**Slide 1: Title & Introduction**

* **Title**: Ethiopian Stock Market Simulation Platform
* **Presenter**: *Your Name*
* **Institution**: *Your University/Department*
* **Supervisor**: *Supervisor’s Name (If Applicable)*

**Explanation**:

* Introduce the project title, yourself, and your affiliations.
* Briefly state what your project is about (stock market simulation for Ethiopia).

**Slide 2: Background of the Project**

* **ECMA Initiative**: Establishing a formal securities exchange in Ethiopia.
* **Gap**: Lack of practical experience among potential stakeholders (traders, companies, regulators).
* **Solution**: Simulation platform mimicking real-world exchange operations for learning and testing.

**Explanation**:

* Provide context on why this platform is needed (ECMA's role, new market environment).
* Emphasize the **importance** of building capacity through simulation.

**Slide 3: Statement of the Problem**

* **No Existing Market & Simulation**: Ethiopia does not currently have a functioning stock exchange or a simulation tool.
* **Knowledge & Skill Gaps**: Stakeholders lack experience in trading, compliance, market analysis.
* **Need**: An interactive platform to train and familiarize users under realistic market conditions.

**Explanation**:

* Show the direct **problems** faced by traders, companies, regulators.
* Justify the **urgency** of your solution.

**Slide 4: Project Objectives**

1. **General Objective**
   * Develop an interactive platform that prepares Ethiopian stakeholders for the upcoming stock exchange.
2. **Specific Objectives**
   * Role-based registration and simulation
   * Advanced trading engine (market & limit orders)
   * Regulatory oversight and testing module
   * Email notification system (OTP, trade alerts)
   * Configurable trading hours
   * Listed company administration (publish shares, set dividends)
   * Suspicious activity detection & trader suspension
   * Audit trail recording
   * Portfolio management

**Explanation**:

* Align objectives with the **challenges** identified.
* Stress the **key features** you aim to implement.

**Slide 5: Scope & Limitations**

* **Scope**
  + Simulation environment with core market functions (trading, order matching, price discovery).
  + Role-specific functionality for traders, company admins, regulators.
  + Risk-free environment to learn compliance and trading.
* **Limitations**
  + Only two order types (market, limit).
  + Basic suspicious activity detection (rule-based).
  + Dependence on external email services.
  + No AI-driven advanced analytics yet.

**Explanation**:

* Clearly define the **boundaries** of your solution.
* Acknowledge **limitations** to set realistic expectations.

**Slide 6: Significance & Beneficiaries**

* **Significance**
  + Fills the market readiness gap in Ethiopia’s emerging stock market.
  + A controlled environment for practical learning and policy testing.
* **Beneficiaries**
  + **Traders**: Learn trading strategies, risk-free environment.
  + **Listed Company Admins**: Manage stocks, financial disclosures, dividend settings.
  + **Regulators (ECMA)**: Simulate regulations, test policy impact, ensure compliance.

**Explanation**:

* Emphasize how each stakeholder **benefits** from the platform.
* Show the **value** it brings to Ethiopia’s capital market ecosystem.

**Slide 7: Project Schedule & Budget**

* **Schedule** (Approx. 4–5 Months)
  1. Planning & Analysis
  2. Design & Architecture
  3. Development & Integration
  4. Testing & Evaluation
  5. Deployment & Maintenance
* **Budget**
  1. **One-Time**: Domain, initial marketing, printing (ETB ~12,550 total).
  2. **Recurring**: Hosting, broadband, maintenance (ETB ~10,575 for initial months).
  3. **Contingency**: ETB ~10,000 for unforeseen expenses.

**Explanation**:

* Summarize key **timeline** phases and high-level **costs**.
* Provide stakeholders with a **project feasibility** snapshot.

**Slide 8: Existing System Description**

* **No Formal Exchange**: Currently, Ethiopia lacks a functioning stock market and simulation tool.
* **Implications**
  + **No training environment** for trading or market analysis.
  + **Regulators** cannot test or refine policies.
  + **Public** remains unaware of how to trade or comply with regulations.

