

GenoMedRx

**Tailoring Diabetic Therapies: A Pharmacogenomic
Investigation App**

**Presentation By
Project Team-9:**

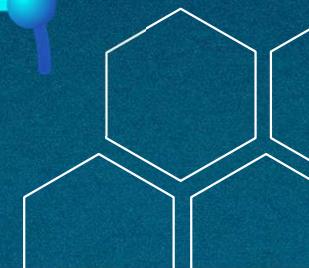
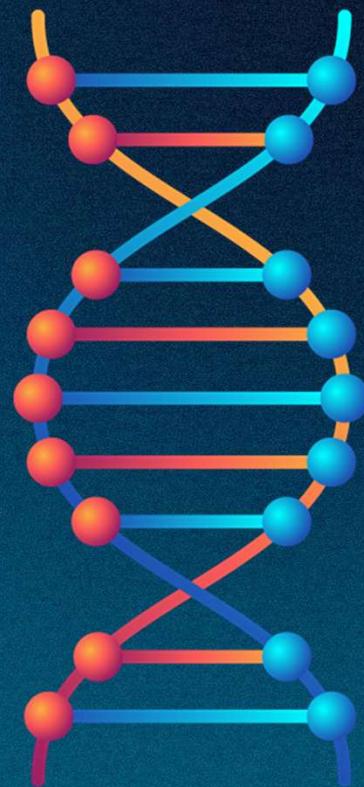
Kalepu Srinath, Vaibhav Thakur

Lavanya Pragada, Lavanaya Ranganatham

Kalyan Raj Chinigi , Raghunandan Velagapudi



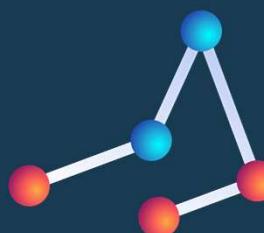
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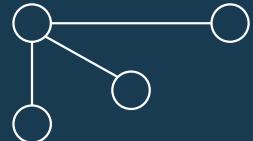


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- ❖ Budget Planning
- ❖ Work Plan and Timeline
- ❖ Gantt Chart
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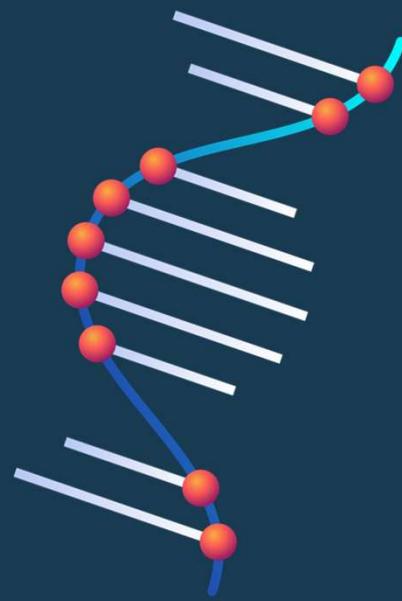




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INTRODUCTION

- Type 2 diabetes mellitus (T2DM), a complex polygenic disorder, is a major burden worldwide.
- The worldwide prevalence of diabetes has been predicted to double from 171 million cases in 2000 to 366 million in 2030, and then to 642 million by 2040, with approximately 79.4 million by 2030 in India.
- The “top” three countries with the most T2DM cases are India, China, and the US, with estimates of 79.4 million, 42.3 million, and 30.3 million by 2030, respectively.
- Genome-wide association studies (GWASs) have detected several gene variants associated with diabetes in different world.



Here is How GenoMedRx Test work:



