YARDIM YANIMDA

An Emergency App for People Who Are in Dangerous Situation

Software Development Plan

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İçindekiler Tablosu

1. OVERVIEW

Accidents and sudden health problems occur every day, but calling an ambulance is not fast or effective enough for every situation.

In this document, everything needed to know about this project is explained in detail. High-Level Functionality, Stakeholders, Project Staffing, Software Process Model, Schedule and Effort, Measurements, Project Risks, Software Tools, Project Needs, Graphical User Interfaces are explained thorough.

2. OBJECTIVE

We aim to get people fast and easily accessible medical help. Thus, loss of life rates may be reduced. There will be three functions of Yardım Yanımda. First, you will be able to send emergency notifications to doctors and people nearby. Secondly you can call an ambulance and lastly, the app will give information about giving first aid correctly in different stations.

- Saving more lives
- Provide help faster to the people that need it
- Accelerate the help calling process
- Simplify the emergency call
- Decrease the panic and stress

3. HIGH-LEVEL FUNCTIONALITY

3.1 Functional Requirements

- The system should get user input, call the ambulance, and send a notification to people who know how to give first aid nearby using GPS.
- The system should display information and tips about emergency cases.
- The system should ask the user about their first aid knowledge. They should be able to upload their license or documents that prove that they have knowledge of first aid when the application loads for the first time.
- The system should estimate and display the ambulance arrival time to the user.
- The system should have a language preference for English and Turkish.

3.2 NON-FUNCTIONAL REQUIREMENTS

- The system shall be available 24/7.
- To ensure reliability, the system should allow users the verify themselves.
- The system should load at most in 10 seconds.
- The system should support 10000 connections simultaneously.
- The system takes 10 minutes to understand and be used by users with easy-to use graphical user interfaces to minimize user errors.
- The system should occupy at most 10MBs of space

4. STAKEHOLDERS

- **Doctors:** Will use the system and register as first aidder.
- **First Aid Teams:** Will use the system and register a first aidder.
- **Patients:** Will use the system and be able to send help call to the first aidder users.
- **Advertisers:** Will advertize the system.
- **Social Media Manager:** Shares posts on social media to introduce the system.
- **Government:** Collect taxes from company.
- **Bank:** Be interested in shares.
- **Play Store:** Distrube the app countrywide on the Play Store
- **Nurses:** Will use the system and register as first aidder.
- **Development Team:** Produce the system completely.
- **Project Manager:** Plans, oversees and leads the Project.