**Explanation**:

* Highlight the **current gaps** in Ethiopia’s financial landscape.
* Set the stage for your **proposed solution**.

**Slide 9: Proposed System Overview**

* **Platform Name**: Ethiopian Stock Market Simulation Platform
* **Core Features**
  1. Trader role (place orders, manage portfolio).
  2. Company admin role (publish stocks, declare dividends).
  3. Regulator role (approve/reject users, set trading hours, suspend traders).
  4. Trading engine with real-time order matching.
  5. Regulatory compliance & reporting.

**Explanation**:

* Give a high-level **picture** of what your system does and **how** it addresses the problem.

**Slide 10: Functional Requirements**

1. **User Registration & Role Management**: KYC, OTP, role-based access.
2. **Trading Engine**: Market/limit orders, price-time priority matching, transaction fees.
3. **Portfolio Management**: Virtual portfolios for traders.
4. **Regulatory Tools**: Compliance monitoring, suspicious activity detection, audit trails.
5. **Company Administration**: Stock publication, disclosure uploads, dividend settings.
6. **Email Notifications**: OTP, approval alerts, trade execution emails.

**Explanation**:

* List the **core functionalities** in a concise manner.
* Connect each to your **objectives**.

**Slide 11: Nonfunctional Requirements**

* **Performance**: Low latency, real-time order processing.
* **Scalability**: Support growing user base and additional features.
* **Availability**: High uptime during trading hours, minimal downtime.
* **Reliability**: Accurate simulations and consistent system behavior.
* **Maintainability**: Modular codebase, well-documented.
* **Security**: Role-based access, data encryption, secure authentication.
* **Usability**: Intuitive UI for diverse user roles.

**Explanation**:

* Emphasize the **quality attributes** that ensure system robustness and user satisfaction.

**Slide 12: System Development Methodology**

* **Approach**: Agile
  + Iterative sprints for continuous feedback and improvement.
* **Requirement Analysis**:
  + ECMA directives and global best practices.
* **Design**:
  + Architectural layout of modules (trading engine, user mgmt., etc.).
* **Development**:
  + **Backend**: Django (Python)
  + **Frontend**: Angular (TypeScript)
  + **Database**: PostgreSQL
* **Testing & QA**:
  + Unit, Integration, UAT, and Security testing.

**Explanation**:

* Describe how you **planned** and **built** the system.
* Highlight the **tools** and **frameworks** employed.

**Slide 13: System Model – Use Case Model**

* **Actors**
  1. Trader
  2. Listed Company Admin
  3. Regulator
  4. Trading Engine (Sub-System)
* **Use Cases**
  1. **Trader**: Place order, track status, manage portfolio.
  2. **Company Admin**: Publish stock, declare dividends, manage disclosures.
  3. **Regulator**: Approve/reject users, suspend traders, generate reports.
  4. **Trading Engine**: Order matching, trade execution, notifications.

**Explanation**:

* Show how **actors** interact with the system.
* Mention the **most critical** use cases.

**Slide 14: Detailed Use Cases & Activity Diagrams**

* **Trader Operations**
  + Preconditions, postconditions, main flow, alternative flows.
  + Activity diagrams (User Registration, User Login, Stock Direct Purchase).
* **Listed Company Admin**
  + Publish/manage stocks, set dividends, generate reports.
* **Regulator**
  + Approve KYC, set system hours, suspend traders.

**Explanation**:

* Illustrate **step-by-step** processes using **activity** or **sequence** diagrams.
* Emphasize logical flow and **exception handling**.

**Slide 15: Class Model & Data Dictionary**

* **Key Entities**
  + **User**: Extended with role, KYC, OTP, balances.
  + **Stocks**: Ticker symbol, total shares, price.
  + **Orders/Trade**: Execution logic, transaction fees.
  + **Dividend/Disclosure**: Company admin-specific.
  + **Audit Log & Suspicious Activity**: Regulatory tracking.
* **Data Dictionary**:
  + Table structure, field types, constraints, relationships.

