



In Singapore, there were over **45,000 dementia patients** in 2015. The number is projected to grow to **240,000 by 2050.**



# GuessWho!

Face-Name Matching Game for Dementia Patients

# The Team - Bookies



**Chaitanya Joshi**  
Project Manager



**Genevieve Lam**  
Front-end Developer



**Vidur Sharma**  
Release Engineer



**Yong Chen Feng**  
Beck-end Developer

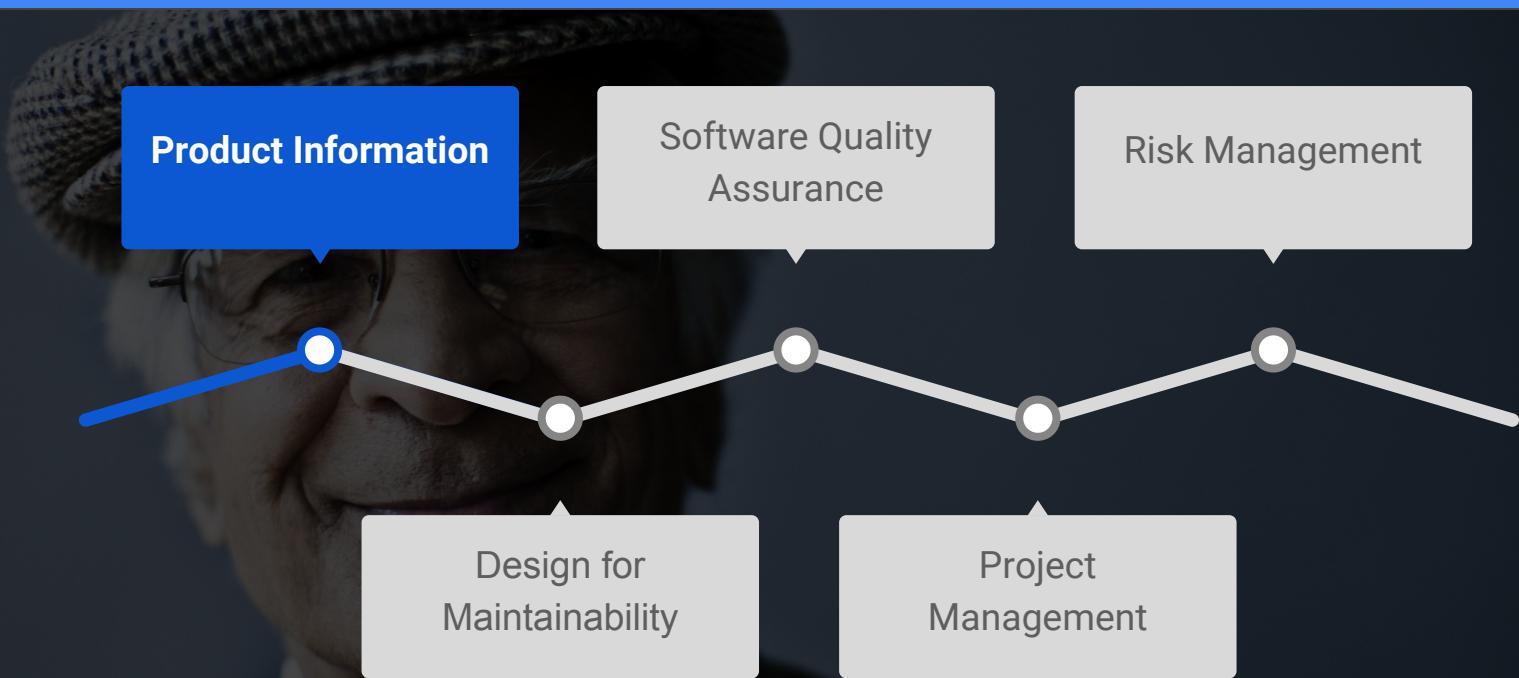


**Heng Zhi Guang**  
Lead Developer



**Chen Guanyu**  
QA Engineer/Manager

# Presentation Outline



# Key Features of Product



Responsive Web/Mobile Application



Face-Name Matching Memory Game

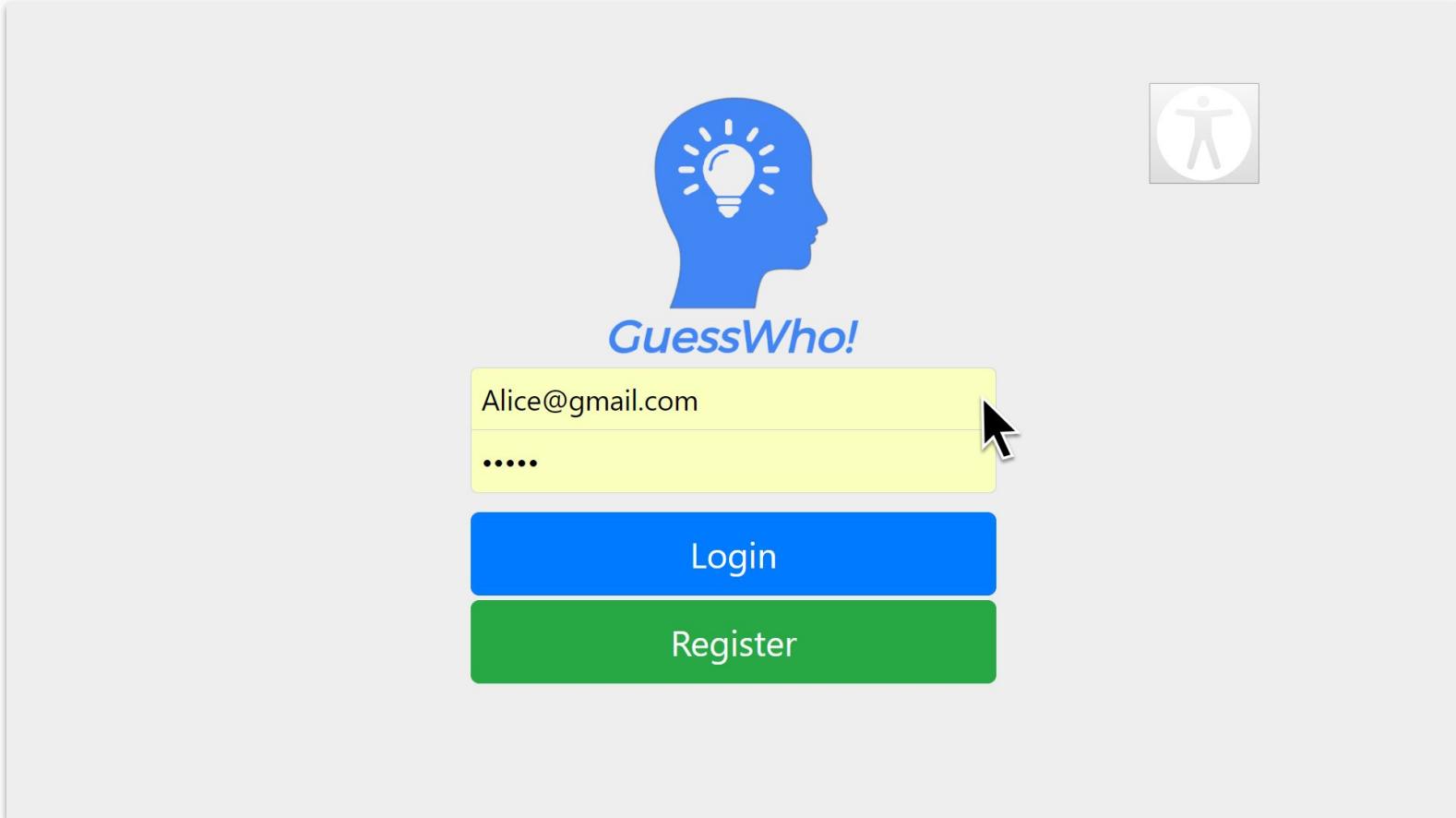


Accessible UI Design for the Elderly



Personalized Progress Tracking by Caretakers

# Common Login Screen



# User Main Menu Screen

Bookies FTW

User: Alice@gmail.com [Logout](#) 





[Play Game](#)

[See Past Scores](#)

# Gameplay Screen - Elderly's friends and family

Bookies FTW

User: Alice@gmail.com Logout 



Lee Kuan Yew



Lisa Simpson



# Gameplay Screen - Correct Answer

Bookies FTW

User: Alice@gmail.com [Logout](#)



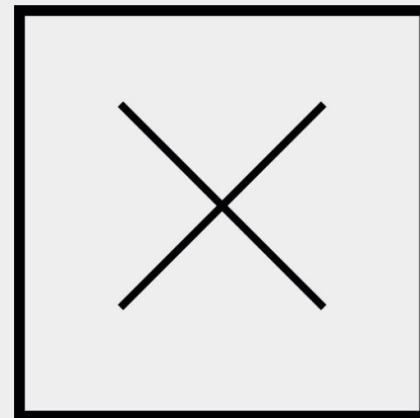
[Next Image](#)

[End Game](#)

# Gameplay Screen - Wrong Answer

Bookies FTW

User: Alice@gmail.com [Logout](#)



[Try Again](#)

[End Game](#)

# Gameplay Screen - Old photos from the past

Bookies FTW

User: Alice@gmail.com Logout



Tracey  
Carpenter



Chaitanya  
Joshi

# Gameplay Screen - Famous personalities

Bookies FTW

User: Alice@gmail.com [Logout](#)



**Lisa Simpson**



**Lee Kuan Yew**



# Caretakers - Main Menu Screen

Bookies FTW

Welcome back, Cynthia [Logout](#)









[Image Gallery](#)

[Upload New Photos](#)

[See Patient Scores](#)

# Caretakers - Image Gallery Viewing Screen

Bookies FTW

Welcome back, Cynthia [Logout](#)



Alice



Marques Brown



Chaitanya Joshi



Lisa Simpson



Lee Kuan Yew



John Appleseed



Mary Ann



Xiao Ling



Tracey Carpenter



# Caretakers - Photos Uploading Screen

Bookies FTW

Welcome back, Cynthia [Logout](#)



