

The Power of

Data-Driven STEAM Education!

Empowering Future Innovators



End-to-End STEAM Ecosystem

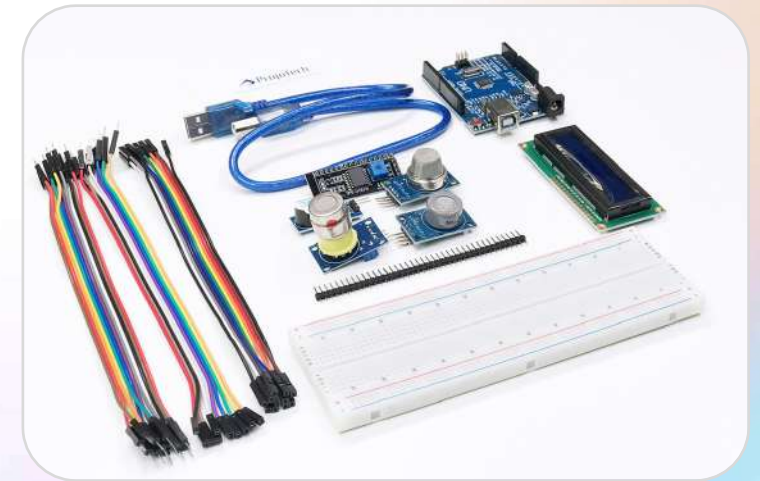
Bridging the gap between students' capabilities and the dynamic workforce demand for skills and applied knowledge.



The Platform



Projects Library



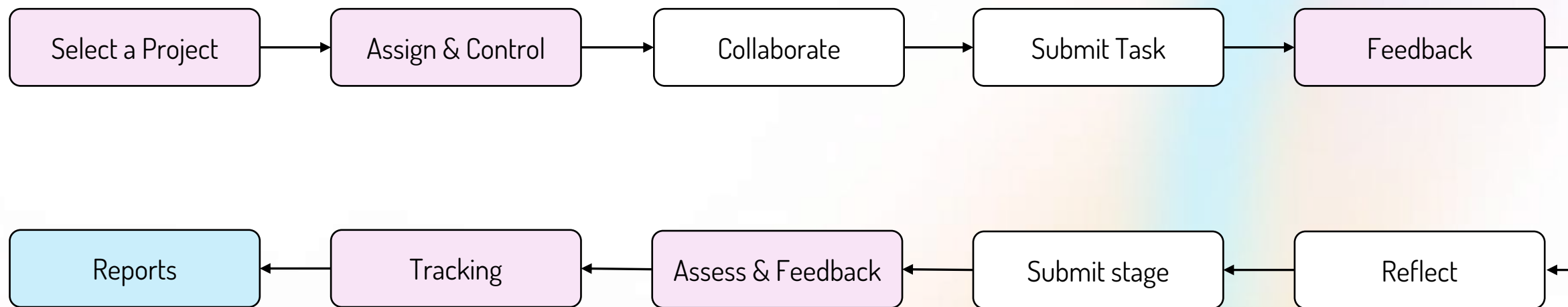
Kits Hub



ProjoTech's Platform

Fostering collaboration and engagement, our platform serves as a workspace for students and educators to interact, share ideas, and collaborate on projects. ProjoTech Platform is an innovative interactive cloud-based app tailored for different school curricula.







ProjoTech's Platform | The Workspace



Air Quality Monitoring Device
Team 1 / 10A

Progress: 95.49%
-4.51%

Opening Problem

Essential Question

Required Resources

Project Outline

Project Products

Research & Discover
Submitted On Time

RICD

Conduct a Research to Understand & Investigate the Problem

4

BES

Investigate the Latest Technologies used in Air Quality Monitoring

5

ANL

Specify Criteria & Constraints for Successful Solutions

4

GRS

Define the Impacts on People, Environment & Society

3

OPT

Prepare Research Report

10

Brainstorm
Submitted On Time

GRS

Prioritize Solution's Specifications

3

GRS

Think about, Imagine, & Sketch Ideas that might solve the problem

2

ANL

Evaluate Generated Ideas based on the Defined Criteria

3

BRS

Discuss Ideas & Choose the best Design

6

Design & Development
Submitted On Time

CTR

Create the Code to read Temperature & Humidity using Arduino

4

CTR

Create the Code to read Methane Concentration using Arduino

4

CTR

Create the Code to read Carbon Dioxide Concentration using Arduino

4

CTR

Create the Code to read Carbon Monoxide using Arduino

4

CTR

Create the Code to read Pollution Level using Arduino

4

CTR

Merge the Codes & Test the Final Code

3

GRS

Design the Enclosure of Air Quality Monitoring Device

3

Prototype
Submitted With Delay

GRS

Build your Prototype Enclosure

4

ADM

Assemble your Prototype

3

ANL

Evaluate your Prototype

3

OPT

Refine your Solution & Iterate

6

Your Product in Action
8/11/2024

GRS

Environmental Testing

2

ANL

Data Analysis

5

FDR

Mentors' Feedback Reflection

3

ANL

Explain how your product solved the problem

5

GRS

Report Whole Project Work

5



Task Progress

100%

Activities

Task Description

Chat

Task Resources (2)

Task Submission

[Submitted Document](#)

Submitted By
Sebastian Pfaf

17/03/2024 - 09:57:13

Standards

Assessment Rubrics

Skills

Conduct a research to understand & investigate the problem

@ Research & Discover in Controlled Hydroponic System

Chat

Science 8 hrs RES

Write a comment ...

Jennifer Brown

09:10 PM 17/03/2024

@Kelvin Hunt

Primary sources offer raw information, or the first-hand evidence compiled by research, whereas secondary sources interpret or analyze the information from primary sources.

Kelvin Hunt

@Jennifer Brown What is the difference between Primary research and Secondary

Ahmed Ibrahim

02/06/2024 - 11:47:21

Task Submission

[Submitted Document](#)