5. PROJECT STAFFING

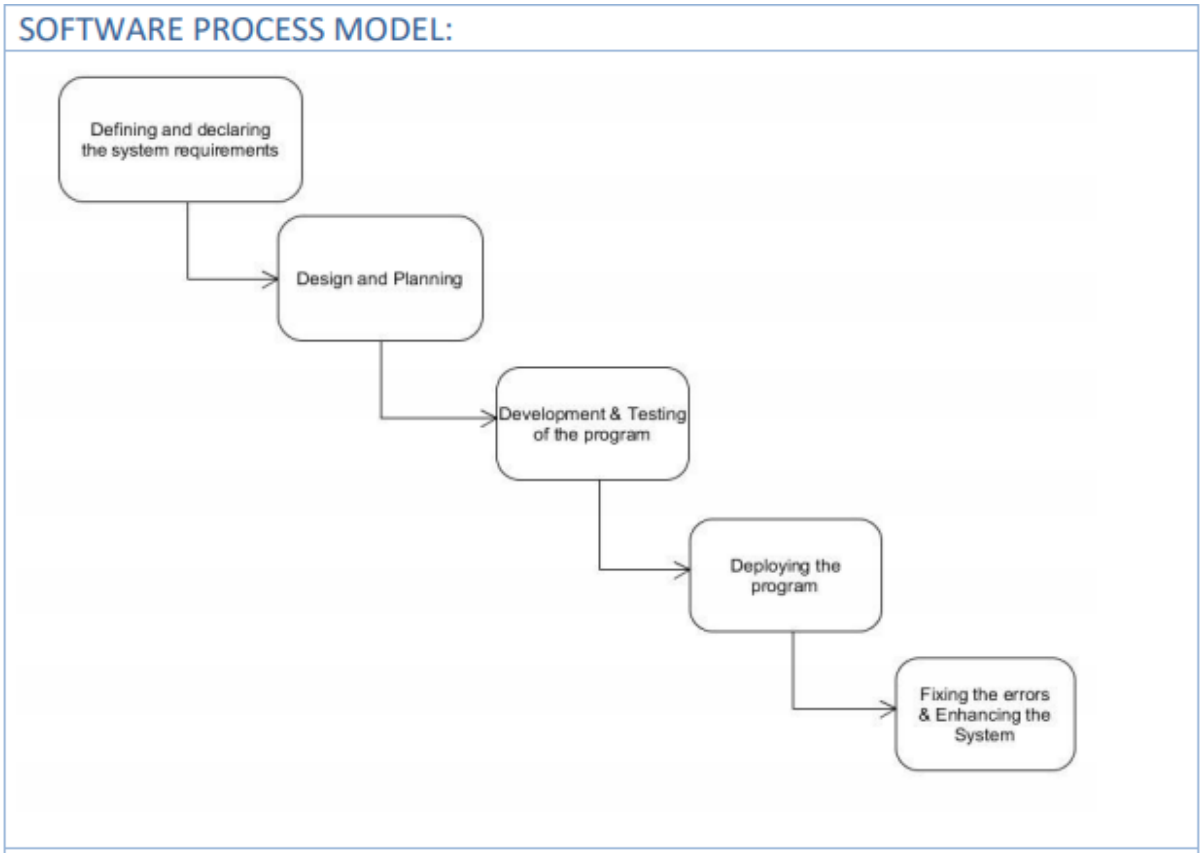
There will be 6 roles in this Project: Software Project Manager, Requirements Engineer, Lead Designer, Coder, Tester and Animation Designer.

- **Software Project Manager:** He will be responsible for planning the Project, management of team members, Schedule of the Project, risk assesment, organizing the tool selection, Project needs (hardware, software and support) etc.
- **Requirements Engineer:** He will be responsible for introducing requirements, documentation and maintain product requirements.

- **Lead Designer:** He will be responsible for providing mentorship to the developer team and GUIs. Also he will manage animation team with the developer team to design Project well.
- **Coder:** He will be responsible for implemantation of the Project.
- **Tester:** He will be responsible for testing of the Project.
- **Animation Designer:** He will be responsible for making animation with lead designer for the first aid guidence videos.

6. SOFTWARE PROCESS MODEL

We are going to use Waterfall model in this Project because requirements should be well understood and stabilized. All the activities and steps are planned before they implemented into the system. Each step should be completed before move on the next step. There should be a balanced approach that focused on both code and design.