## Upload Photos

Alice

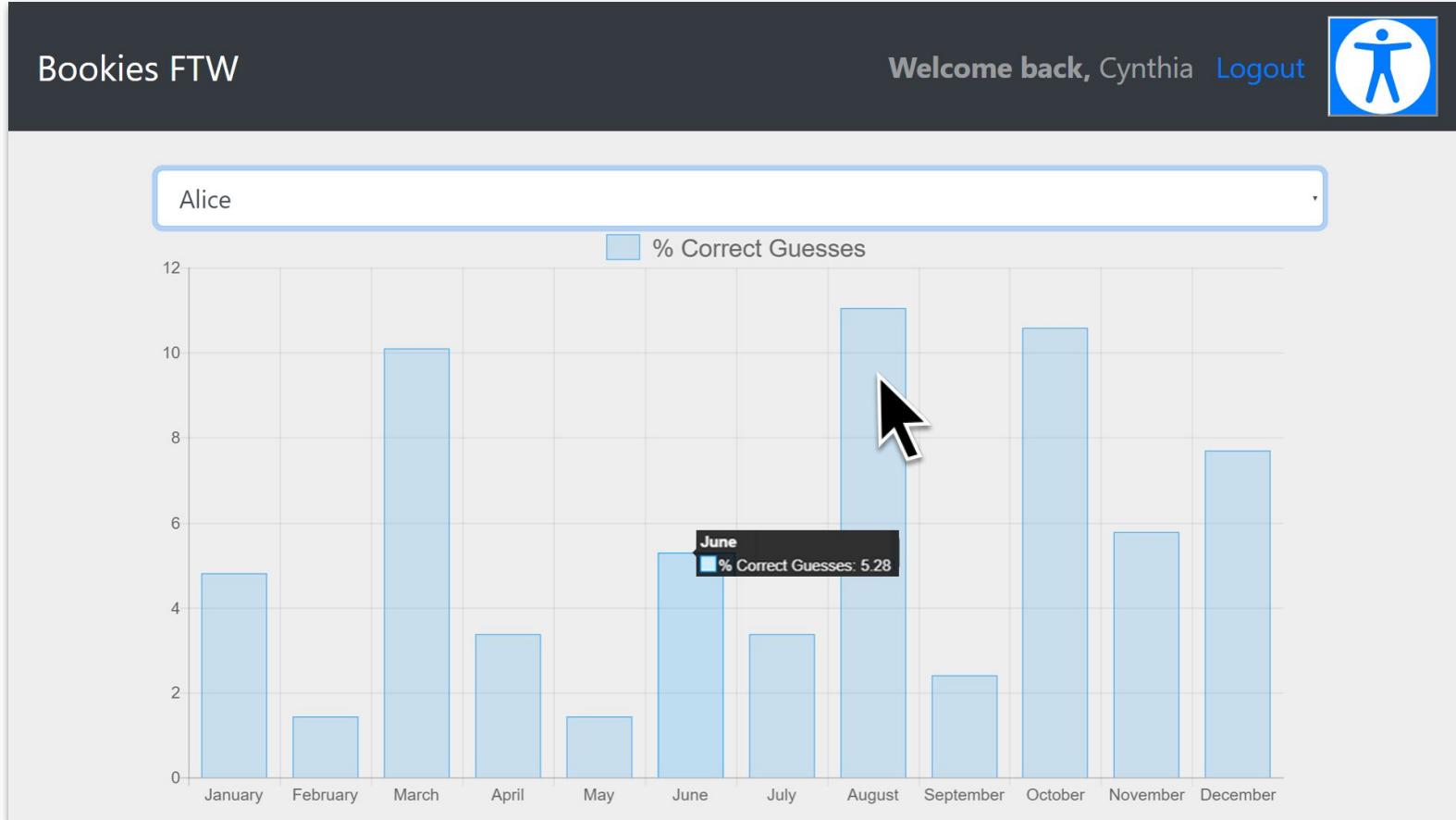
No file chosen

 Name of Person

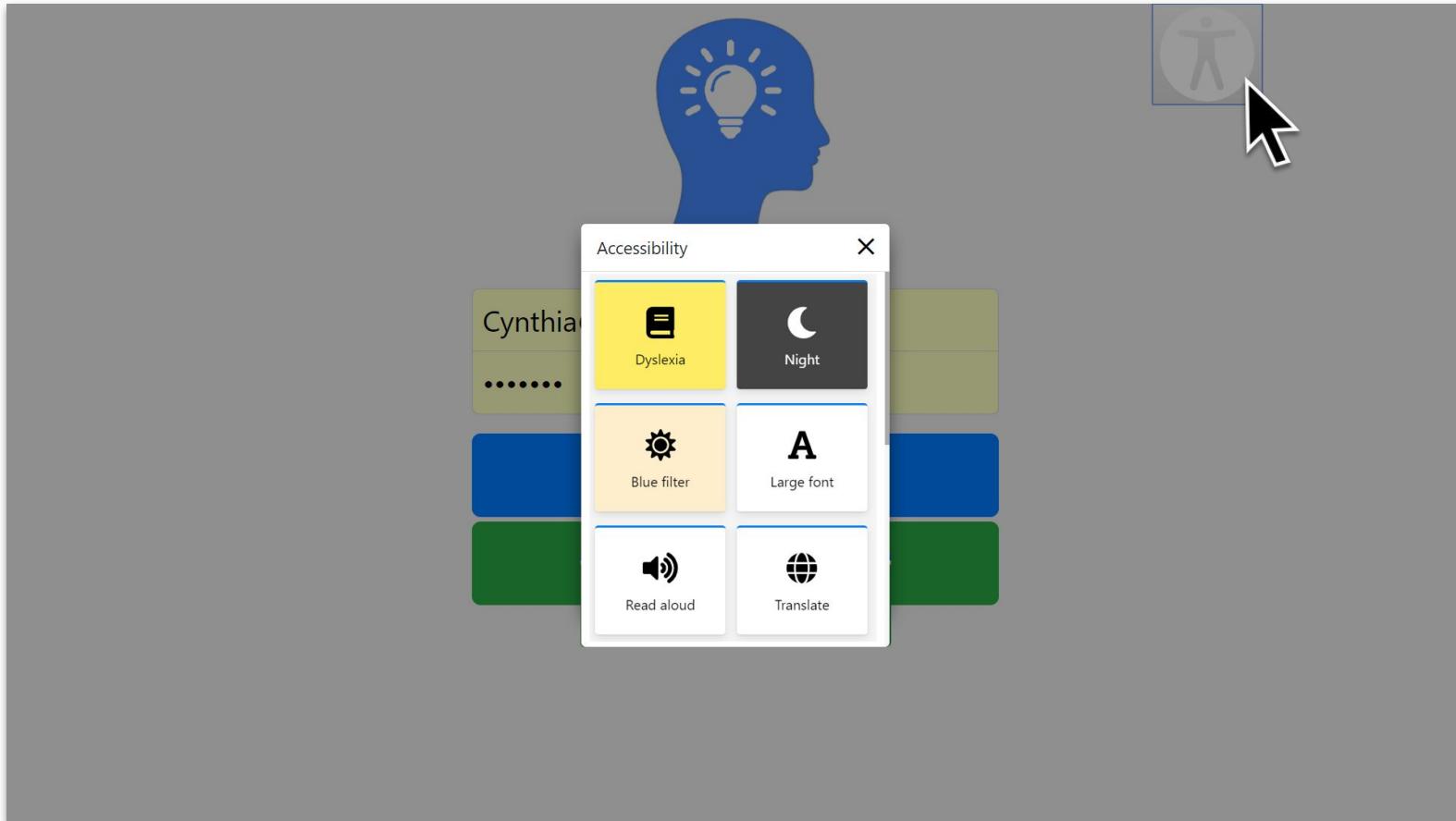
No file chosen

Name of Person

# Caretakers - Patient Scores Dashboard



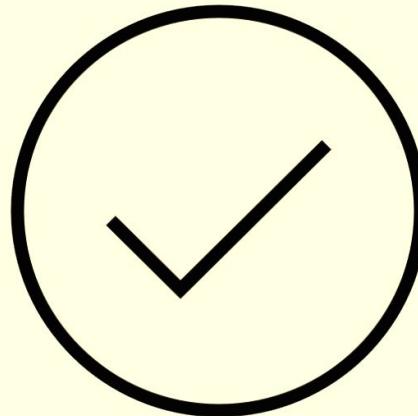
# Accessibility Features via Oswald Labs



# Accessibility Features - Blue Light Filters

Bookies FTW

User: Alice@gmail.com Logout



Next Image

End Game

# Accessibility Features - Night Mode

Bookies FTW

User: Alice@gmail.com [Logout](#) 



Lee Kuan Yew

Lisa Simpson



# Accessibility Features - Translated Interface via Google

The screenshot shows a web browser window with a translated interface. At the top, it says "Translated to: Tamil" and "Show original". On the right, there are "Options" and a close