	50
	Deployment	0 days	Mon 14.10.24	Mon 14.10.24	51