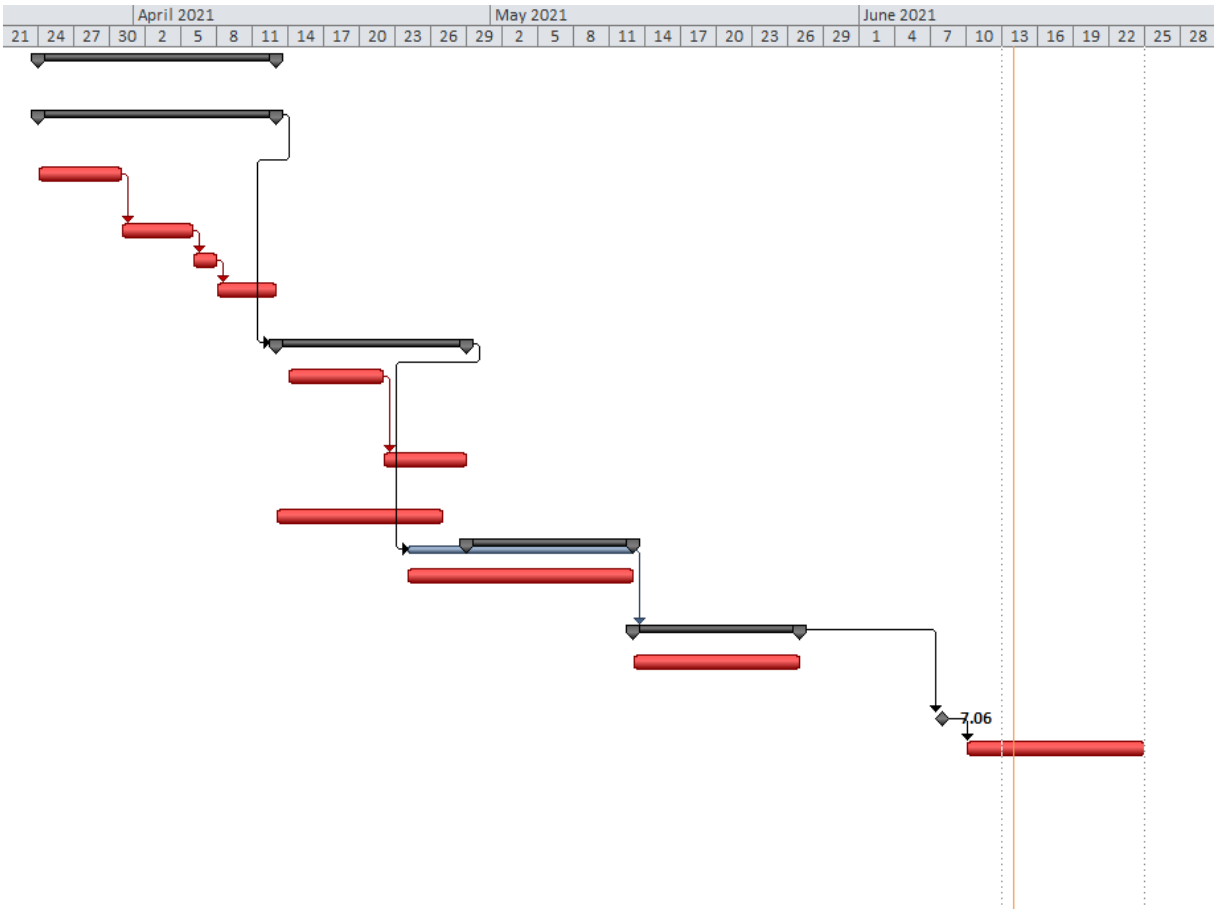


7. SCHEDULE AND EFFORT

7.1 Task List

	Task Mode	Task Name	Duration	Start	Finish	Predecessors
1		**Defining and Declaring System Requirements**	**14 days**	**Wed 24.03.21**	**Mon 12.04.21**	
2		**Requirements Gathering**	**14 days**	**Wed 24.03.21**	**Mon 12.04.21**	
3		Background Reading	5 days	Wed 24.03.21	Tue 30.03.21	
4		Arrange Meetings	4 days	Wed 31.03.21	Mon 5.04.21	3
5		Conduct Meetings	2 days	Tue 6.04.21	Wed 7.04.21	4
6		Analyze Requirements	3 days	Thu 8.04.21	Mon 12.04.21	5
7		**Desing and Planning**	**12 days**	**Tue 13.04.21**	**Wed 28.04.21**	**2**
8		Necessary and Unnecessary Needs Deciding	6 days	Wed 14.04.21	Wed 21.04.21	
9		Software Process Model Choosing	5 days	Thu 22.04.21	Wed 28.04.21	8
10		UML Design Creation	10 days	Tue 13.04.21	Mon 26.04.21	
11		**Development**	**10 days**	**Thu 29.04.21**	**Wed 12.05.21**	**7**
12		Object Oriented Programming	13 days	Fri 23.04.21	Wed 12.05.21	
13		**Testing**	**10 days**	**Thu 13.05.21**	**Wed 26.05.21**	**11**
14		Functional and Non functional Testing	10 days	Thu 13.05.21	Wed 26.05.21	
15		Deploying the Program	11 days	Sun 23.05.21	Mon 7.06.21	13
16		Fixing the Errors and Enhancing the System	11 days	Thu 10.06.21	Thu 24.06.21	15