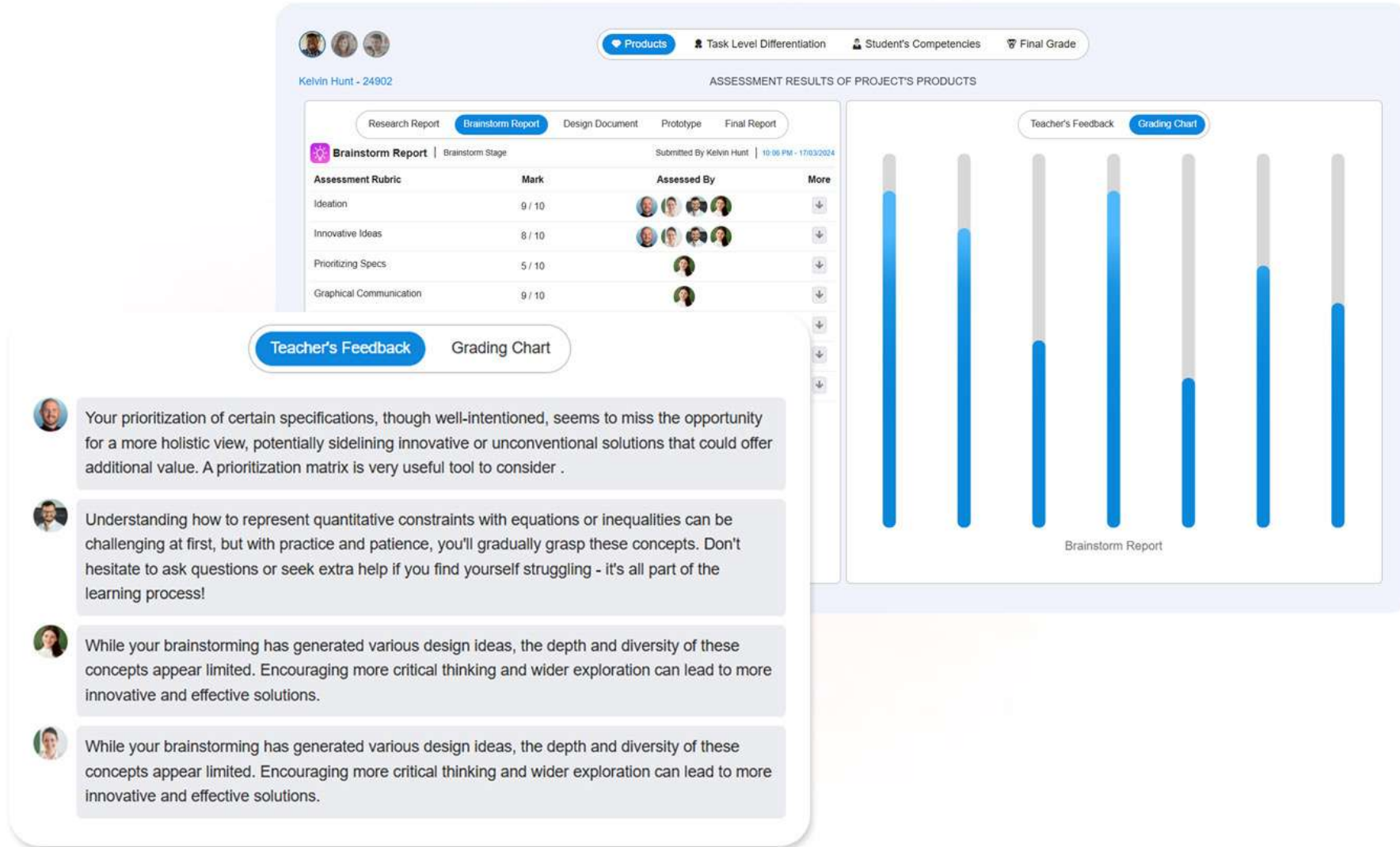
Submitted by
Ahmed Ibrahim

02/06/2024 - 11:47:21

Task Grade

85.5 %

Av. 2.2% ▲





Kelvin Hunt - 24902













SKILLS ACQUISITION INDICATORS

Future Ready Skills

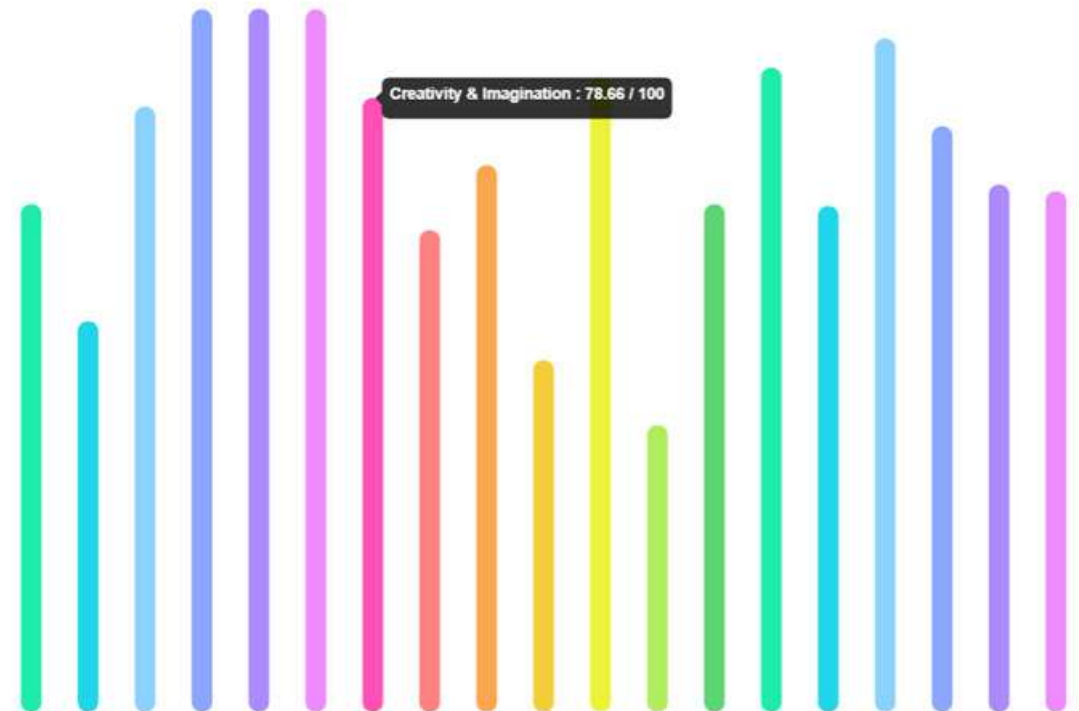


Creativity & Imagination

Students regularly generate original and valuable new ideas, concepts, products, or solutions for authentic problems using a deliberate design process.

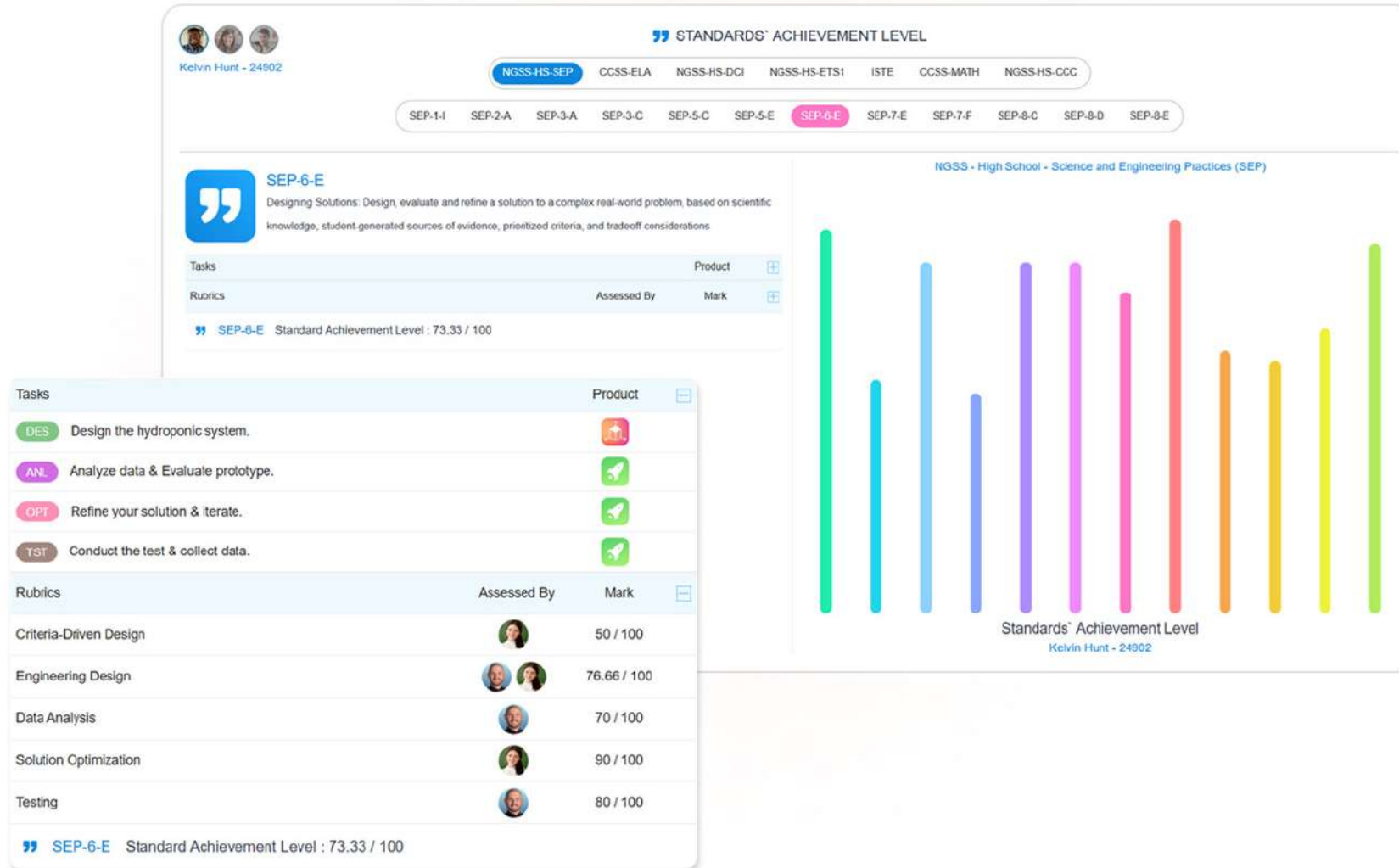
Tasks		Product	
BST	Think about, imagine, & sketch ideas that might...		
DES	Design the hydroponic system.		
REP	Report your work.		
Rubrics		Assessed By	Mark
Graphical Communication			63.33 / 100
Design Documentation			90 / 100
Design Creativity			70 / 100
Ideation		  	90 / 100
Innovative Ideas		  	80 / 100