button. The main content features a blue profile icon with a lightbulb inside, representing an AI or guess feature. Below it is the text "GuessWho!". A yellow input field contains the email "Alice@gmail.com" and a password placeholder ".....". Below the input fields are two buttons: a blue one with the text "உள் நுழை" and a green one with the text "பதிவு". A cursor arrow is pointing at the blue button. In the top right corner of the main area, there is a small circular icon with a white human figure.

# Presentation Outline

Product Information

Software Quality  
Assurance

Risk Management

Design for  
Maintainability

Project  
Management



Node.js  
Server-side Framework

Express



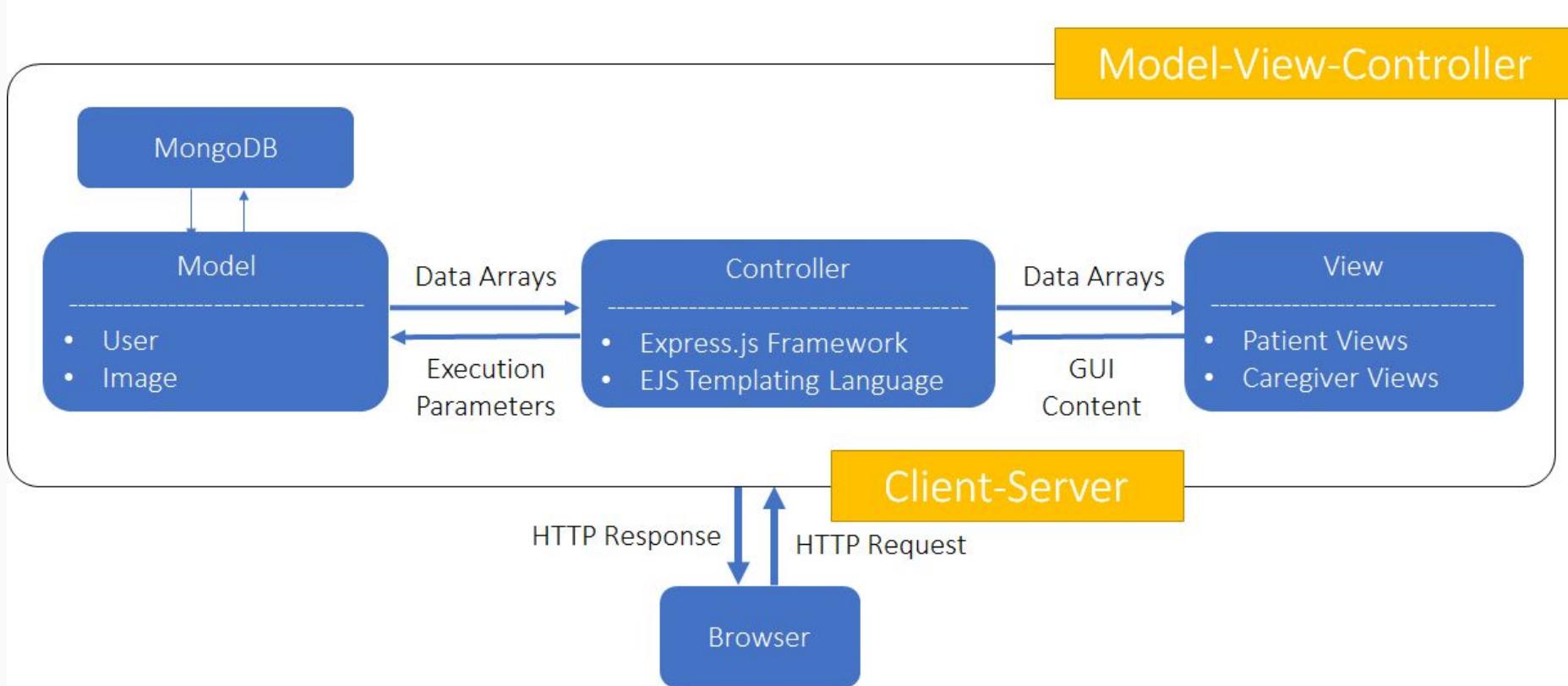
Express.js  
Web App Framework &  
MVC Utility