7.2 Project Schedule



8. MEASUREMENTS

Questions to identify measurements:
1-How much effort did this project require? 2-Did the project adhere to its schedule? 3-What did the team produce? 4-How many hours did it take to create the animations?
Identified measurements:
1-Total time spent on project 2-Total time spent on animation preparing process 3-Total time spent on Java Coding 4-Number of developers worked on Animations 5-Number of developers worked on Database 6-Amount of fixed defects
Measurement storage and collection:
What - Total time Spent When - 4 hours for every Saturday Format - Real Number Data How - Entered into a pre-specified project spreadsheet by review leader

Measurement Type	Description	Example Measurements
Product Size Measurements	We need it to predict the amount of effort that will be required to develop a program.	Source lines of code
Effort Distribution	We need it for calculate effort estimation, the amount of worker and time required in software development project.	Use Case Points (UCP)
Change Data	The number of defects fixed by developers so the product will evolve accordingly.	The number of defects
Customer Satisfaction	It helps to estimate success of the Project.	Net Promoter Score (NPS)

9. PROJECT RISKS

LIKELIHOOD RANK	RISK DESCRIPTION
1	Design complexity : Developers are not experienced enough.
2	Installation : Developers should create a configuration and installation plan that contains all released software over three to five year period.
3	Testing : Product is difficult to test because deployment platform might not acquired yet.
4	Tools : Team must learn new tools for creating database and animation to support Project.
5	Training : Team needs to learn how to use the needed tools rapidly.
6	Debugging : Effective debugging will be difficult because that defects may not be easy to detect and team members do not have enough experience.
7	Acquistion of Hardware : Team needs the hardwares to implement and test the product.
8	Requirements Volatility : Badly defined requirements may occur cause of communication problems.
9	Time Management : Team have to complete the project before the deadline.
10	Budget : Incorrectly calculated budget can damage the Project.

IMPACT RANK	RISK DESCRIPTION
1	Debugging : Effective debugging will be difficult because that defects may not be easy to detect and team members do not have enough experience.
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LIKELIHOOD RANK	IMPACT RANK	COMBINED RANK	RISK DESCRIPTION
1	3	4	Design complexity : Developers are not experienced enough.
3	2	5	Testing : Product is difficult to test because deployment platforn might not acquired yet.
6	1	7	Debugging : Effective debugging will be difficult because that defects may not be easy to detect and team members do not have enough experience.
4	4	8	Tools : Team must learn new tools for creating database and animation to support Project.
2	9	11	Installation : Developers should create a configuration and installation plan that contains all released software over three to five year period.
5	7	12	Training : Team needs to learn how to use the needed tools rapidly.
8	5	13	Requirements Volatility : Badly defined requirements may occur cause of communication problems .
9	6	15	Time Management : Team have to complete the project before the deadline.
8	7	15	Acquistion of Hardware : Team needs the hardwares to implement and test the product.
10	10	20	Budget : Incorrectly calculated budget can damage the Project.

10. PROJECT TOOLS

TASK #	PROJECT TASKS WHICH REQUIRE SOFTWARE TOOL SUPPORT
1	System implementation
2	Database for licenses & personal informations
3	Animation

SOFTWARE TOOLS FOR TASK 1: System implementation

Tool Cost/Training/Functionality Data

Tool	IntelliJ IDEA	Eclipse	Visual studio	NetBeans
Cost	Free	Free	Free	Free
Training Days	4 days	3 days	1 day	1,5 day
Functionality	80	60	50	60

Normalized Cost/Training/Functionality Data

Tool	IntelliJ IDEA	Eclipse	Visual studio	NetBeans
Cost	Free	Free	Free	Free
Training Days	100	75	25	25
Functionality	100	75	62	75

Normalized Tool Graph

Which tool has been selected? Why?
Intellij IDEA
It is well optimised and developers have more experience on this program rather than the others. Thus, team can work easily and any change or improvement could be done easiser. Also it is open source.