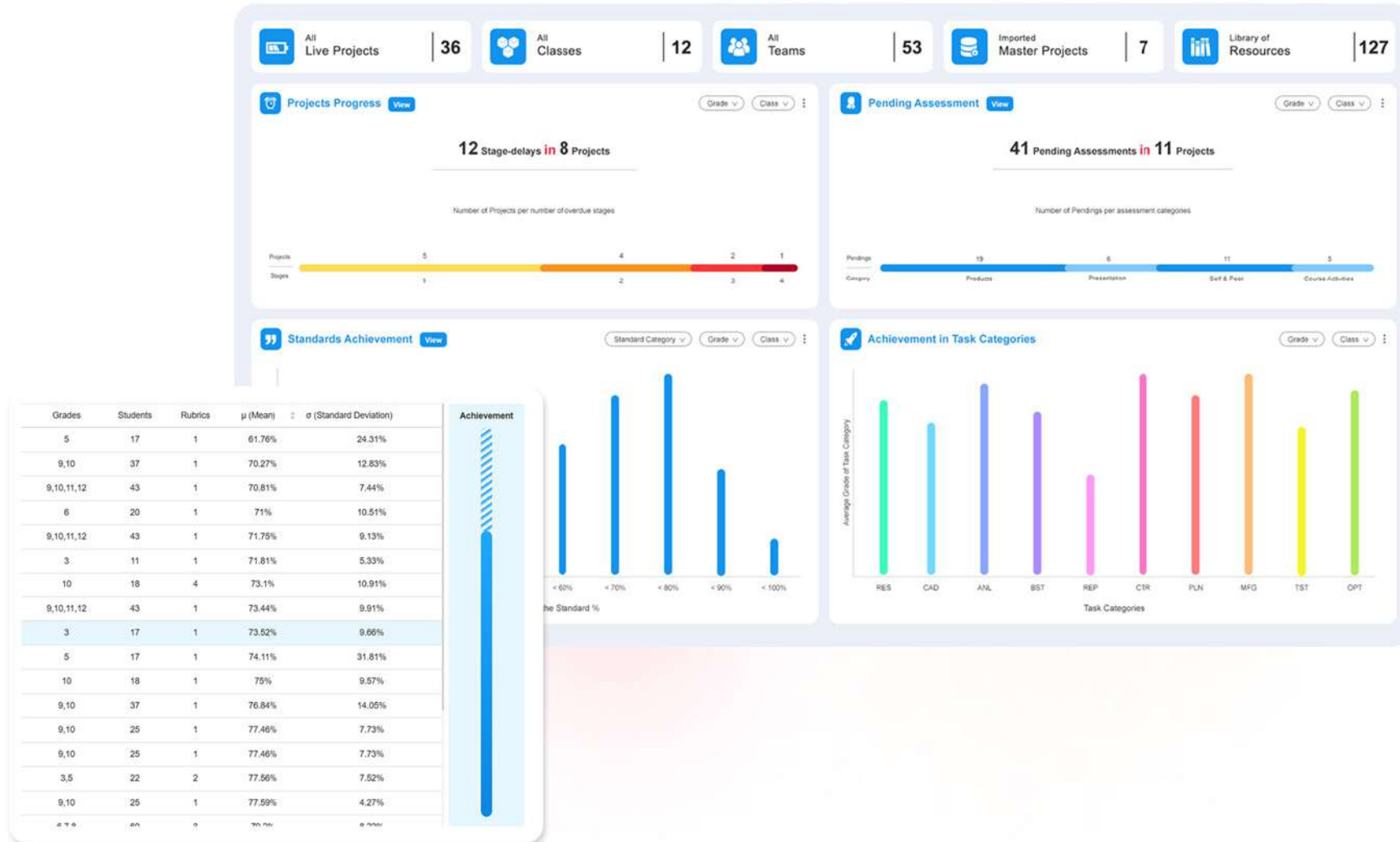
Creativity & Imagination Acquisition Indicator : 78.66 / 100



Skills Acquisition Indicator

Kelvin Hunt - 24902





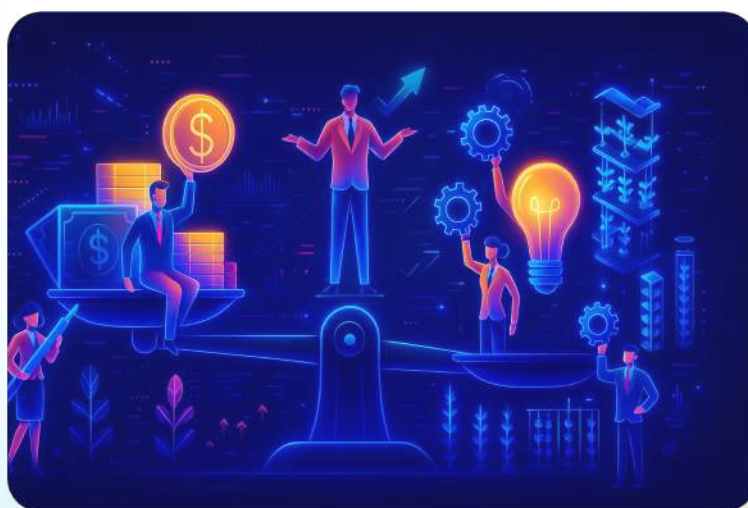
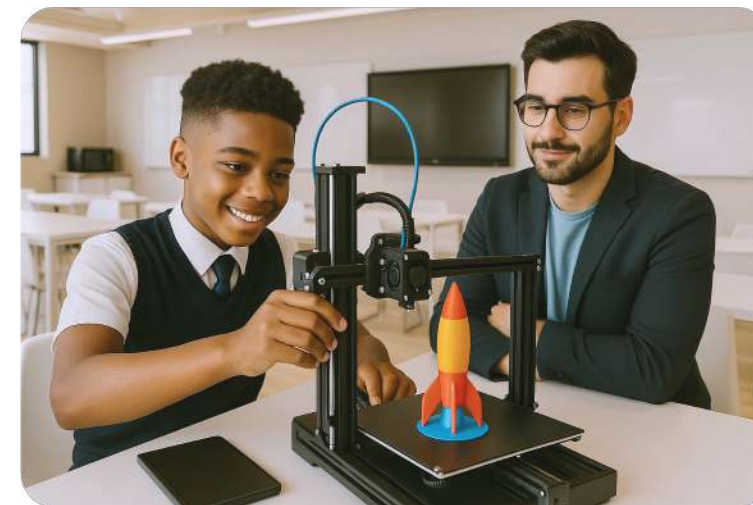