Step 1

- Register and order test kit



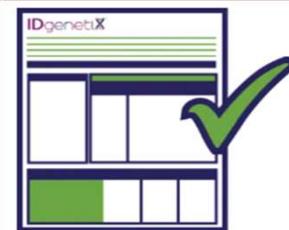
Step 2

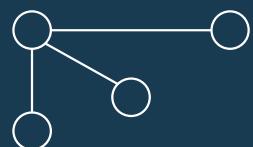
- Collect and send DNA sample



Step 3

- Review Report and guide medication





OBJECTIVES

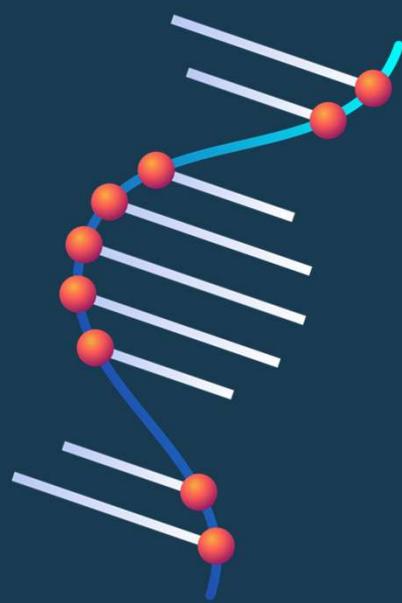
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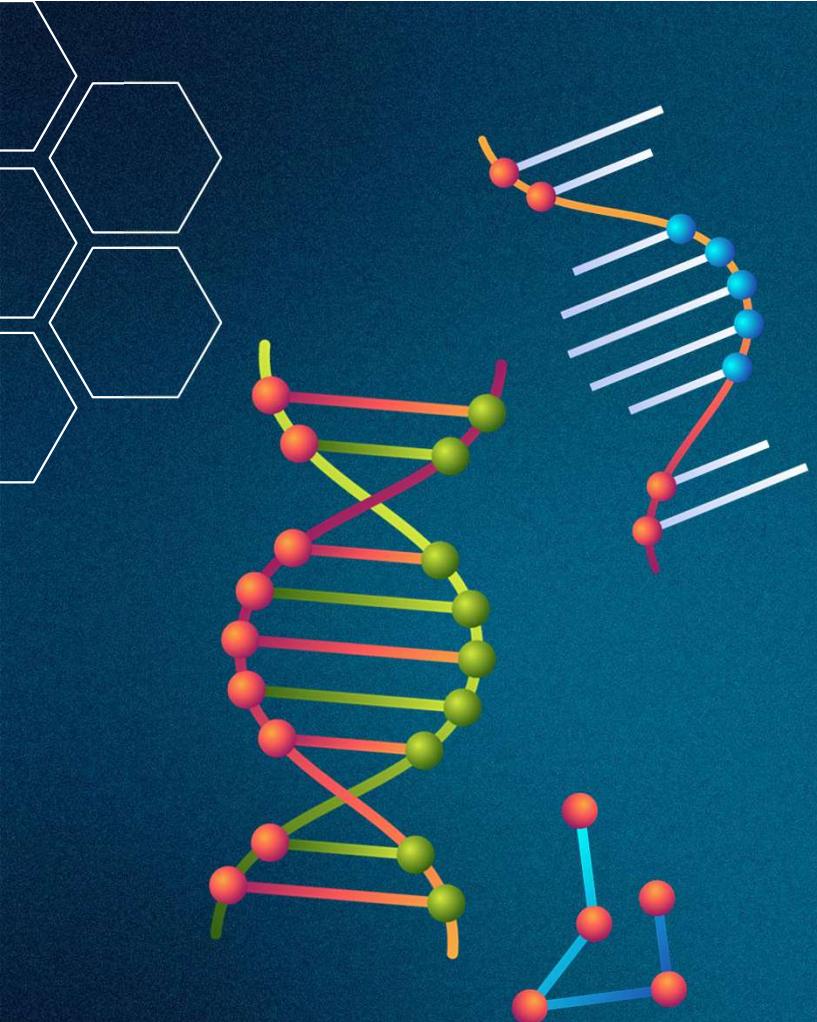
- **General Objective:**

1. Successfully launch a new mobile application for tailoring diabetic therapies within a 4-month timeframe and within the proposed budget.

- **Specific Objectives:**

1. Identify genetic variations influencing responses to diabetes treatments such as metformin and sulfonylureas.
2. Enable preemptive genotyping to identify high-risk patients and adjust medication regimens accordingly to prevent hypoglycemia.
3. Develop algorithms that generate personalized therapeutic recommendations based on the user's pharmacogenomic profile and current health status..





SCOPE

Targeted drug identification.

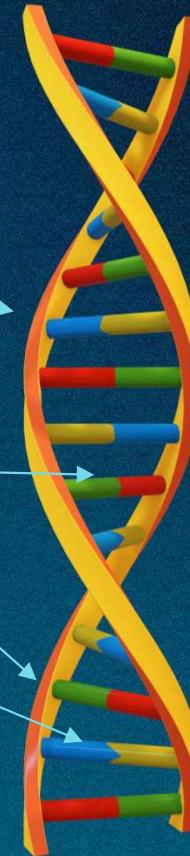
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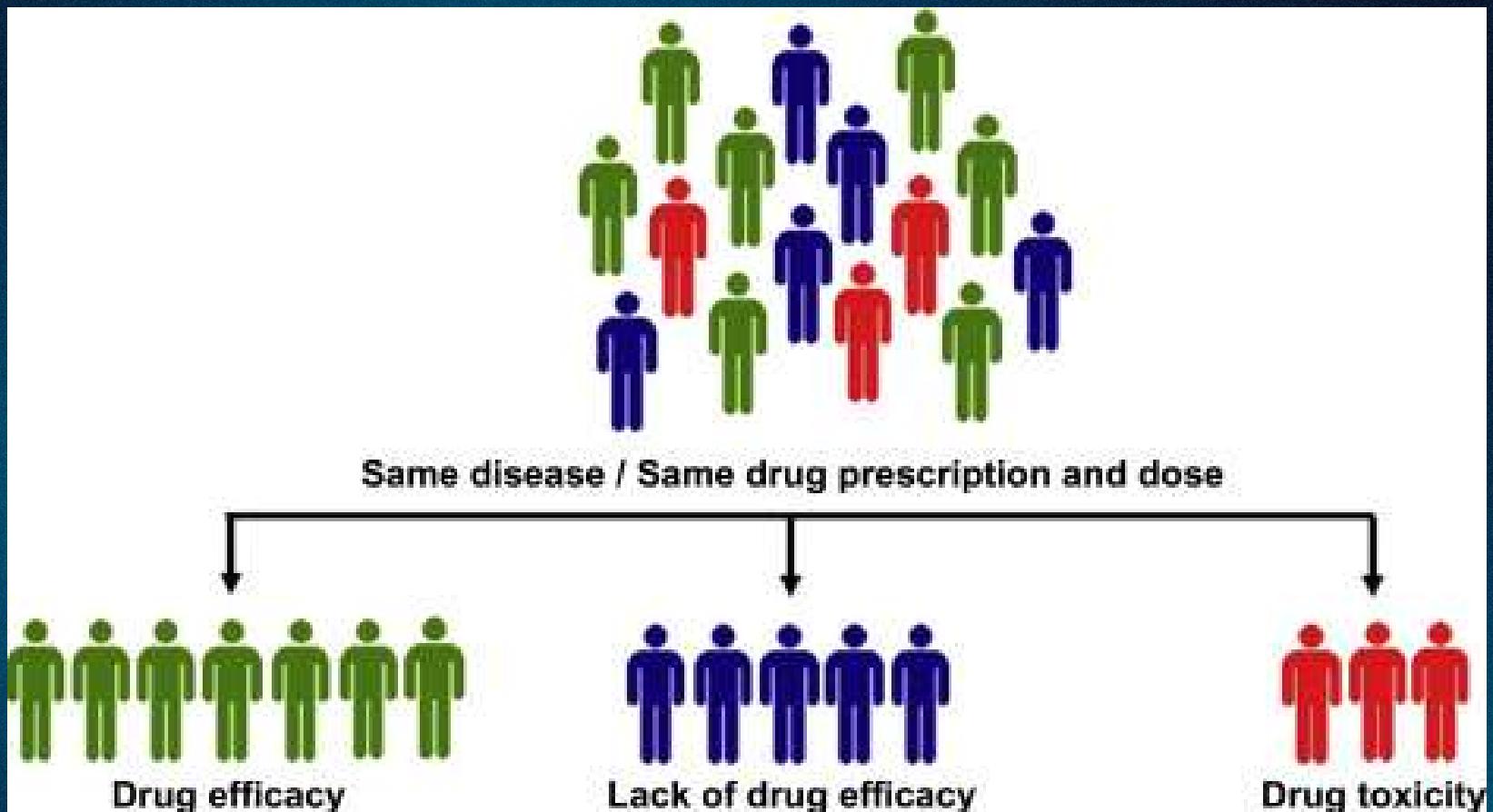


