**Hi everyone!**  
Let me first introduce myself very briefly. I’m **Feruz Farxodov** and I’m currently graduating from ITPU. Today, I’m presenting my **course project defense**, which I have recently completed.

**Project Overview**

My application is a **scalable web application for business management**.

Here’s what we’ll cover today:

1. Preliminary Research
2. Implementation and Testing
3. Prospects and Plans
4. Project Background
5. Technical and Engineering Solutions
6. Challenges and Limitations

Let’s begin with an **overview** of the project.  
Originally, the project was called *"Travel Agency Site"*, but I decided to rename it to **"Scalable Web App for Business"**, because the target business is, indeed, a travel agency.

In short, this app helps **Uzbek travel agencies** manage their operations more efficiently, and provides a user-friendly site for **international tourists** to **book tours and share feedback**.

**Project Background**

Why did I choose this project? What motivated me?

The main motivation came from the **poorly structured travel websites** in Uzbekistan.

For example:

* Booking tours is often difficult without prepayment or prior knowledge of tour guides.
* Tourism is growing rapidly, especially in cities like **Bukhara** and **Samarkand**, showing a clear **need for better platforms**.

This chart shows the **growth in tourist numbers** over recent years, and the **projected growth by 2035**.

**Preliminary Research**

Before I started development, I studied various travel websites and noticed they often **lack**:

* User-friendly design
* Feedback and issue reporting options
* Easy booking without prepayment
* Information about company guides

I also watched travel vlogs on YouTube and read blog articles where travelers shared their experiences in Uzbekistan. I even reached out to some visitors to learn about their challenges directly. All this helped guide the design of my website.

Here’s a diagram showing **user feedback** for my app's new features:

* **82% of users liked the new system**
* **18% didn’t** – mostly business managers who preferred upfront payments.  
  (They said: *“No deposit? What if someone books and disappears?”*)  
  So yes – they like their money safe and secured upfront!

**Technical and Engineering Solutions**

**Frontend:** HTML, CSS, SASS, React  
**Backend:** Java with Spring (Boot, Security, JWT)  
**Database:** PostgreSQL (indexed and optimized)

**Key Features:**

* Login system
* Admin panel
* 2FA for Admins via Telegram
* Telegram bot for user interaction
* Secure JWT authentication
* Feedback and user tracking

Here are some **UI screenshots** showing the admin panel and the feedback section.

Compared to competitors, our platform offers **enhanced functionality and a better user experience**. Here’s a diagram that highlights the difference.

**Admin Features**

This is how the **admin dashboard** looks.

If the admin tries to access a secured part, it triggers **2-step verification**:

1. Admin clicks “Send Code”
2. The server sends a **one-time code** via **Telegram bot** (for admins only)
3. Admin enters the code to continue

Here’s how the message looks in Telegram.

**User Opportunities**

**Language Options** – Personalized site in multiple languages  
**Simple Tour Booking** – Secure booking with **no deposit**  
**Feedback System** – Users can rate concerts/tours  
**Telegram Bot** – Admins get real-time notifications and feedback

**Implementation and Testing**

**Development Steps:**

* Started frontend with JSON-server
* Created the admin panel
* Finished backend and integrated systems

**Testing Types:**

1. User Acceptance Testing (UAT)
2. Cross-Browser Testing
3. Exploratory Testing

University students tested the site and gave feedback, which helped me improve the UI and fix bugs.

**Challenges and Limitations**

Here are some of the major issues I faced:

* **Telegram Bot Setup:** Real-time messaging and 2FA integration were complex
* **Responsive Design:** Making the UI attractive across all devices took extra effort
* **Feedback System:** Developing a public review system required deep backend work

But with **research, patience**, and support from my professors, I managed to overcome all these.  
Thanks to **Nikolai** and **Pavel** for their guidance – your motivation made a huge difference!

**Prospects and Plans**

If I had more time, I would add:

* Email integration for both users and admins
* A statistics dashboard (e.g., bookings, user counts, most popular tours)
* Auto-detection of positive/negative feedback using sentiment analysis
* And more **AI integrations**

**Future Development Plans:**

* More third-party integrations
* Using AI and machine learning for smarter business management

I truly believe this web application can become a **real-world product**, and maybe even expand **internationally**.

**Conclusion**

That brings me to the end of my defense.  
**Thank you for your attention**, and a big thank you to everyone who helped me build and successfully complete this project!