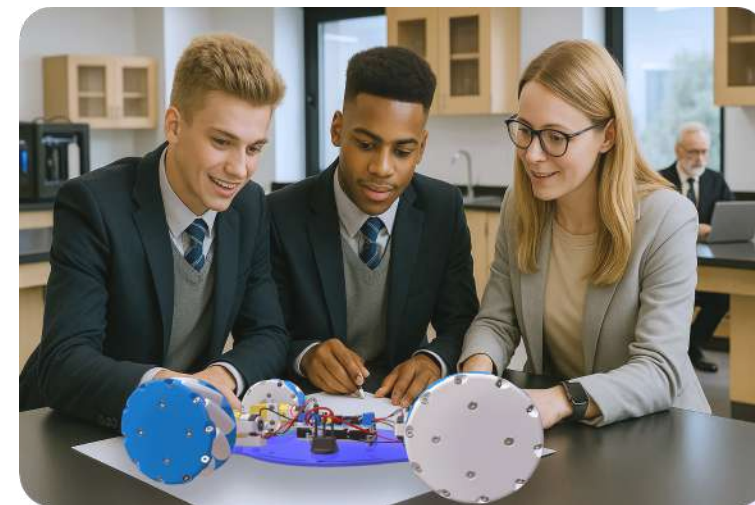
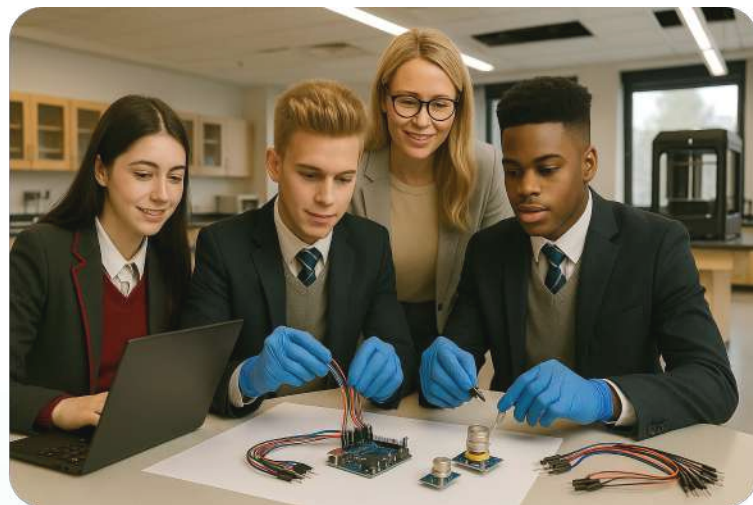
Projects Library

ProjoTech provides an extensive library of STEAM projects meticulously crafted to suit local and global educational contexts. These projects come with auto-constructed plans, clearly defined stages, and associated deliverables.











Kits Hub

STEAM Lab in a Box!

Unlock the future of learning with our STEAM partial hardware kits! Integrating hardware components into various stages of the engineering design cycle, enriching hands-on learning experiences, and bridging theory with practical application..





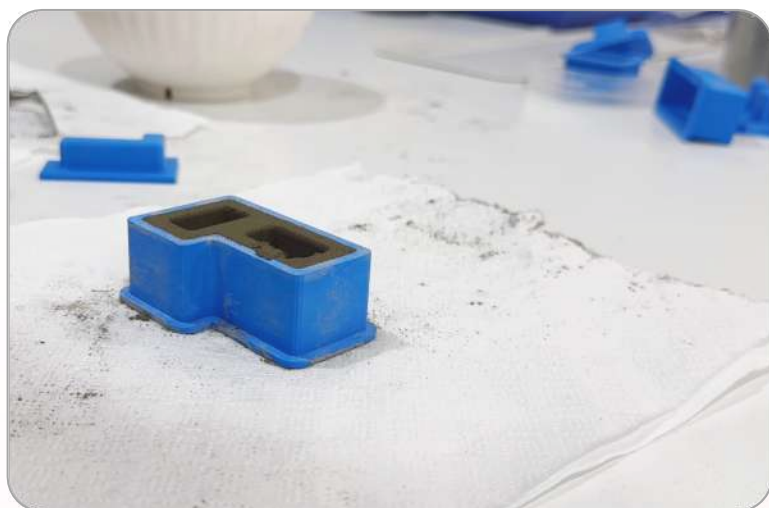
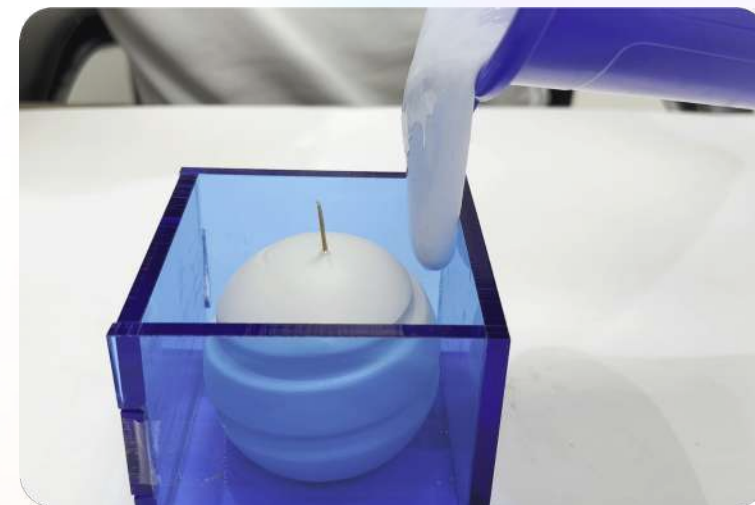
ProjoTech





ProjoTech





ImmersiView

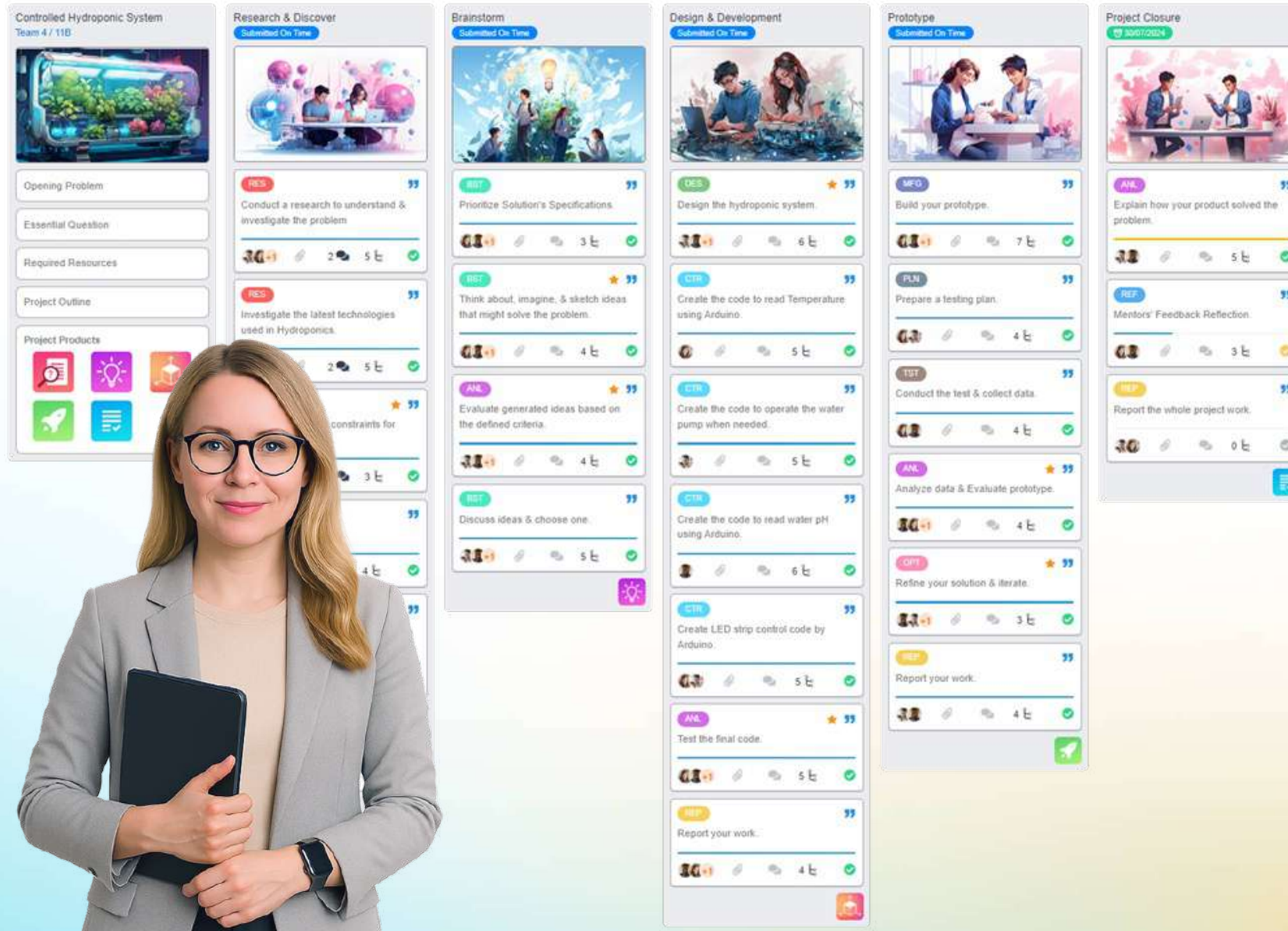
Where Cutting-Edge Technology Transforms Education into Experience