DNA structure

Sugar Chain Phosphate

Bases





Potential of Pharmacogenomics

Customization:

- The project will focus on customizing specific aspects of the GenoMedRx platform to address user needs and enhance overall functionality.
 - Develop a user-friendly interface allowing users to input and manage their pharmacogenomic data securely.
 - Implement features for real-time data updates and synchronization with relevant databases.



Medication Reminders:

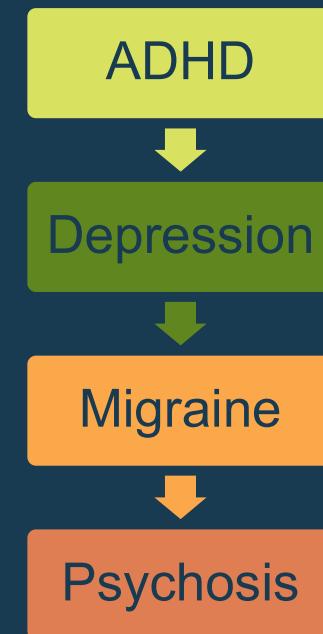
- Implement a medication reminder system within the app to enhance adherence to prescribed diabetic medications.
- Investigate the impact of genetic factors on the response to specific diabetic medications.
- Provide personalized treatment recommendations based on pharmacogenomic data.