SOFTWARE TOOLS FOR TASK 2: Animation

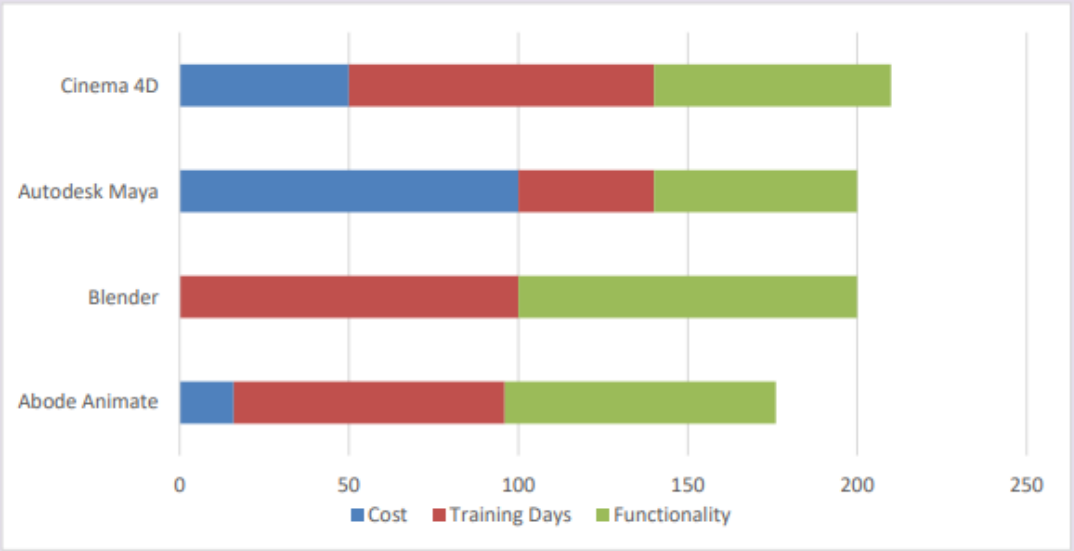
Tool Cost/Training/Functionality Data

Tool	Abode Animate	Blender	Autodesk Maya	Cinema 4d
Cost	20 USD per month	Free	120 USD per month	60 USD per month
Training Days	8 days	10 days	4 days	9 days
Functionality	80	90	60	70

Normalized Cost/Training/Functionality Data

Tool	Abode Animate	Blender	Autodesk Maya	Cinema 4d
Cost	16.6	0	100	50
Training Days	80	100	40	90
Functionality	80	100	60	70

Normalized Tool Graph



Which tool has been selected? Why?

Blender
This program is free to use and besides animation, 3D modelling and video editing could be done by Blender. This features will save a lot of time for developers.

SOFTWARE TOOLS FOR TASK 3: Database for licenses & personal informations

Tool Cost/Training/Functionality Data

Tool	MySQL	Oracle	PostreSQL	Microsoft SQL Server
Cost	free	free	free	free
Training Days	3 days	6 days	4 days	2.5 days
Functionality	70	60	50	65

Normalized Cost/Training/Functionality Data

Tool	MySQL	Oracle	PostreSQL	Microsoft SQL Server
Cost	free	free	free	free
Training Days	100	200	133.3	83.3
Functionality	100	85.7	71.4	92.8

Normalized Tool Graph

Which tool has been selected? Why?

MySQL

It is highly recommended for Database creation and the reason that big companies prefers it, MySQL seems more reliable and useful. By using it, developers will expand their personel capabilites.