Designed to Empower Teachers

Teachers' Private Copy of Projects



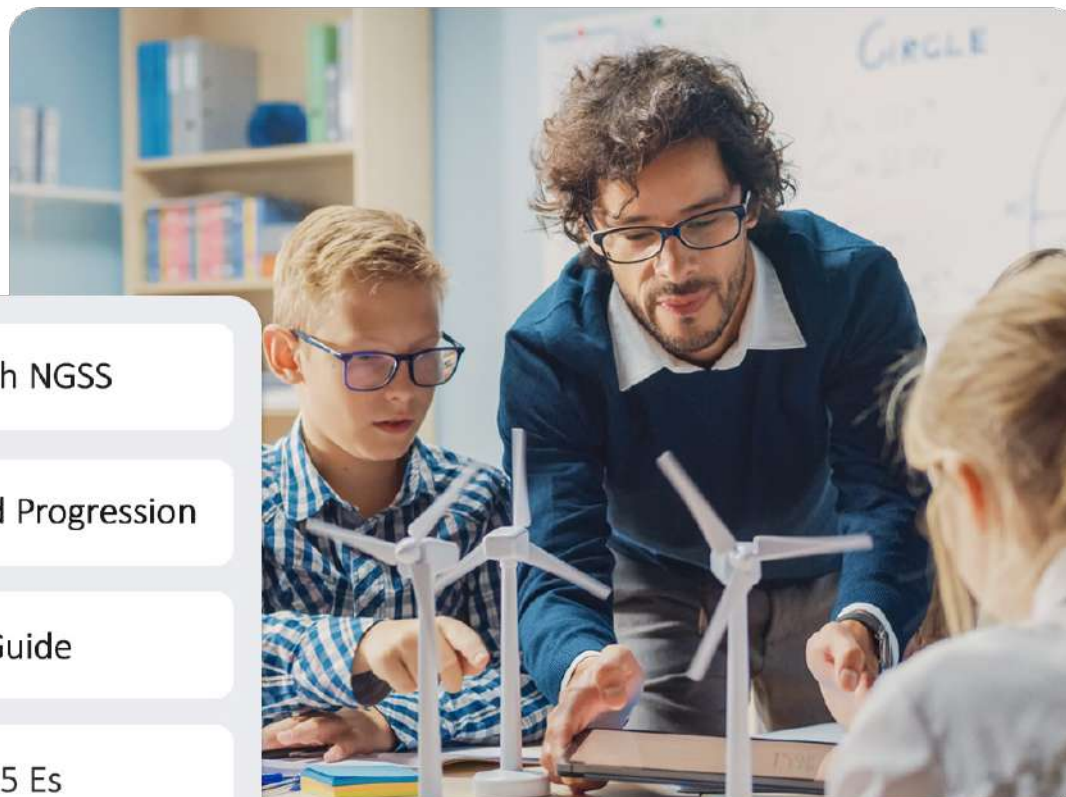
The image displays a digital interface for a project workflow, titled "Controlled Hydroponic System" and "Team 4 / 11B". The interface is organized into several columns, each representing a stage of the project:

- Research & Discover** (Submitted On Time):
 - Opening Problem
 - Essential Question
 - Required Resources
 - Project Outline
 - Project Products
- Brainstorm** (Submitted On Time):
 - RES: Conduct a research to understand & investigate the problem.
 - DES: Design the hydroponic system.
 - CTE: Create the code to read Temperature using Arduino.
 - CTE: Create the code to operate the water pump when needed.
 - CTE: Create the code to read water pH using Arduino.
 - CTE: Create LED strip control code by Arduino.
 - ANA: Test the final code.
 - REP: Report your work.
- Design & Development** (Submitted On Time):
 - DES: Design the hydroponic system.
 - CTE: Create the code to read Temperature using Arduino.
 - CTE: Create the code to operate the water pump when needed.
 - CTE: Create the code to read water pH using Arduino.
 - CTE: Create LED strip control code by Arduino.
 - ANA: Test the final code.
 - REP: Report your work.
- Prototype** (Submitted On Time):
 - MFG: Build your prototype.
 - PLN: Prepare a testing plan.
 - TST: Conduct the test & collect data.
 - ANA: Analyze data & Evaluate prototype.
 - OPT: Refine your solution & iterate.
 - REP: Report your work.
- Project Closure** (Submitted On Time):
 - ANA: Explain how your product solved the problem.
 - REF: Mentors' Feedback Reflection.
 - REP: Report the whole project work.

The interface also includes a sidebar with icons for various project management tools and a bottom navigation bar.