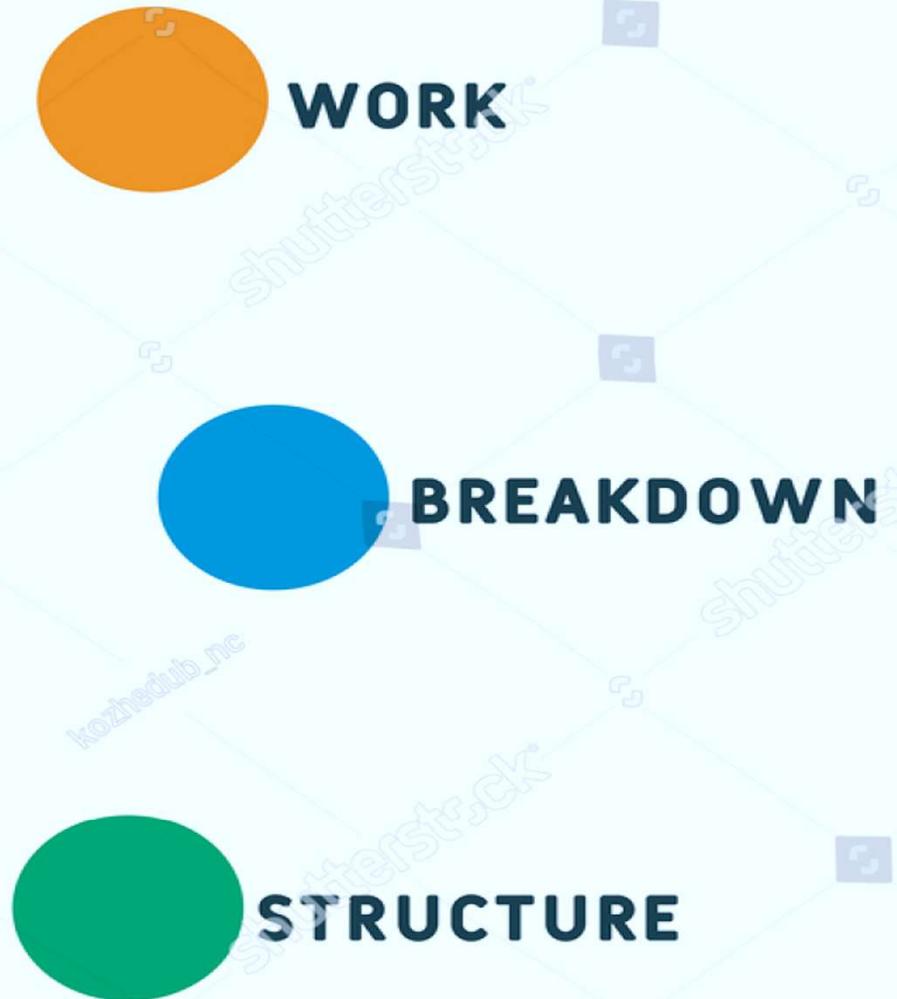
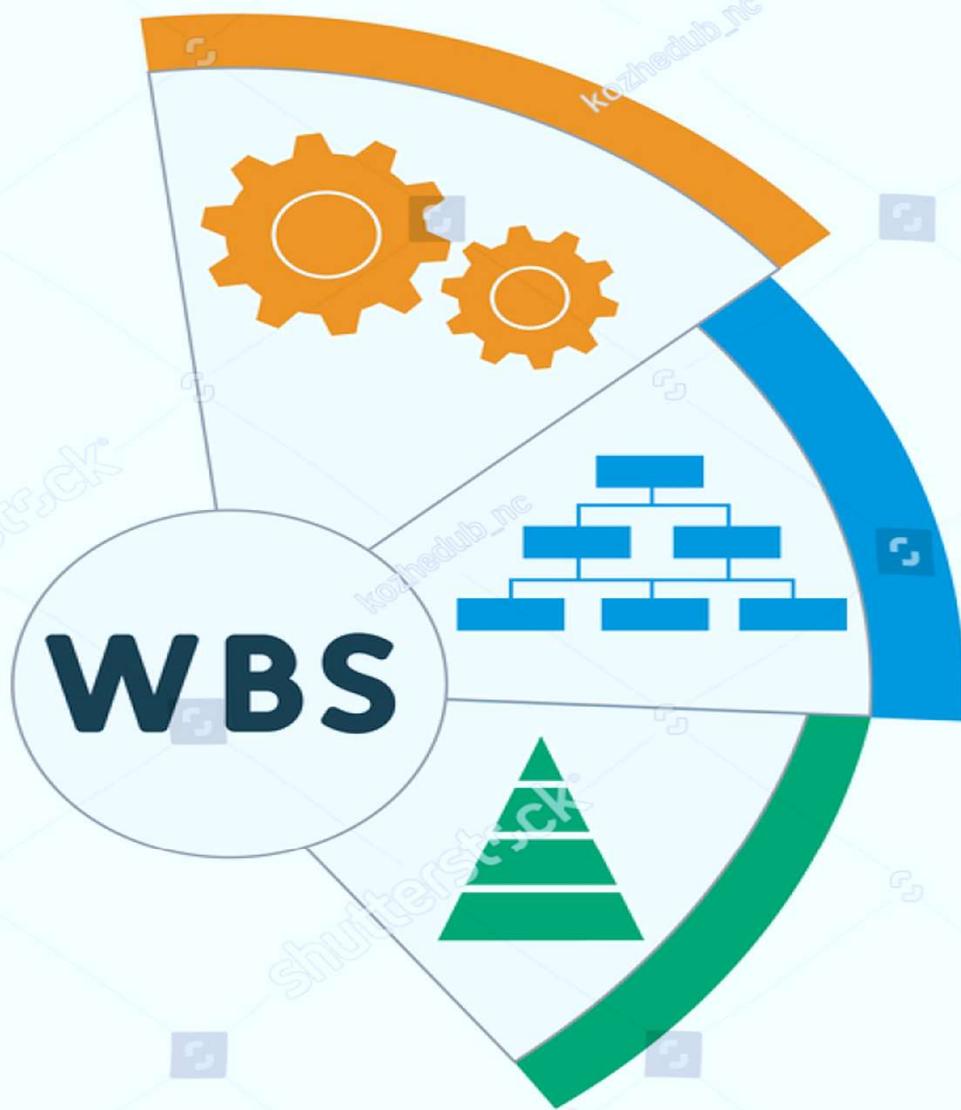


Create Personalized Medication Profiles:



These medical conditions are often seen in wrong therapy





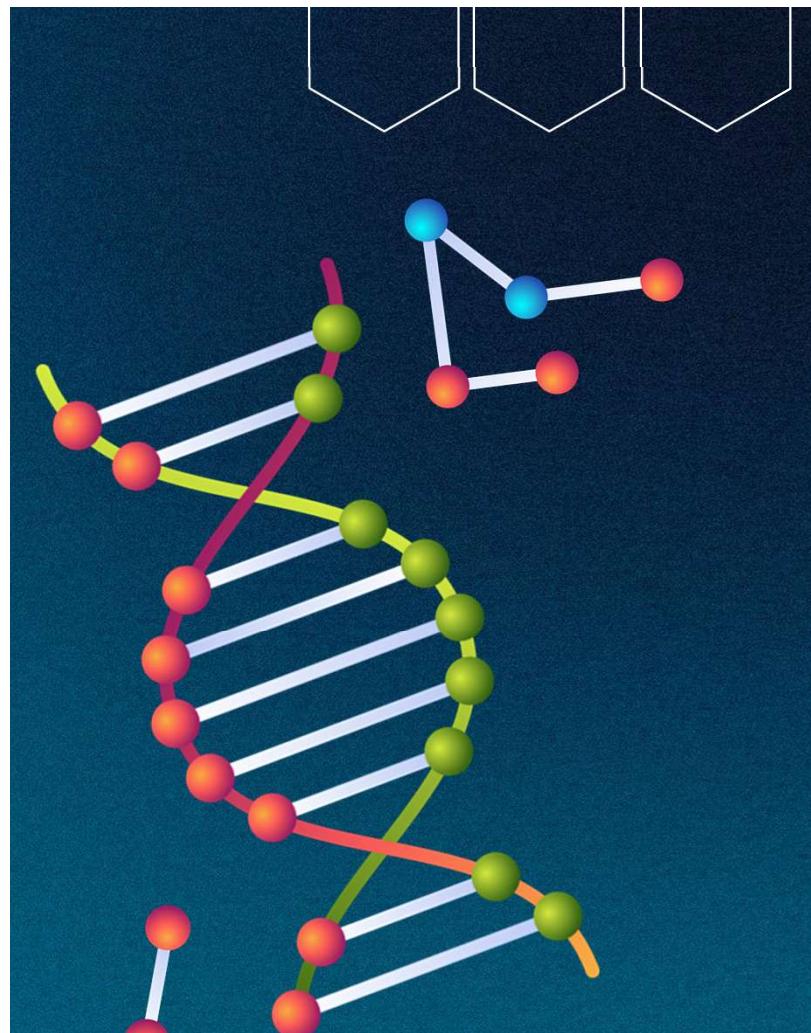
Work Breakdown Structure (WBS)

