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# **CAPSTONE** PROJECT

 **Dr. RUSTAM A. LUKMANOV & MUWAFFAQ IMAM**

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# **CAPSTONE PROJECT**

**the high point : crowning achievement**

**a coping stone : COPING**



**Dr. RUSTAM A. LUKMANOV & MUWAFFAQ IMAM**

# THE CITY IN NEED OF STARTUPS



**~ 100 STARTUPS ARE  
EXPECTED TO FILL  
NEW INDUSTRIAL  
PARK SPACES**



**EMERGING TECH SCENE**



# STARTUP AS A THESIS – 4<sup>TH</sup> YEAR IN YOUR OWN COMPANY



**MORE ABOUT  
THIS IN THE  
SECOND LECTURE**



**EMERGING TECH SCENE**

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**7 WEEKS**

**1 – PROJECT / 06.06 – 27.07**



**DURATION**

■

# **AI – OPEN SOURCE – EXPERTS**

**LEVERAGE IT ALL TO BUILD YOUR PROJECT**



**SCOPE and PROJECT SCALE**

# AI and OPEN SOURCE



Sam Altman ✓  
@sama

...

heard something like this 3 times this week:

"our recent grads are now much more productive than people who have worked here for years because they've really learned how to use ChatGPT".

[Перевести твит](#)

1:11 AM · 21 апр. 2023 г. · **1,7 млн** просмотров

**960** ретвитов   **214** цитат   **10,1 тыс.** отметок «Нравится»   **802** закладки



 **UNIQUE OPPORTUNITIES AHEAD**

PICK ONE OF  
THE TIERS FOR  
YOUR PROJECT

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# WEB, MOBILE, ML or a PERSONAL track

**YOUR PROJECT SHOULD BELONG TO THIS TIERS**

- **1 PROJECT PER TEAM (5 OR 7 PEOPLE)**
- **DIFFERENT TEAMS CAN WORK ON SAME PROBLEMS**
- **DIFFERENT ASPECTS OF ONE PROJECT CAN BE BUILT BY DIFFERENT TEAMS**
- **FOR THE PERSONAL TRACK – YOUR PROJECT SHOULD BE PUBLIC, NO NDA, CLEAR PERSONAL CONTRIBUTION, REPORTING**



**TIERS**



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**MVP or a PROTOTYPE**

**WILL BE GRADED BY A COMITEE  
3 BEST TEAMS WILL RECEIVE A RECOMMENDATION TO A  
UNIVERSITY STARTUP BOARD**



**GOAL**

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# **MVP – PROTOTYPE EXAMPLES:**

**1: FUNCTIONING BOOKING SERVICE**

**2: FINE-TUNED LANGUAGE MODEL**

**3: WEB STORE**

**4: LOCAL EVENTS DISCOVERY platform**



**GOAL**

# **PRODUCT, SERVICE or a PROBLEM** –

SCIENTIFIC  
BUSINESS  
HUMANITARIAN

**YOUR PROJECT SHOULD AIM AND CONSIDER:**

- **HIGH SOCIAL UTILITY**
- **DEFINED CUSTOMER DOMAIN**
- **TIME, RESOURCE AND SCOPE CONSTRAINTS**

**GUIDELINES**



# **WHILE BUILDING YOUR TEAM**

## **THINGS YOU MIGHT THINK IN PRIOR**

- **MAKE A TEAM WITH DIVERSE SKILLS**
- **DIVISION OF LABOR**
- **SET THE RULES OF INTERACTION – MAJORITY VOTE/LEAD DECISION / FREERIDE HANDLING**



**TEAM BUILDING**





# **PROJECT **TIMELINE:****

## **WEEKLY DELIVERABLES**

- **WEEK ONE - PITCHING IDEAS, BUILDING THE TEAM, DEFINING THE VALUE PROPOSITION**
- **WEEK TWO - CHOOSING THE TECH STACK, DESIGNING THE ARCHITECTURE**
- **WEEK THREE - DEVELOPING THE FIRST PROTOTYPE, CREATING THE PRIORITY LIST**
- **WEEK FOUR - TESTING AND ITERATING, NARROWING THE SCOPE**
- **WEEK FIVE - COLLECTING FEEDBACK, REFINING THE PRODUCT**
- **WEEK SIX - PREPARING FOR FINAL PRESENTATION, PACKAGING**
- **WEEK SEVEN - MVP/PROTOTYPE PRESENTATION, EVALUATING THE RESULTS**