Designed to Empower Teachers

Lesson Plans



Aligned with NGSS



Standardized Progression



Teacher's Guide

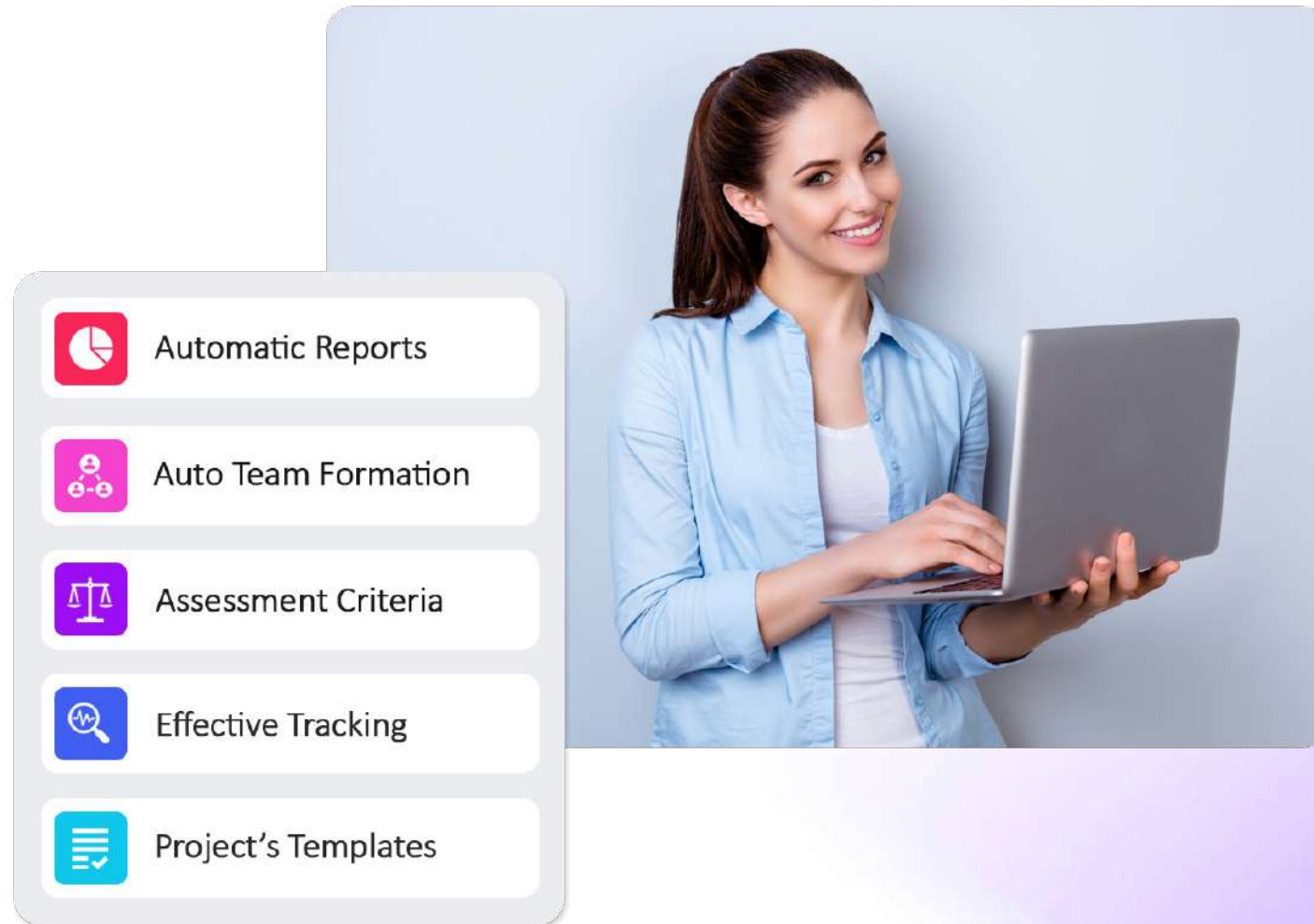


Interactive 5 Es



Extra Resources

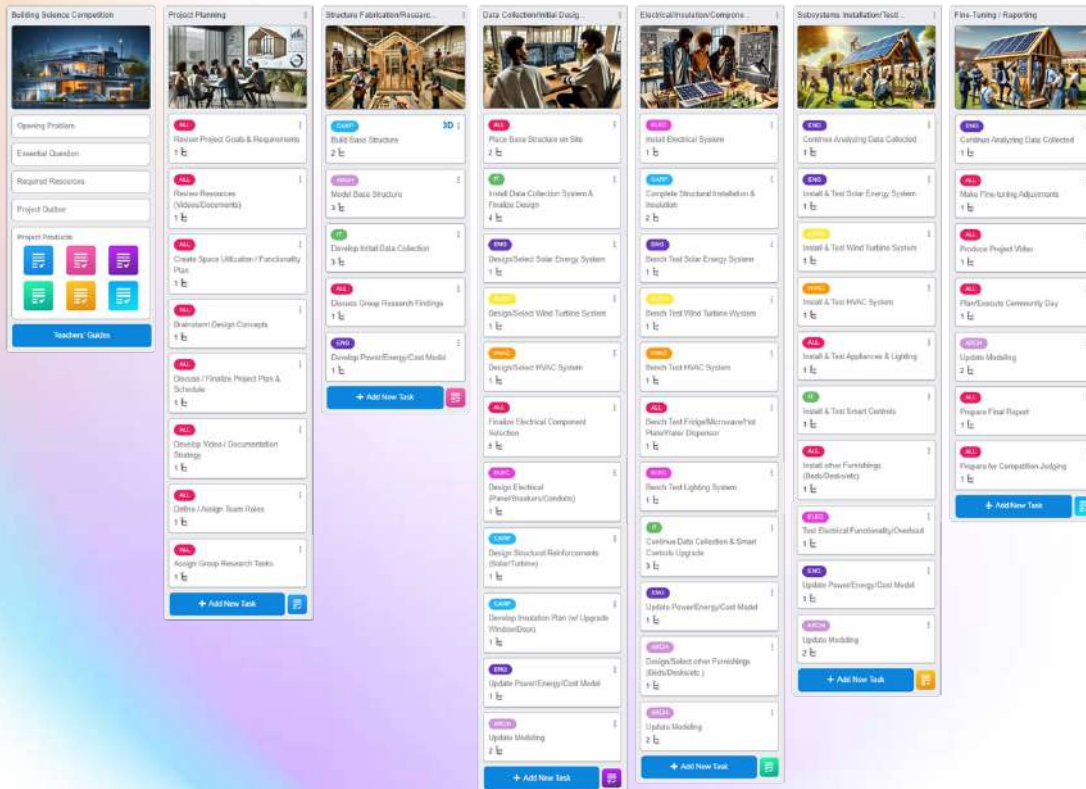
Designed to Empower Teachers
Teachers' Buddy