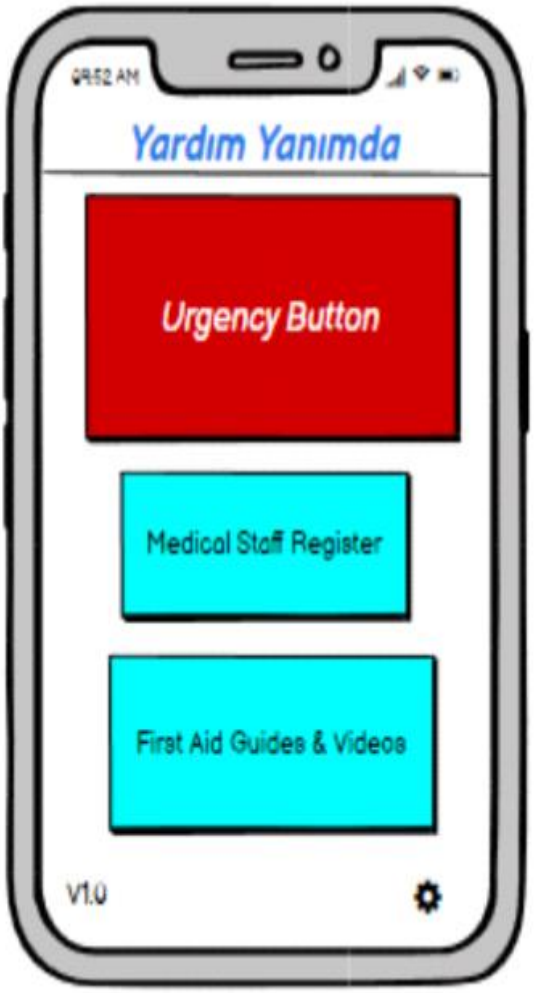
11. PROJECT NEEDS

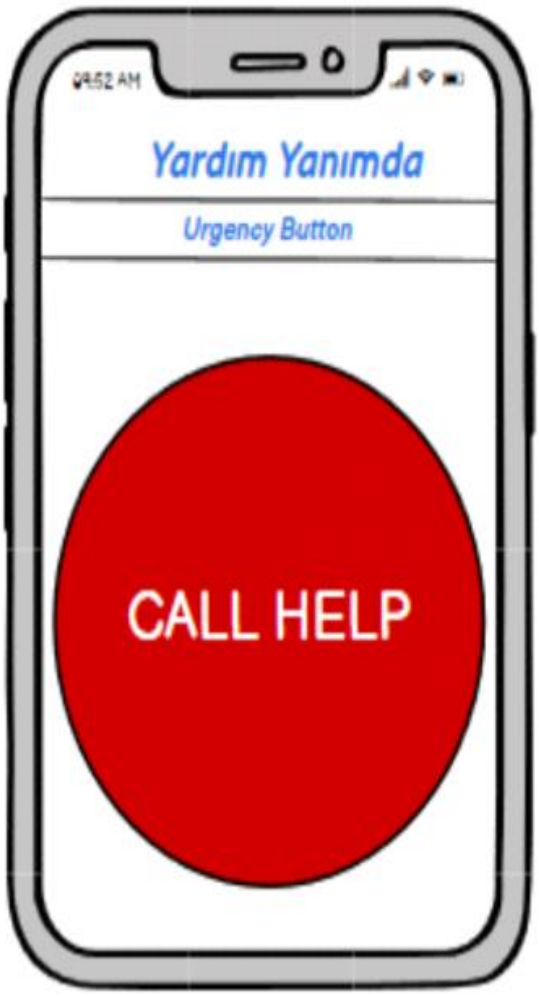
#	SOFTWARE NEEDS	DESCRIPTION
1	Blender 2.9	It is needed for the animations that will take part in the guides part of our system.
2	Intellij IDEA Community 2019.2.4	Intellij idea is a Java development software and main system will be coded with it.
3	Java Development Kit (JDK) 8	The JDK is a development environment for building applications, applets, and components using the Java programming language. The JDK includes tools useful for developing and testing programs written in the Java programming language and running on the Java platform.
3	MySql Server 8.0	It is a database which will be useful with license and medical stuff informations preservation.
4	Visual Studio Community 2019	Actually it is a development environment but we need it because it is a requirement for MySql.
5	GitHub Desktop	GitHub is a fast and safe way of sharing the work with team members.
6	Zoom 5.6.6	It is needed for online meetings.
7	Microsoft Office 2010	Word , Excell and PowerPoint will be used.
8	Operating Systems	Windows 7 or newer.
9	Browser	Firefox or Chrome browsers.
10	Android 5.0 or newer IOS 5 or newer	Yardim Yanimda system will be used on mobile phones.