Tailoring Diabetic Therapies: A Pharmacogenomic Investigation App





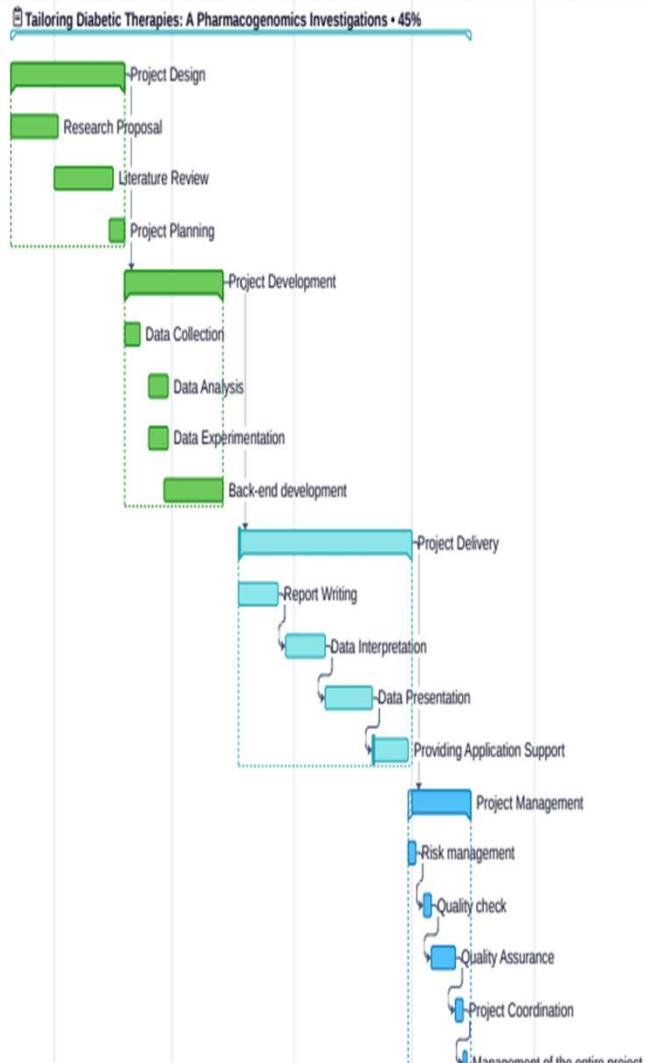
Budget Planning

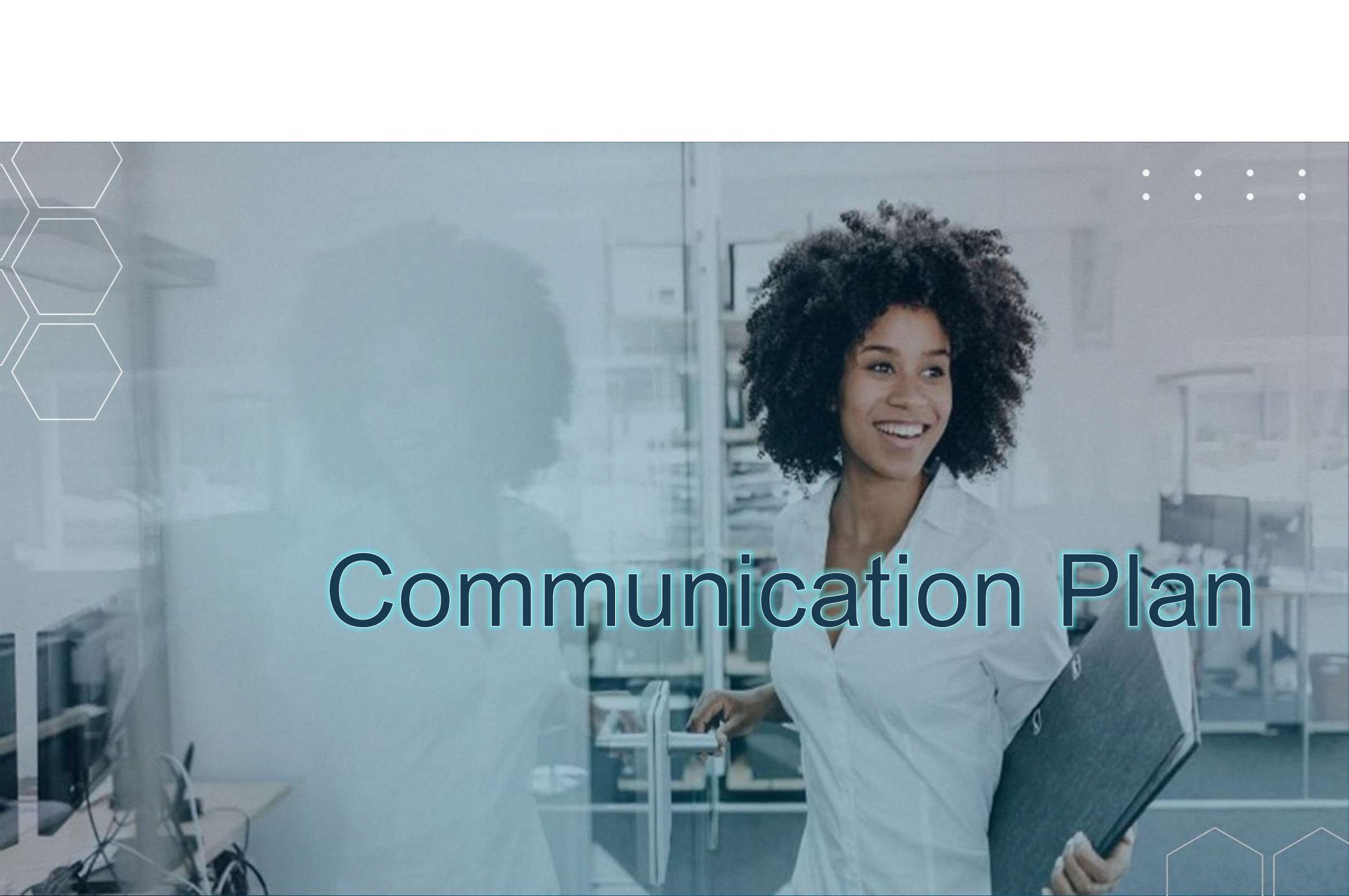




Work plane and Timeline (Gantt chart)

Name	Start date ↑	Due date	Predecessors	Status	Duration	Status group	Task owner name	Percentage, %	Progress	Aug 2023			Sep 2023			Oct 2023			Nov 2023			Dec 2023			Jan 2024			F		
										30	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12	19	26	3	10	17
1 Tailoring Diabetic Therapies				In Progress		All active			45%																					
2 Project Design	08/21/2023	09/18/2023		Completed	21d	All finished			100																					
3 Research Proposal	08/21/2023	09/01/2023		Completed	10d	All finished	SRINATH KALEPU		100																					
4 Literature Review	09/01/2023	09/15/2023		Completed	11d	All finished	LAVANYA PRAGADA		100																					
5 Project Planning	09/15/2023	09/18/2023		Completed	2d	All finished	RAGHUNANDHAN VELAGAPU		100																					
6 Project Development	09/19/2023	10/13/2023	2FS	Completed	19d	All finished			100																					
7 Data Collection	09/19/2023	09/22/2023		Completed	4d	All finished	VAIBHAV THAKUR		100																					
8 Data Analysis	09/25/2023	09/29/2023		Completed	5d	All finished	RAGHUNANDHAN VELAGAPU		100																					
9 Data Experimentation	09/25/2023	09/29/2023		Completed	5d	All finished	LAVANYA RANGANATHAN		100																					
10 Back-end development	09/29/2023	10/13/2023		Completed	11d	All finished	KALYAN RAJ CHINGI		100																					
11 Project Delivery	10/18/2023	11/30/2023	6FS	In progress	32d	All active			38																					
12 Report Writing	10/18/2023	10/27/2023		In progress	8d	All active	VAIBHAV THAKUR		35																					
13 Data Interpretation	10/30/2023	11/08/2023	12FS	In progress	8d	All active	SRINATH KALEPU		23																					