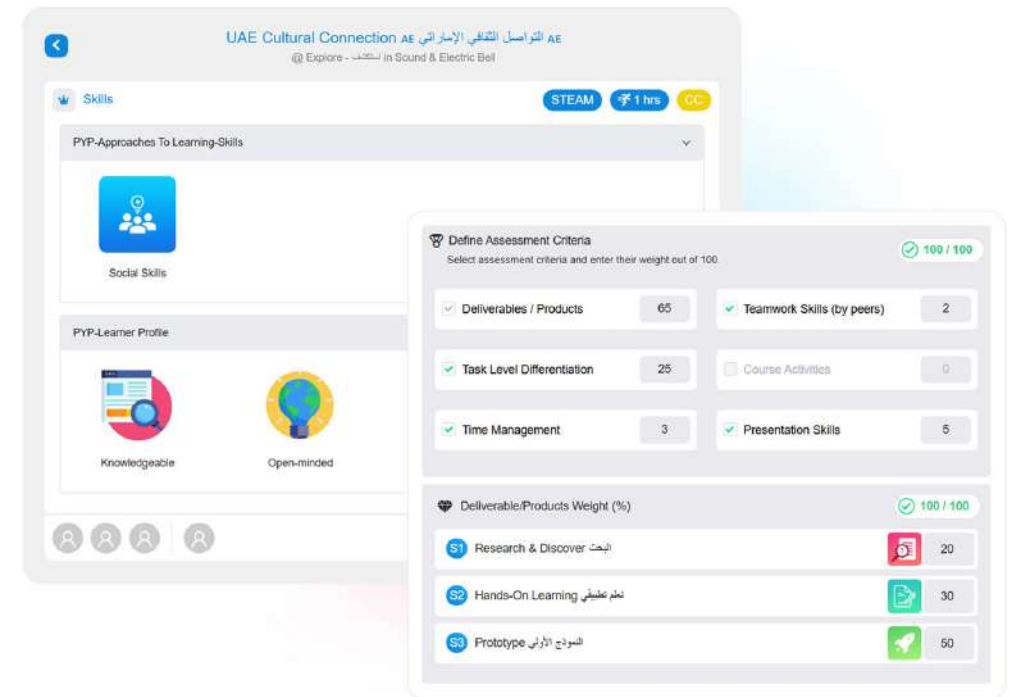
Services

Tailored for Impactful Learning

Customized STEAM Projects



Curriculum Mapping & Customization



Services

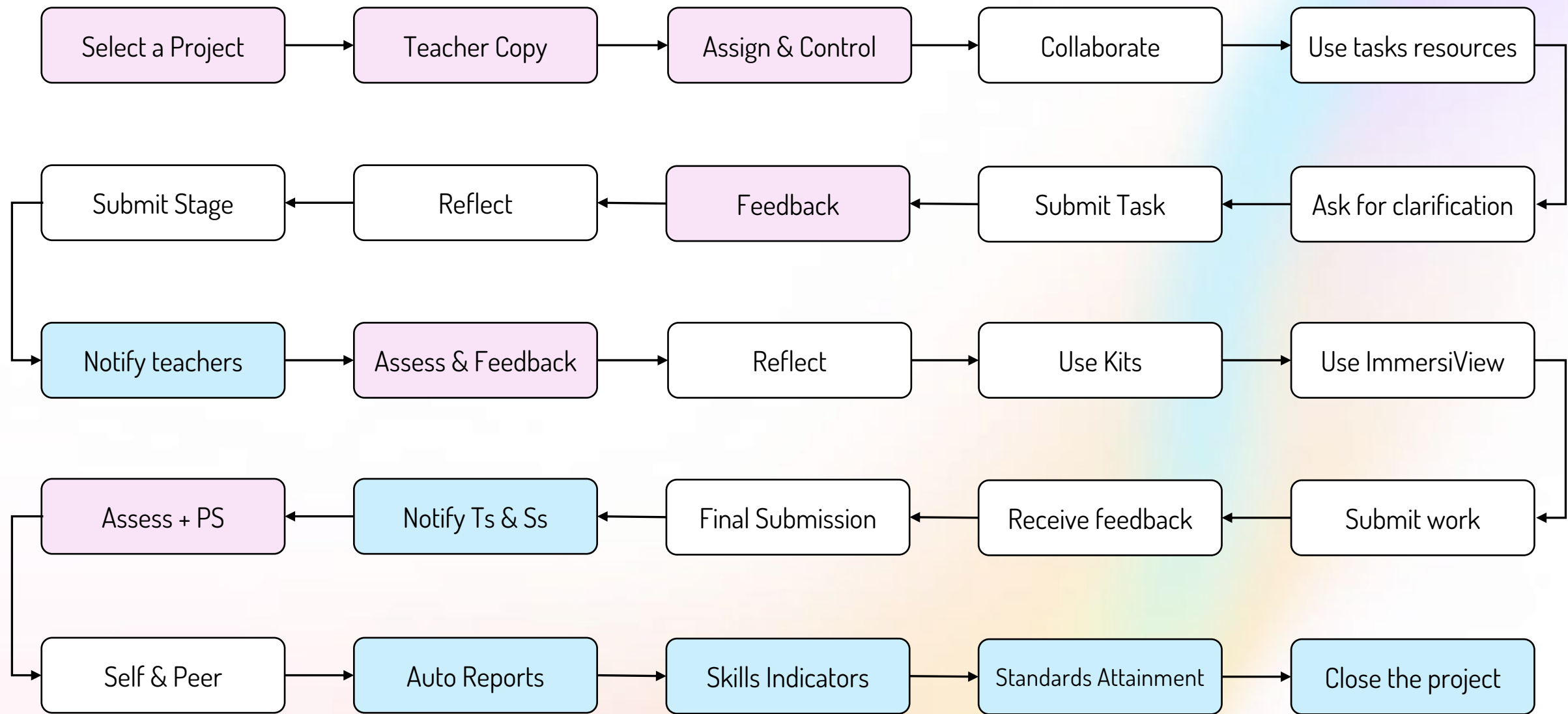
Tailored for Impactful Learning

Career-Based Project Learning



Professional Development for Educators





TRACTION AND VALIDATION

PROVEN IMPACT AND PARTNERSHIPS



Implementations, Pilots, & Traction



جامعة خليفة
Khalifa University

Higher
Colleges of
Technology



كليات
التقنية
العليا



جامعة عجمان
AJMAN UNIVERSITY



جامعة الفيصل
Alfaisal University



جامعة الحسين التقنية
Al Hussein Technical University



McKINLEY
TECHNOLOGY
HIGH SCHOOL

151 T Street NE
Washington, DC 20002

Phone: (202) 281-3950
Fax: (202) 576-6279



Institute of Higher Education
"Louis of Savoy"
Chieti - CH



WHEATON
HIGH SCHOOL



مؤسسة الإمارات
للتعليم المدرسي
EMIRATES SCHOOLS
ESTABLISHMENT



مدرسة خليفة
بن زايد الأول
KHALIFA BIN ZAYED AL AWAL SCHOOL



مدرسة الاتحاد الخاصة
AL ITTIHAD (PVT.) SCHOOL
للمعلم حافظ لذكراه عالمي في التقدير

Competitions & Advanced Programs



UNITED ARAB EMIRATES
ELECTRIC VEHICLE
GRAND PRIX



NASA
HUMAN
EXPLORATION
ROVER CHALLENGE



MUBADALA

DOEE Building Science Program

Washington DC, USA



Curriculum Development: The building science curriculum is designed carefully to balance academic knowledge, hands-on experience, digital literacy, and exposure to the industry. The delivery of the curriculum differs based on the objective of each activity. Learning objectives are delivered through classroom lessons, STEM project-based learning, STEM hands-on activities, field trips, and/or expert talks.



Energy Efficient Buildings and Sustainable Architecture

SUSTAINABLE ARCHITECTURE



Apple Park exemplifies sustainable architecture with its 100% renewable energy system, natural ventilation, and extensive green spaces.

SUSTAINABILITY

Sustainability is based on a simple principle: Everything that we need for our survival and well-being depends, either directly or indirectly, on our natural environment. To pursue sustainability is to create and maintain the conditions under which humans and nature can exist in productive harmony that permit fulfilling the social, economic, environmental and other requirements of present and future generations.

ENERGY SUSTAINABILITY

Efficiency and conservation are essential elements of energy sustainability—the principle that each generation should fulfil its energy needs without hindering future generations' ability to do the same. Sustainability emphasizes long-term energy strategies and policies that secure enough energy for both present and future needs. This approach also involves investing in research and development for advanced technologies in conventional energy production, promoting the adoption of renewable energy sources, and encouraging environmentally responsible policies and practices.

SUSTAINABLE ARCHITECTURE

Sustainable architecture is an evolving approach to building design that aims to minimize environmental impact while enhancing building performance and occupant comfort. It involves designing and creating buildings that use resources efficiently and work harmoniously with the environment throughout their entire lifecycle—from construction and operation to maintenance, renovation, and demolition.

This approach is especially crucial today as we face climate change, resource depletion, and a growing demand for environmentally responsible solutions. Sustainable architecture addresses these challenges by prioritizing energy efficiency, resource conservation, and long-term durability, ultimately promoting a healthier environment and a better quality of life for occupants.



Sustainable architecture contributes to creating eco-friendly urban spaces, reducing the carbon footprint of cities, and enhancing the well-being of their inhabitants.

PRINCIPLES OF SUSTAINABLE ARCHITECTURE

1. **Energy Efficiency:** Reducing energy consumption through design strategies like passive solar design, energy-efficient appliances, advanced insulation materials and renewable energy sources.
2. **Water Efficiency:** Using water-saving fixtures and rainwater harvesting systems to reduce water usage and manage stormwater effectively.
3. **Sustainable Site Planning:** Choosing building locations and landscaping methods that reduce environmental impact, such as minimizing disruption to the ecosystem and promoting biodiversity.
4. **Enhanced Building Designs:** Designing buildings that maximize natural light and ventilation to reduce the need for artificial lighting and air conditioning.
5. **Materials and Resources:** Using sustainable, low-impact materials that are renewable, recycled, or locally sourced to lower the building's carbon footprint.
6. **Indoor Environmental Quality:** Prioritizing air quality, lighting, acoustics, and thermal comfort to create a healthy, productive space for occupants.
7. **Waste Reduction:** Minimizing waste throughout the building's lifecycle, from construction to demolition, through practices like recycling, reusing materials, and designing for durability.
8. **Resilience and Adaptability:** Designing structures that can withstand climate changes, natural disasters, and evolving needs, ensuring long-term sustainability.

Sustainable architecture is not just an option but a necessity in today's construction and design industries. As future architects, engineers, and planners, embracing and advancing sustainable practices will be essential in addressing the complex challenges of our time, including global warming, climate change, resource scarcity, and urban growth.

Energy Efficient Buildings and Sustainable Architecture

WHAT IS BUILDING SCIENCE



Building science is a field of study used by architects and builders to improve how buildings are designed and constructed.

It combines knowledge from **material science** (like understanding properties of brick, wood, and insulation), **thermodynamics** (how heat and pressure work), and **mechanical engineering** (covering airflow and heating systems) to ensure that every part of a building works well together and with the environment.

This science helps create sustainable and energy efficient buildings, making sure they are comfortable, durable, and have good air quality, while also being mindful of their environmental impact.

Building science guides decisions about the materials and construction methods used, aiming to enhance the living conditions inside buildings throughout their lifetime.



Career in Green Buildings

ARCHITECTURAL ENGINEER

Architectural engineers combine practical skills and theoretical knowledge to design efficient buildings and systems. Their goal is to create structures that are sustainable, strong, cost-effective, and ensure the safety, health, comfort, and productivity of the people who use them.



Many believe sustainable architecture is much more expensive than traditional methods. However, while upfront costs can be higher, long-term savings on energy, water, and maintenance often make it more affordable overall.