MongoDB  
NoSQL (JSON) Database

# Design for Maintainability

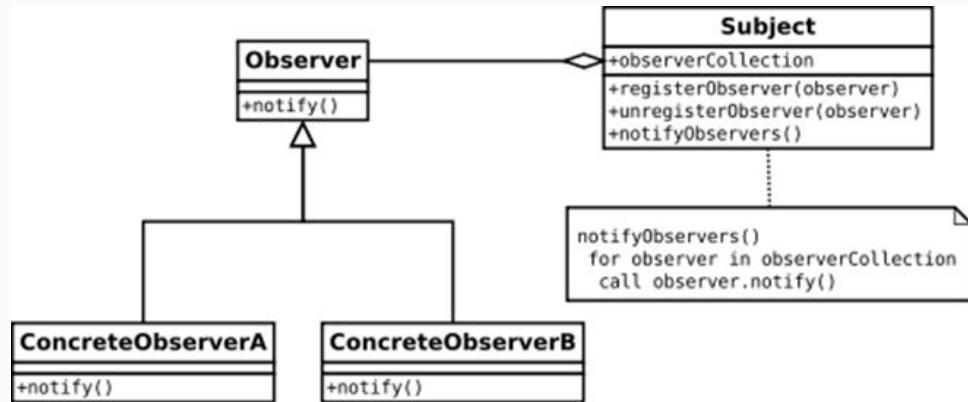
- Javascript-based web development software stack.
- All components promote reusability and maintainability.