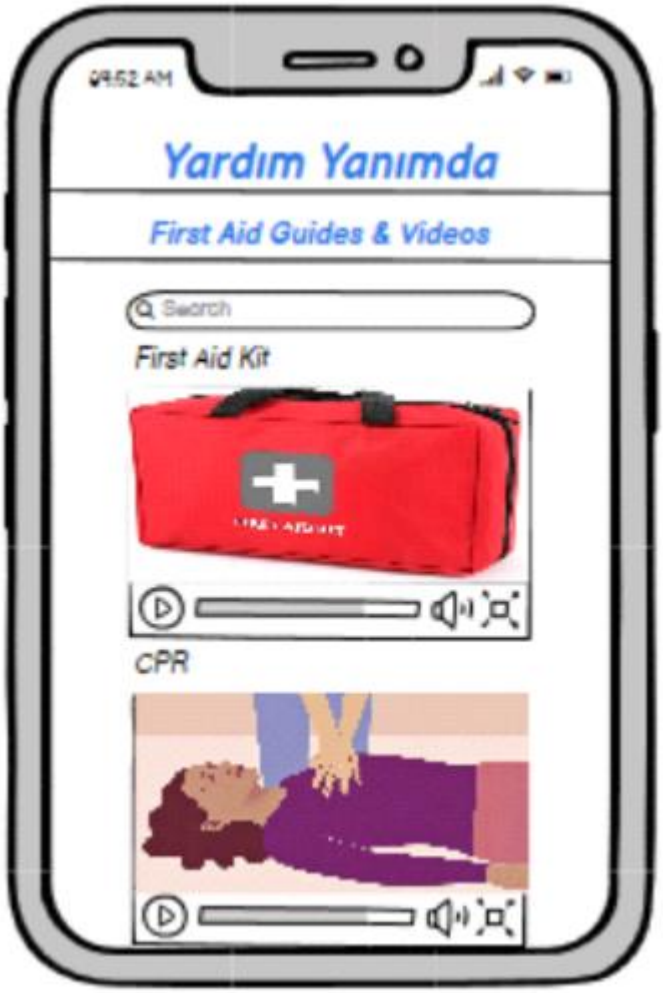
#	HARDWARE NEEDS	DESCRIPTION
1	Computers	Most of the work will be made on computers.Because that we are going to create animations , the computer will be used must have strong graphics cards.It is better to have portable ones.
2	Processor	Minimum 1 GHz; Recommended 2GHz or more.
3	Hard Drive	Minimum 32 GB; Recommended 64 GB or more.
4	Memory (Ram)	Minimum 4 GB; Recommended 8 GB or above.
5	Ethernet Connection or Wireless Adapter(Wi-Fi)	Ethernet conncetion should run at least 10 Mbps, recommended 100 Mbps; Wi-Fi conncetion should run at least 10 Mbps, recommended 100 Mbps;
6	Smart phones	We need them to test the early versions of the system.With different versions of Android and IOS is better to see that how system works on different operating systems..
7	Keyboards & Mouse	Every team member needs specific types of these because of different preferences and habbits.
8	Monitors 24 Inch at least 60 Hz or higher	Extra monitors will be needed for speeding things up and increasing the comfort level of development environment.
9	Extra Equipments	In case something unexpected happens to the existing ones , we need to replace them as soon as possible.
10	Camera and Microphones	There will be online meetings and team members should have microphones.Camera is optional but might be needed.

#	SUPPORT NEEDS	DESCRIPTION
1	Advertisement	We can not wait the users to discover our application.Depending on that advertisements will be definietly needed
2	Activities	Team should stay motivated.Little activities would help to keep it that way
3	Social Network	Team members needs to communicate and share information
4	Donations	Existing Budget is limited.Economic support will both motivate the team members and contribute the project
5	Recommendations	Doable functional ideas will help team to improve the system
6	Meetings including other companies	Getting help or informatino from a greater and more experienced software producing company will expand the team members perspective
7	Agreements	Team members have to meet their needs while working.Agreements with providers will solve some problems without spending extra money

12. Graphical User Interfaces



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123
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13. CONCLUSION

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