Check Your Understanding

Multiple Choice Question

Which of the following is a core principle of sustainable architecture?

- a. Increased energy consumption
- b. Enhanced indoor environmental quality
- c. Higher waste production
- d. Using non-renewable resources

True or False

1. Sustainable architecture only focuses on energy efficiency. ____
2. Sustainable architecture aims to reduce a building's environmental impact while improving occupant comfort and well-being. ____
3. Sustainable architecture primarily focuses on the efficient use of resources during the construction phase only. ____

TRACTION AND VALIDATION

PROVEN IMPACT & PARTNERSHIPS

More than 80 Schools (+ 1400 students) around the world
Planning, execution, submissions, feedback, and technical support.



FINANCIAL MODEL

SUSTAINABLE GROWTH THROUGH SUBSCRIPTION

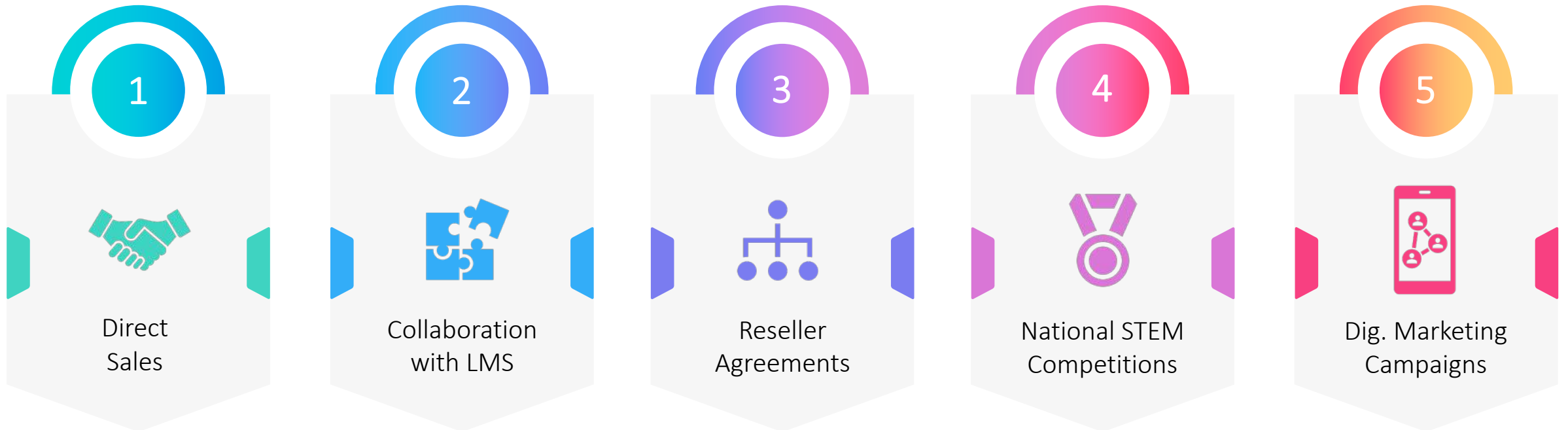


Basic	Standard	Premium
<div>1.6</div> <div>USD / month</div>	<div>4</div> <div>USD / month</div>	<div>8</div> <div>USD / month</div>
<ul style="list-style-type: none">• 3 STEAM Projects per educational stage.• Integrated tool for creating Master Projects• Powerful Differentiation features• Advanced Assessment Engine	<ul style="list-style-type: none">• 6 STEAM Projects per educational stage.• Integrated tool for creating Master Projects• Powerful Differentiation features• Advanced Assessment Engine	<ul style="list-style-type: none">• Full access to the projects Library• Advanced tool for Standards Achievement• Powerful Skills Assessment Engine• Students` Performance Augmentation

Subscription price is for account per month

MARKETING & GROWTH STRATEGY

CUSTOMER ACQUISITION

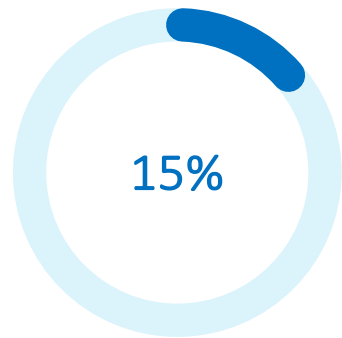


FINANCIAL MODEL

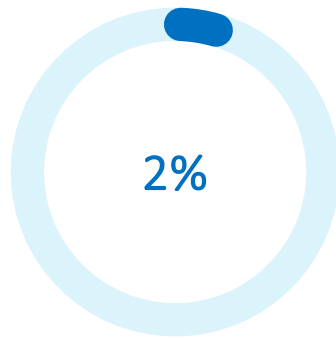
KEY ASSUMPTIONS



Market Share

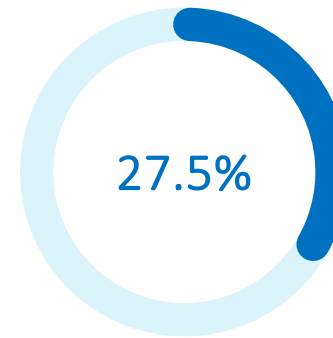


UAE market
within 5 years

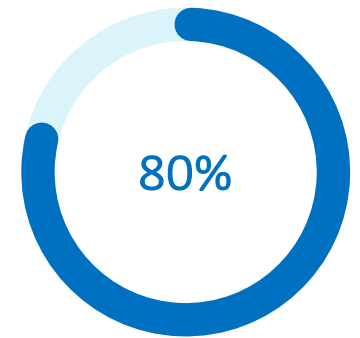


US market
within 5 years

Operation



Resellers'
Commission



Prices Decrease
Over 5 years

FINANCIAL MODEL

GROWTH, CASH FLOW PROJECTIONS



		Y1	Y2	Y3	Y4	Y5
Milestones in the year		Direct Approach in UAE Only	Direct Approach in UAE & Reseller in SA	Direct Approach in UAE & Reseller in SA	Direct Approach in UAE & Reseller in SA & US	Direct Approach in UAE & Reseller in SA & US
Price Reduction Through the years		--	95 %	90 %	85 %	80 %
Market Share in UAE (Direct Approach)		1.3%	4.1%	8.9%	12.45%	14.75%
Market Share (Reseller Approach)		--	1.4%	3.5%	1.16%	2.4%

TOTAL REVENUE (USD)		476,437	1,735,742	4,974,508	14,093,207	23,719,008
TOTAL EXPENSES (USD)		637,138	1,115,692	1,944,509	2,970,784	3,811,942
Seed Fund – Investment Activities (USD)	3,000,000					
NET CASH FLOW (USD)	(3,000,000)	(160,701)	620,050	3,029,999	11,122,423	19,907,065

Expected Return of Investment	12 %
Net Present Value (NPV)	17,871,815
Internal Rate of Return (IRR)	76 %

FINANCIAL PROJECTIONS

SENSITIVITY ANALYSIS



		DEMAND CHANGE (No. Schools)						
		-20.0%	-15.0%	-10.0%	BASE	10.0%	15.0%	20.0%
PRICE CHANGE	70%	7,601,737	8,480,758	9,359,780	11,117,823	12,875,866	13,754,888	14,633,909
	80%	9,419,541	10,406,782	11,394,023	13,368,504	15,342,985	16,330,226	17,317,467
	90%	11,237,346	12,332,806	13,428,265	15,619,185	17,810,104	18,905,564	20,001,024
	BASE	13,055,150	14,258,829	15,462,508	17,869,866	20,277,224	21,480,903	22,684,581
	110%	14,872,955	16,184,853	17,496,751	20,120,547	22,744,343	24,056,241	25,368,139
	120%	16,690,760	18,110,877	19,530,994	22,371,228	25,211,462	26,631,579	28,051,696
	130%	18,508,564	20,036,900	21,565,237	24,621,909	27,678,581	29,206,917	30,735,254

NPV in USD

The Power of
Data-Driven STEAM Education!
Empowering Future Innovators



 **ProjoTech**

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