# Application Architecture - Model, View, Controller (MVC)

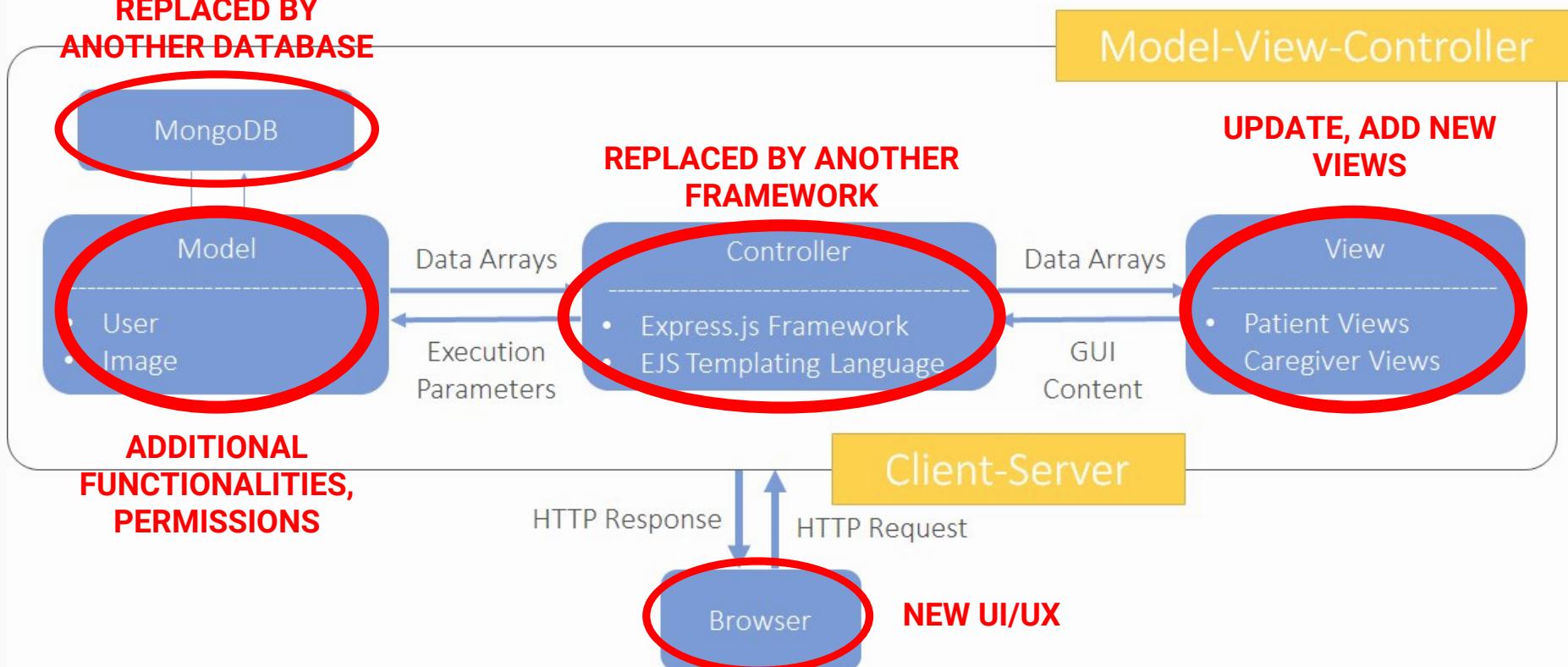


# Benefits of MVC Framework and Observer Patterns

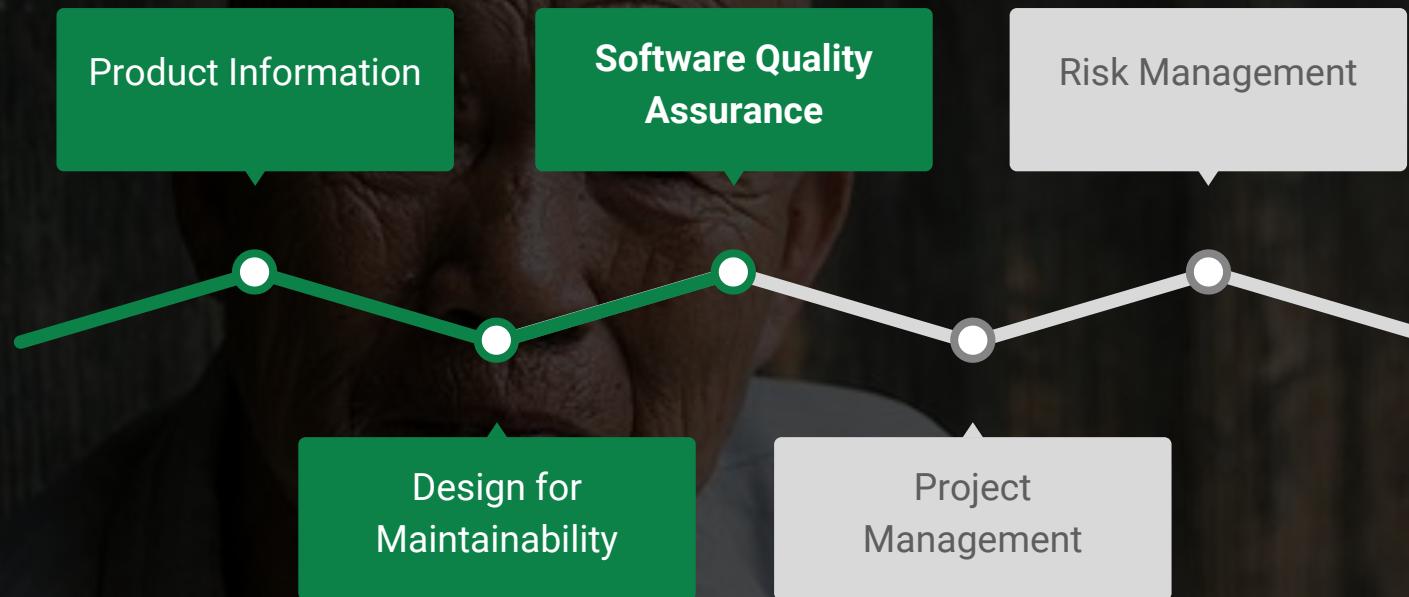
- Separation of concerns leads to **easy upgrading or replacement** of individual components.
- MVC is event-driven and follows the observer pattern. **Any changes in the model are automatically propagated to the views asynchronously.**



# Potential Areas of Maintenance/Change



# Presentation Outline



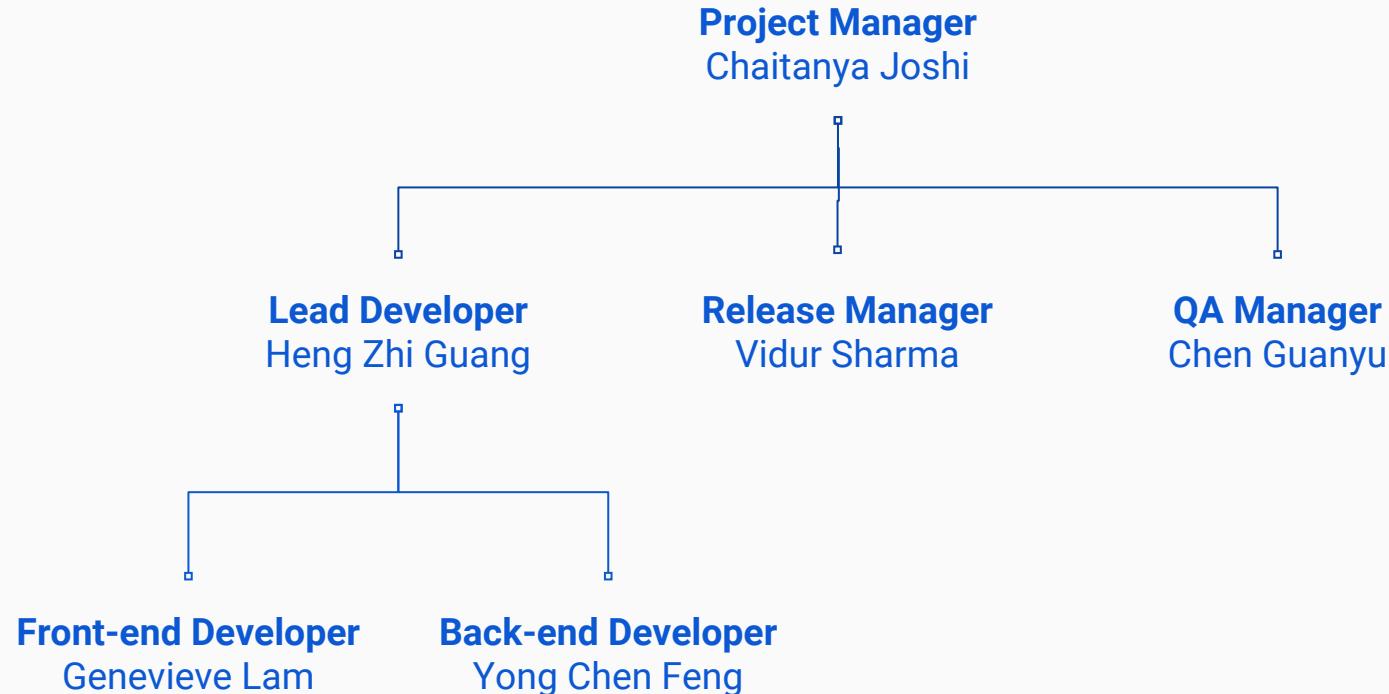
# Quality Assurance Procedure

01	Team Management	<ul style="list-style-type: none"><li>• Assign specific roles and responsibilities</li><li>• Set up single communication channel</li></ul>
02	Development Process Documentation	<ul style="list-style-type: none"><li>• Software Requirement Specifications (SRS)</li><li>• Sftw Verification &amp; Validation Plan (SVVP)</li><li>• Sftw Configuration Mgmt Plan (SCMP)</li></ul>
03	Development Process Reviews	<ul style="list-style-type: none"><li>• Track system requirements and monitor progress through code review</li><li>• Use functional points in project plan</li></ul>
04	Testing After Implementation	<ul style="list-style-type: none"><li>• Documentation and test cases reviewed by QA team and PM</li><li>• Changes made according to reports</li></ul>
05	Configuration Management after Deployment	<ul style="list-style-type: none"><li>• Identify problems that require change</li><li>• Submit Sftw Change Request (SCR) Form</li><li>• Review by QA team and PM</li></ul>