**Explanation**:

* Summarize your **database schema** and highlight **important relationships**.
* Show how data is **organized** and **validated**.

**Slide 16: System Architecture (Layered Approach)**

* **Presentation Layer**: Angular UI, user-facing dashboards.
* **Business Logic Layer**: Django-based modules (User & Trading Management).
* **Data Access Layer**: PostgreSQL database, regulatory & notification subsystems.
* **Infrastructure Layer**: Email server, admin panel.
* **Benefits**: Separation of concerns, scalability, maintainability, security.

**Explanation**:

* Present a **diagram** if possible, showing layers.
* Clarify how each **layer** interacts and ensures **system reliability**.

**Slide 17: Package Diagram & Access Control**

* **Package Diagram**: Users, Stocks, Regulations, Notifications, Surveillance apps.
* **Access Control**:
  + Roles & Permissions matrix (Trader, Regulator, Company Admin).
  + Security Measures: JWT, OTP verification, audit logging, role-based restrictions.

**Explanation**:

* Emphasize the **modular** nature of your design.
* Stress **security** and **role-based** constraints.

**Slide 18: Implementation Highlights**

* **Code Mapping**: Django Models, Serializers, Views, REST endpoints.
* **Key Features Implemented**:
  + OTP-based registration & KYC verification.
  + Real-time order matching engine.
  + Email notifications for trades & approvals.
  + Suspicious activity detection & regulator suspension workflow.

**Explanation**:

* Give a **high-level** overview of how your codebase is structured.
* Mention any notable **technical challenges** and solutions.

**Slide 19: Testing & Maintenance**

* **Testing**
  + **Unit Tests**: Validate individual modules (80% coverage target).
  + **Integration Tests**: Validate interactions (registration + trading + notifications).
  + **Performance Tests**: Ensure the system handles concurrent users/trades.
  + **Security Tests**: Verify role-based access, XSS/SQL injection checks.
* **Maintenance**
  + Preventive: Routine performance checks, security patches.
  + Corrective: Bug fixes, updates, user feedback incorporation.
  + Scalability: Adjust server resources as user count grows.

**Explanation**:

* Illustrate how you assured **quality** and **reliability**.
* Show **ongoing** steps to keep the system robust.

**Slide 20: Conclusion & Recommendations**

* **Conclusion**
  + Successfully developed a simulation platform aligning with ECMA’s guidelines.
  + Bridges the knowledge gap for traders, regulators, and company admins.
  + Provides a realistic, risk-free environment for learning and policy testing.
* **Recommendations**
  + **Advanced Analytics & Dashboards**
  + **Expanded Order Types & Financial Instruments**
  + **AI-Driven Surveillance**
  + **Automated Regulatory Compliance**
  + **Enhanced UX and Interface**
  + **Integration with External Data Providers**

**Explanation**:

* Wrap up the **project achievements**.
* Outline **future enhancements** to keep the system relevant and more powerful.

**Final Tips**

1. **Keep Slides Clean**: Too much text can overwhelm the audience. Use concise bullet points.
2. **Visual Aids**: Include **key diagrams** (Use Case, Activity, Class, Architecture) to illustrate workflows.
3. **Demo (If Possible)**: If time allows, showcase a brief **live or recorded** demo of core features (e.g., user registration, placing an order, regulator approval).
4. **Time Management**: Aim for **1-2 minutes** per slide, aligning with typical defense durations.
5. **Q&A Preparedness**: Be ready to explain **design decisions**, **limitations**, and **future expansions** in depth.

This **20-slide** structure provides a **professional, industry-standard** presentation. Adapt each slide’s detail to fit your allotted time and include **visuals** (screenshots, diagrams) wherever possible to keep the audience engaged. Good luck with your final defense!