14 Data Presentation	11/09/2023	11/20/2023	13FS	In progress	8d	All active	LAVANYA RANGANATHAN		12																					
15 Providing Application Support	11/21/2023	11/29/2023	14FS	In progress	7d	All active	RAGHUNANDHAN VELAGAPU		0																					
16 Project Management	12/01/2023	12/15/2023	11FS	New	11d	All active			0																					
17 Risk management	11/30/2023	12/01/2023		New	2d	All active	LAVANYA PRAGADA		0																					
18 Quality check	12/04/2023	12/05/2023	17FS	New	2d	All active	VAIBHAV THAKUR		0																					
19 Quality Assurance	12/06/2023	12/11/2023	18FS	New	4d	All active	KALYAN RAJ CHINGI		0																					
20 Project Coordination	12/12/2023	12/13/2023	19FS	New	2d	All active	LAVANYA PRAGADA		0																					
21 Management of the entire project	12/14/2023	12/14/2023	20FS	New	1d	All active	SRINATH KALEPU		0																					



A professional woman with dark, curly hair is smiling and holding a dark green folder. She is standing in an office environment with desks and papers visible in the background. The overall tone is positive and professional.

Communication Plan





Risk Assessment

Timeline Delays

Collaboration Challenges

Inadequate User testing

Scope Creep

Data Quality

Data Governance

Technical challenges in integration





12 RISKS

1. DATA QUALITY AND AVAILABILITY
2. DATA SECURITY AND PRIVACY BREACHES
3. REGULATORY AND ETHICAL COMPLIANCE
4. TECHNOLOGY AND DEVELOPMENT RISKS
5. MARKET ACCEPTANCE
6. COMPETITION
7. BUDGET OVERRUNS
8. PROJECT DELAYS
9. USER ADOPTION
10. TECHNOLOGICAL OBSOLESCENCE
11. INTELLECTUAL PROPERTY ISSUES
12. ADVERSE PATIENT REACTIONS

1. DATA QUALITY AND AVAILABILITY

- ❖ ESTABLISH STRONG DATA COLLECTION AND VALIDATION PROCEDURES.
- ❖ COLLABORATE WITH REPUTABLE DATA SOURCES.
- ❖ IMPLEMENT DATA REDUNDANCY AND BACKUP SYSTEMS.