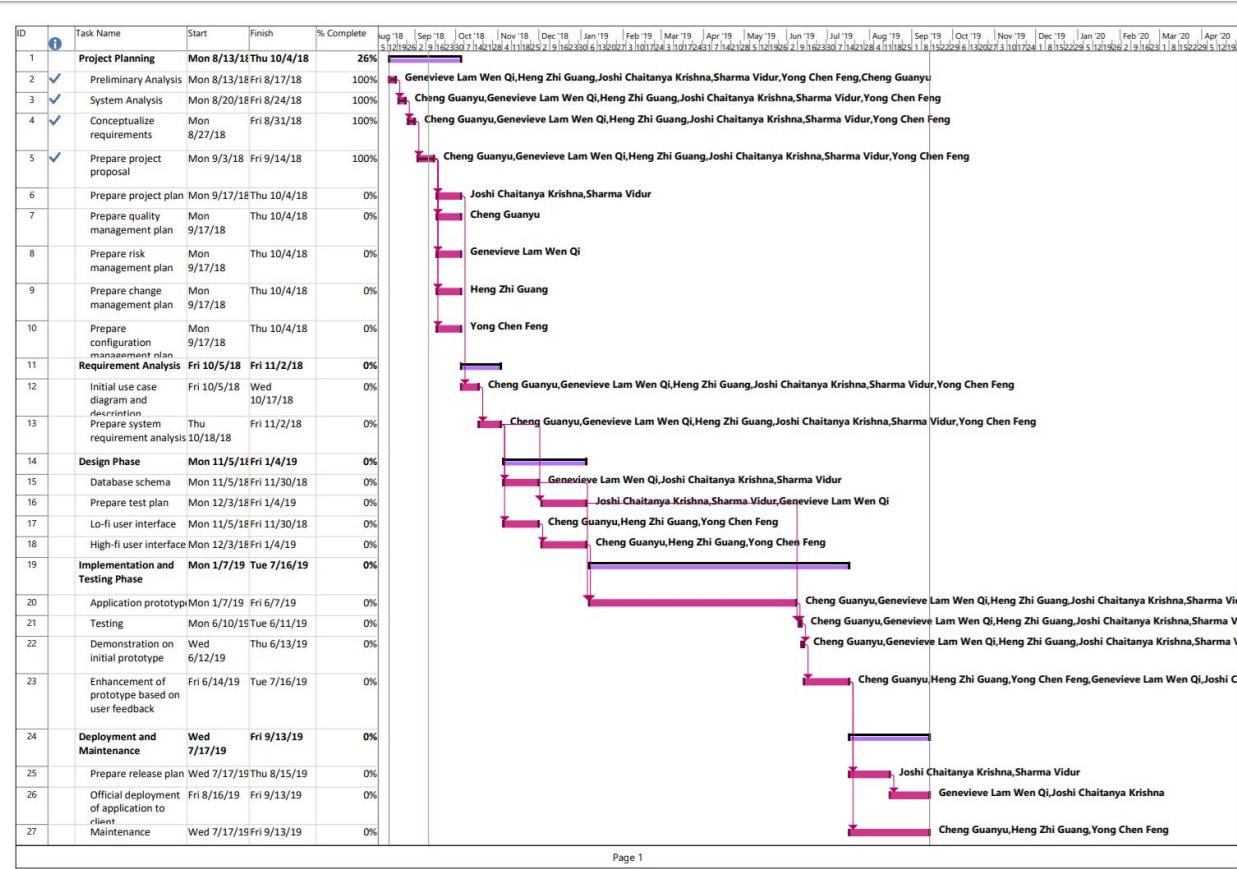
# Presentation Outline



# Team Organization Chart



# Project Timeline - Gantt Chart



# Project Timeline - Main Steps



**5 Weeks:**  
Setup on client's side,  
maintenance work.

# Project Development Effort Estimations

Estimate Type	Results
Unadjusted Function Points	85
Adjusted Function Points	83.3
Code Size	4414.9 LOC
Top- Down Effort	598.16 Man hours
Bottom-Up Effort	630 Man hours
Total Project Cost	\$378,012

# Project Budget Estimations

Category	Expenditure Name	Rate (\$ Per Unit/Day)	Quantity (Units/ No of Days)	Total
Selection Process	Travel & Expenses	\$30	30 (Subjected to Gantt Chart)	\$900
Implementation Process	Private Git Repository	\$210 / Month	12	\$2,520
	Servers	\$350 / Month	12	\$4,200
Labour Costs	Project Manager	\$5,000 / Month	12	\$60,000
	QA Manager	\$4,500 / Month	12	\$54,000
	Lead Developer	\$4,000 / Month	12	\$48,000
	Release Engineer	\$3,500 / Month	12	\$42,000
	Front-End Developer	\$3,500 / Month	12	\$42,000
	Back-End Developer	\$3,500 / Month	12	\$42,000
	QA Engineer	\$3,500 / Month	12	\$42,000
	Contingency	10% of Implementation	-	\$33,672
Maintenance	Software	\$210/ Month	12	\$2,520
	Hardware	\$350 / Month	12	\$4,200
<u><b>Total Cost</b></u>				<u><b>\$378,012</b></u>

# Presentation Outline



# Risk Management Definitions

- **Risk:** uncertain event or condition which poses negative impact on the project
- **Key Audience:** Project Manager, QA Manager, Development Team