## **ROADMAP**





# **FEEDBACK, REFLECTION, ACTION**

## **HOW TO REPORT ON YOUR PROJECT**

- **WE WILL SETUP THE PROJECT WEBSITE WHERE EACH WEEK YOUR TEAM WILL BE TASKED TO REPORT ON CURRENT PROGRESS, LATEST EVERY FRIDAY EVENING**
- **WE WILL PROVIDE YOU WITH FEEDBACK AND MAKE SUGGESTIONS ON YOUR PROJECT**
- **EVERY REPORT SHOULD NOT BE SHORTER THAN A 2000 CHARACTERS**
- **ALL TEAMS CAN SEE ALL REPORTS / MODIFY THEIR PROJECTS ON THE BASIS OF THIS REPORTS**
- **EVERY REPORT WILL GIVE YOU UP TO 5 POINTS – ALL CAPSTONE REPORTS – UP TO 30**
- **EVERY WEEK WE WILL HAVE A LECTURE/MEETING WORKING THROUGH PAIN POINTS**



**LEARNING**



# GRADING CRITERIA 70 POINTS MAX

**SOME PARTS  
WILL BE  
ESTIMATED FROM  
YOUR  
REPORTS!**

- **INNOVATION:** level of creativity and novelty
- **FUNCTIONALITY:** extent to which the software prototype fulfills its intended purpose
- **USER EXPERIENCE (UX):** Considers the overall user experience provided by the prototype
- **TECHNICAL IMPLEMENTATION:** technical proficiency exhibited in the development of the prototype
- **AI INTEGRATION:** level of successful integration and utilization of AI technologies within the software prototype
- **TEAMWORK AND COLLABORATION:** level of collaboration
- **PRESENTATION AND COMMUNICATION:** clarity, persuasiveness, and professionalism of the team's presentation



**FINAL EVALUATION**

# GRADING CRITERIA for THE Personal track 70 POINTS MAX

**DESCRIBE  
THESE  
PARTS OF YOUR  
PROJECT IN  
REPORTS!**

- **INNOVATION:** level of creativity and novelty of the project
- **FUNCTIONALITY:** extent to which the software prototype fulfills its intended purpose
- **USER EXPERIENCE (UX):** Considers the overall user experience provided by the prototype
- **TECHNICAL IMPLEMENTATION:** technical proficiency exhibited in the development of the prototype
- **AI INTEGRATION:** level of successful integration and utilization of AI technologies within the software prototype
- **PRESENTATION AND COMMUNICATION:** clarity, persuasiveness, and professionalism of the team's presentation
- **DOCUMENTATION AND CODE ORGANIZATION:** code clarity and quality, completeness of the documentation, including readme files, code comments, and user guides



**FINAL EVALUATION**





# GRADING CRITERIA 70 POINTS MAX

- **INNOVATION:** level of creativity and novelty
- **FUNCTIONALITY:** extent to which the software prototype fulfills its intended purpose
- **USER EXPERIENCE (UX):** Considers the overall user experience provided by the prototype
- **TECHNICAL IMPLEMENTATION:** technical proficiency exhibited in the development of the prototype
- **AI INTEGRATION:** level of successful integration and utilization of AI technologies within the software prototype
- **TEAMWORK AND COLLABORATION:** level of collaboration, execution on a shared vision
- **PRESENTATION AND COMMUNICATION:** clarity, persuasiveness, and professionalism of the team's presentation



## FINAL EVALUATION



# **BUILDING ON CAPSTONE**

## **PROJECT WAS A SUCCESS?**

- **CONTINUATION – MAKE SURE THAT YOUR PROJECT WILL BE FEASIBLE AFTER CAPSTONE**
- **MENTORSHIP – FIND MENTORS FROM THE FACULTY OR INDUSTRY**
- **LEADERSHIP – BUILD YOUR TEAM FURTHER – RECRUIT MORE ENGINEERS**



**FUTURE PROGRESS**



# **WEEK ONE**

## **WHAT TO DO?**

**INSTRUCTIONS WILL BE PUBLISHED ON THE SHARED BLOG  
EACH TEAM/PERSON SHOULD OPEN THEIR BRANCH  
EVERY WEEK, PUBLISH THEIR PROGRESS IN THE BRANCH  
WE WILL EVALUATE YOUR REPORT AND GIVE FEEDBACK**



**DELIVERABLES FOR THE WEEK ONE**