2. DATA SECURITY AND PRIVACY BREACHES

- ❖ IMPLEMENT ROBUST DATA ENCRYPTION AND ACCESS CONTROL MEASURES.
- ❖ CONDUCT REGULAR SECURITY AUDITS AND PENETRATION TESTING.
- ❖ TRAIN ALL PERSONNEL IN DATA SECURITY BEST PRACTICES.

3. REGULATORY AND ETHICAL COMPLIANCE

- ❖ ENGAGE LEGAL EXPERTS TO ENSURE COMPLIANCE WITH PRIVACY REGULATIONS.
- ❖ REGULARLY REVIEW AND UPDATE PRIVACY POLICIES AND DATA HANDLING PROCEDURES.
- ❖ CONDUCT PRIVACY IMPACT ASSESSMENTS.

4. TECHNOLOGY AND DEVELOPMENT RISKS

- ❖ PERFORM THOROUGH TECHNICAL FEASIBILITY ASSESSMENTS BEFORE DEVELOPMENT.
- ❖ MAINTAIN AN EXPERIENCED DEVELOPMENT TEAM.
- ❖ CREATE A CONTINGENCY PLAN TO ADDRESS TECHNICAL CHALLENGES.

5. MARKET ACCEPTANCE

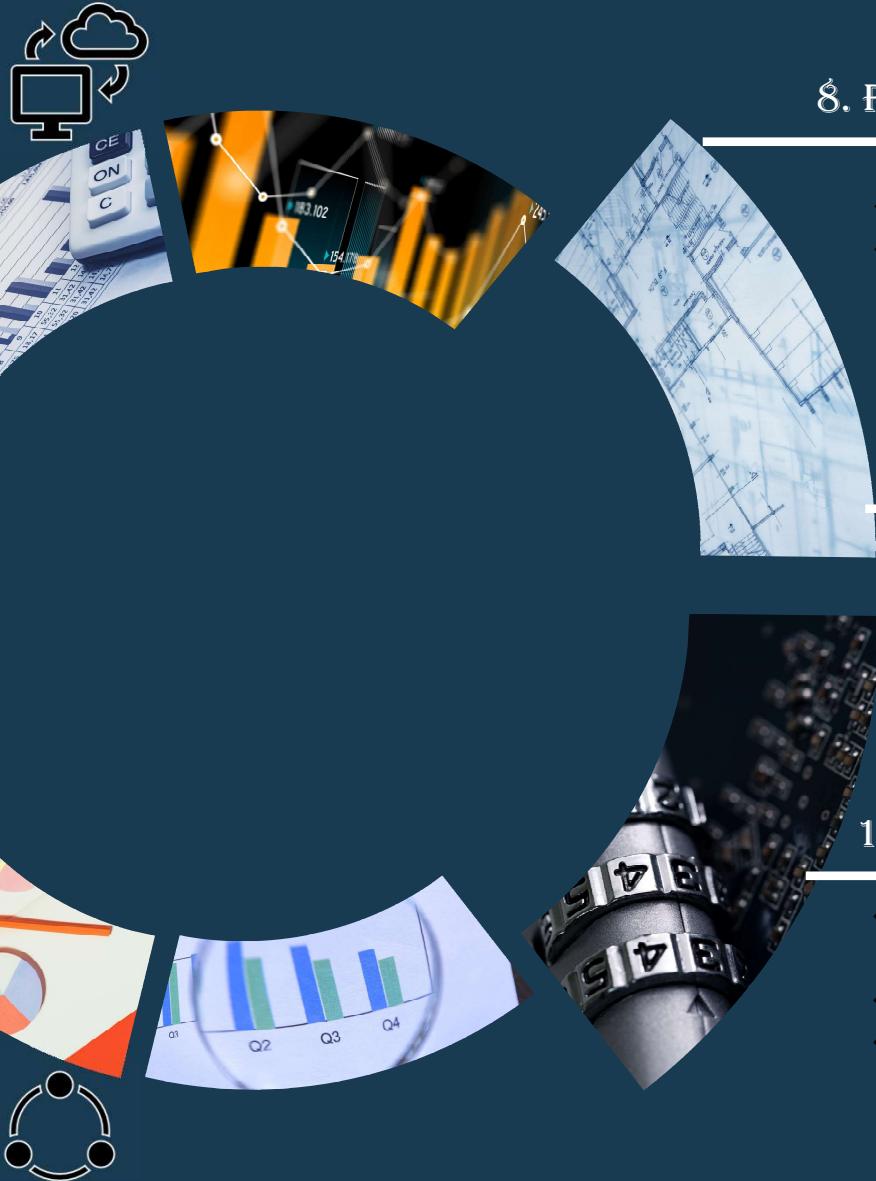
- ❖ CONDUCT COMPREHENSIVE MARKET RESEARCH TO UNDERSTAND USER NEEDS.
- ❖ CONTINUOUSLY GATHER FEEDBACK AND ITERATE ON THE APP TO MEET MARKET EXPECTATIONS.
- ❖ COLLABORATE WITH KEY OPINION LEADERS IN THE FIELD.

6. COMPETITION

- ❖ IDENTIFY UNIQUE SELLING POINTS AND DIFFERENTIATORS.
- ❖ CONTINUOUSLY TRACK COMPETITORS AND ADAPT STRATEGIES ACCORDINGLY.
- ❖ BUILD STRONG CUSTOMER RELATIONSHIPS AND LOYALTY.