# Risk Identification: Technology, People, Tools, Requirements, Estimation

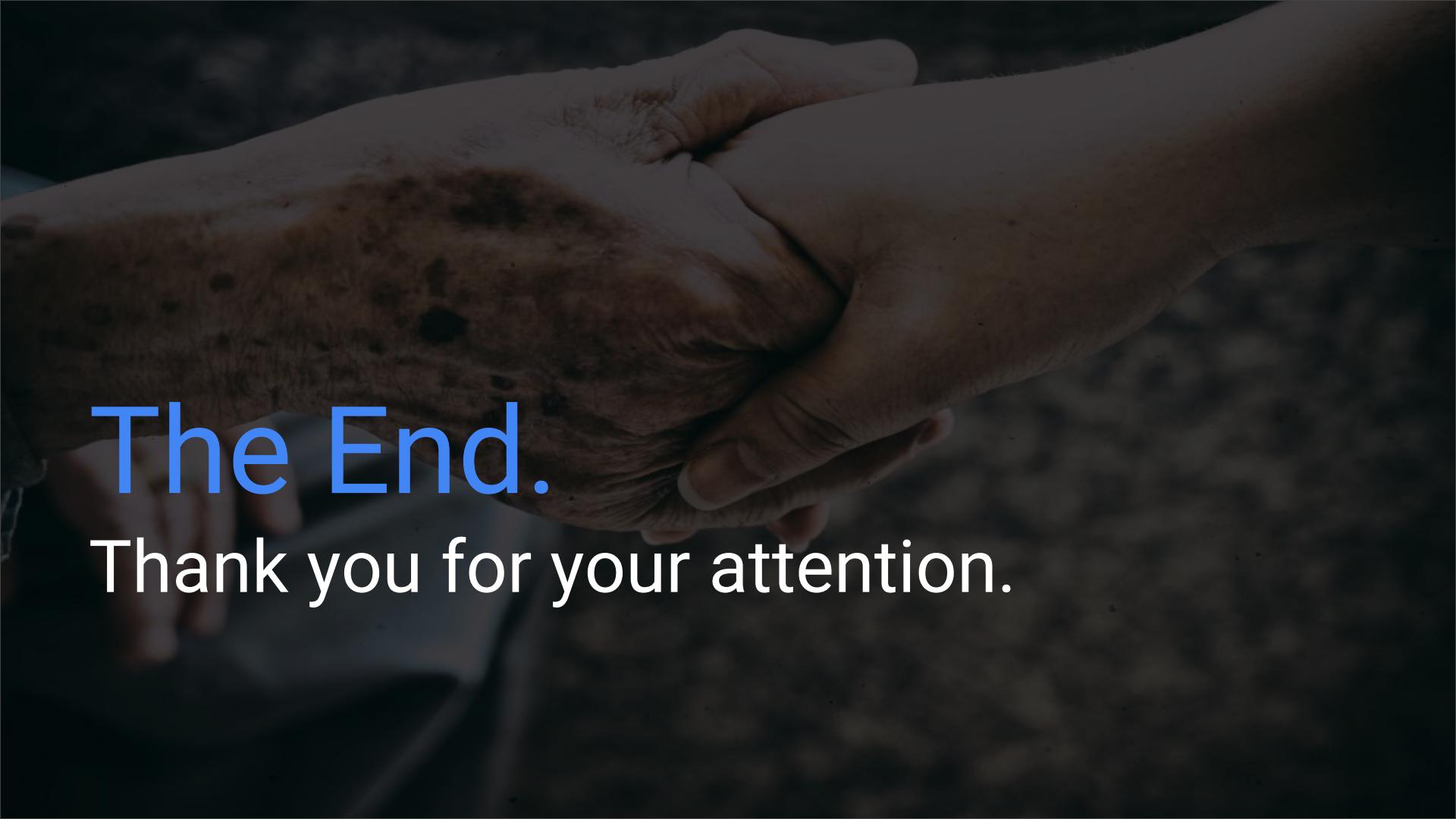
RISK TYPE		RISK DESCRIPTION
1	Technology	Possibility of single point of failure (data corruption)
2	People	Key team members unavailable at critical timings
3	People	Required training not available (time constraint)
4	People	Team members have limited experience
5	Tools	Might not support mobile browsers (development tools constraints)
6	Requirements	Functional requirements: documented vs. developed
7	Requirements	Drastic updates to functional requirements => delay project schedule
8	Estimation	Limited experience => unrealistic timeline => loss of project control
9	Estimation	Limited experience and skillset => unrealistic goals (implementing complex features)

# Risk Analysis: Probability of Occurrence & Severity

	RISK DESCRIPTION	PROBABILITY	SEVERITY
1	Possibility of single point of failure (data corruption)	Very Low	Catastrophic
2	Key team members unavailable at critical timings	Low	Tolerable
3	Required training not available (time constraint)	Very High	Tolerable
4	Team members have limited experience	Moderate	Serious
5	Might not support mobile browsers (development tools constraints)	Moderate	Tolerable
6	Functional requirements: documented vs. developed	Low	Serious
7	Drastic updates to functional requirements => delay project schedule	Low	Catastrophic
8	Limited experience => unrealistic timeline => loss of project control	Very Low	Catastrophic
9	Limited experience and skillset => unrealistic goals (implementing complex features)	Low	Serious

# Response Planning: Avoidance, Mitigation & Contingency Planning

RISK DESCRIPTION		MITIGATION / CONTINGENCY PLAN
1	Possibility of single point of failure (data corruption)	Modularity => Independent units
2	Key team members unavailable at critical timings	Accommodate as many as possible
3	Required training not available (time constraint)	Research online
4	Team members have limited experience	Research online
5	Might not support mobile browsers (development tools constraints)	Ensure availability across platforms
6	Functional requirements: documented vs. developed	Weekly meetings to review
7	Drastic updates to functional requirements => delay project schedule	Document every update
8	Limited experience => unrealistic timeline => loss of project control	Implement deadlines
9	Limited experience and skillset => unrealistic goals (implementing complex features)	Team strengths and limitations



The End.  
Thank you for your attention.