7. BUDGET OVERRUNS

- ❖ MAINTAIN A WELL-DEFINED BUDGET WITH A CONTINGENCY FUND.
- ❖ REGULARLY MONITOR PROJECT EXPENSES AND ADJUST AS NECESSARY.
- ❖ PERIODICALLY REVIEW PROJECT COSTS AND OPTIMIZE RESOURCE ALLOCATION.



8. PROJECT DELAYS

- ❖ ESTABLISH A WELL-DEFINED PROJECT PLAN WITH MILESTONES.
- ❖ ALLOCATE RESOURCES EFFECTIVELY AND MANAGE THE PROJECT TIMELINE RIGOROUSLY.

9. USER ADOPTION

- ❖ DEVELOP USER FRIENDLY INTERFACES AND INTUITIVE DESIGN.
- ❖ PROVIDE COMPREHENSIVE USER TRAINING AND SUPPORT.
- ❖ CREATE AWARENESS CAMPAIGNS TO ENCOURAGE ADOPTION

10. TECHNOLOGICAL OBSOLESCENCE

- ❖ PLAN FOR REGULAR UPDATES AND IMPROVEMENTS TO KEEP THE TOOL RELEVANT.
- ❖ STAY INFORMED ABOUT EMERGING TECHNOLOGIES AND TRENDS.
- ❖ CONSIDER PARTNERSHIPS OR COLLABORATIONS TO ACCESS CUTTING-EDGE TECHNOLOGY



11. INTELLECTUAL PROPERTY ISSUES

- ❖ CLEARLY DEFINE OWNERSHIP AND IP RIGHTS IN COLLABORATION AGREEMENTS.
- ❖ CONSULT LEGAL EXPERTS AND INVOLVE THEM IN AGREEMENT NEGOTIATIONS.
- ❖ MAINTAIN THOROUGH DOCUMENTATION OF ALL IP-RELATED INFORMATION.

12. ADVERSE PATIENT REACTIONS

- ❖ RIGOROUSLY TEST AND VALIDATE THE TOOL'S RECOMMENDATIONS.
- ❖ CLEARLY COMMUNICATE THE LIMITATIONS AND POTENTIAL RISKS TO PATIENTS AND PHYSICIANS.
- ❖ MONITOR AND RECORD PATIENT FEEDBACK FOR CONTINUOUS DEVELOPMENT.



**LESSONS
LEARNED!**

What makes you a good project manager?

- Collaborative communication
- Risk management
- Adaptability and flexibility
- Resource optimization
- Quality assurance
- Stakeholder engagement
- Evaluation and continuous improvement
- Ethical consideration
- Documentation and reporting
- Leadership and motivation
- Post-implementation review





Organizational Culture

The Ordinary Heroes of the Taj

by Rohit Deshpande and Anjali Raina



Deshpande, R., & Raina, A. (2011, December 1). The ordinary heroes of the Taj. *Harvard Business Review*.
<https://hbr.org/2011/12/the-ordinary-heroes-of-the-taj>



Things to Remember

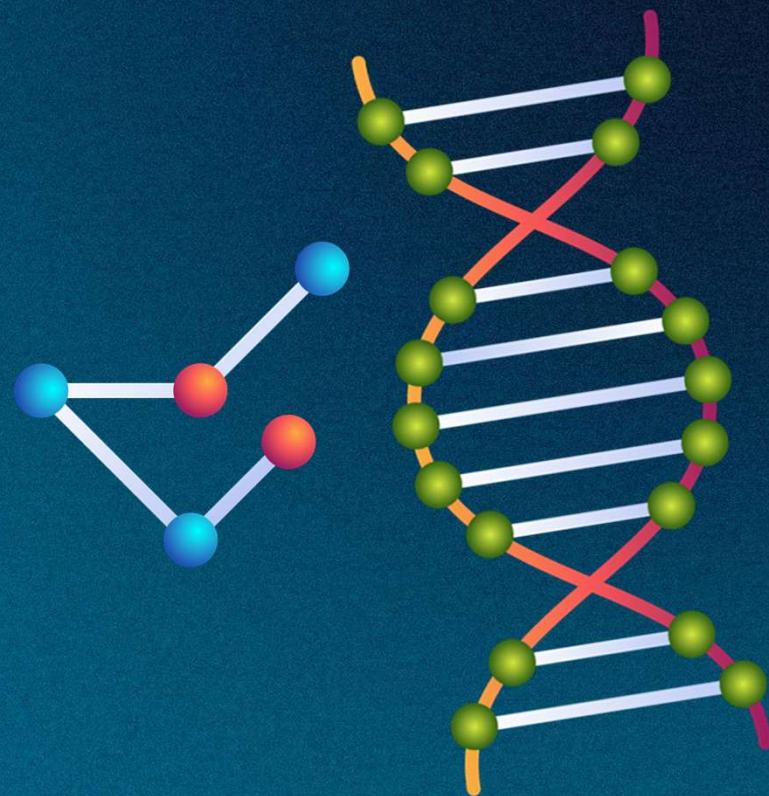
- Attitude matters
- “Leadership from below” as we saw in the previous slide
- Chaos brings out the best leadership skills
- No plan can be perfect
- Constant innovation is always necessary

**Take home lessons for the future
project managers!!**

Talks, T. [@TEDx]. (2012, November 20). *The Ordinary Heroes of the Taj Hotel: Rohit Deshpande at TEDxNewEngland*. Youtube.
<https://www.youtube.com/watch?v=vQGz1YRqBPw>.

Talks, T. [@TEDx]. (2015, June 26). *Leading in the VUCA world - How the Armed Forces do it | RAGHU RAMAN | TEDxIITBHU*. Youtube.
<https://www.youtube.com/watch?v=mZ-lBRGfJyY>.

Thanks!



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