UICHRUUL RUSSELLE

INSPIRING YOUNG MINDS THROUGH ROBOTICS & STEM

TEAM PROJECT





Key Takeaways

- **Project Objectives and Scope**
- **Analysis Phase Recap**
- **Design Phase Recap**
- **Evaluation Phase Recap**
- **Implementation Phase Recap**
- Working Prototype Demo

PROJECT **OBJECTIUES** . . .

robotics.

- •Promote hands-on learning in robotics, coding, and teamwork.
- Solve local issues through creative activities.
- •Encourage teamwork to solve community challenges.
- Showcase children's ideas to the community.
- •Build an annual event with community partners for children, the same as the Mayor's **Innovation Challenge**

Engage children in STEM and

•Design a website to engage children (9-16) in STEM and robotics.

•Create a platform for registration, updates, and resources for participants, parents, and teachers.

•Provide clear navigation explaining challenge objectives, team formation, and judging criteria.

•Integrate competitor insights to improve user experience.

•Ensure accessibility and simplicity for all users.

•Collaborate with stakeholders to align with educational goals and logistics.







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on	Project	
	Prototype	
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ames	Final	
	Showcase	

AJJALYSIS PHASE RECAP

Secondary Research

Domain Research Competitive Analysis

Stakeholder Interviews

City of Kingston Rep **Challenge Volunteer**





DOMAIN RESEARCH HIGHLIGHTS

- Youth Engagement and **Contextual Learning**
- Mentorship and Role **Models**
- Inclusivity and **Representation Challenges**

Youth Engagement

Focus on interactive and contextual learning to boost youth participation.

https://canada.constructconnect.com/dcn/news/labour/2023/06/students-need-support-from-parents-and-educators-to-pursue-steam-fields https://www.emerald.com/insight/content/doi/10.1108/JRIT-01-2020-0003/full/html

Mentorship

Implement mentorship programs to provide role models and guidance.

Inclusivity

Ensure diverse representation to foster an inclusive environment.



COMPETITIVE AMALYSIS FINDINGS

- Global Innovation Challenge
- Innovate BC
- Youth Innovation Challenge
- RBC Youth Health Innovation
 Challenge
- First LEGO League (FIRST Robotics)
- VEX Robotics Competition

Interactive Workshops

Provides structured learning and engagement opportunities

Gamified Features

Increases motivation and engagement through game-like elements

Unique Differentiators

Highlights sustainability and tiered challenges to stand out

FROM AMBER CITY OF KINGSTON REP

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Challenges Faced with Participation and Awareness

Importance of Structuring the Event

Effective Incentives for Younger Participants

FROM ELISSE CHALLENGE UOLUNTER

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Event Engagement and Fun

Managing Challenges & Logistics

Mentorship and Collaboration

DESIGN PHASE RECAP

Stakeholder Interviews BGC Rep STEM Specialist Head of Challenge Program

Surveys

Low-Fidelity Wireframes



BOYS AND GIRLS CLUB

Challenge Focus

- Make the focus broader.
- Move away from Robotics as a central theme.
- Participants could still use robotics as part of their pitch.

Age Range

- 9-16 is a very wide age range.
- Grade 7 and 8 would be a more appropriate age group to launch the challenge with.



Date Selection

- Launch the challenge around April and have it run up until end of May.
- Include workshops and training for students.

PAUL ALISON LDSB STEM CONSULTANT

Align the theme of the challenge with the student's curiculum

Sustainable homes and communities would be a great central theme

Include tech elements like 3D printing to draw students into participating in such a challenge.



DAUN WILLIAMS HEAD OF CALVIN PARK CHALLENGE PROGRAM

Challenge Focus

- Include basic STEM concepts such as hydraulics, levers, force, etc.
- Teams could also be given the option to "shop" for resources, tying in a budgeting element to the challenege as well.

Incentives

- Monetary Prizes!
- Gift cards to Video Game stores
- STEM Camps for free
- Chance to showcase their pitch on the day of the Mayor's Innovation Challenge.



Event Structure

- Workshops will be important to help students.
- Show examples of the final product during workshops to motivate students further.
- Tiered approach towards building their solution.

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SURUE75





SURVEY FOR TEACHERS/ PARENTS

No. of Respondents: 10

Teachers: 4 Parent/Guardian : 6

Gathered Insights On:

- STEM Familiarity
- Interest Areas
- Support Needs

10% Not Familiar

30% Somewhat Familiar

Familiarity with STEM Concepts Among Children/Students



SURVEY FOR TEACHERS/ PARENTS

Gathered Insights On:

- Encouragement Factors
- Participation Barriers
- Event Timing

Prizes and Rewards Offering tangible incentives can boost participation by appealing to students' desire for rewards.



Encouragement Factors



Public Recognition

Acknowledging participants publicly can enhance motivation through social validation.

Learning Opportunities Providing skill development can attract those interested in personal growth and learning.



SURVEY FOR KIDS

No. of Respondents: 22

Gathered Insights On:

- Teamwork
- Activity Preferences
- Building Interest

*the survey was distributed by the teacher circumnavigating us intercating with a vulnerable participant group





Students' Enjoyment of Teamwork

SURVEY FOR KIDS

Gathered Insights On:

- Challenge Level
- Motivators
- Robotics Theme



What robotics activity should be prioritized for the event?

Build a Robot

Most popular choice with 77.3% student preference



Control in Challenge

Highly preferred with 68.2% interest



Design Appearance

Moderately popular with 50% interest



Code/Program

Less popular with 36.4% interest



EUALUATION PHASE RECAP

Low-Fidelity Wireframes based on insights

Feedback Sessions





LOW FIDELITY WIREFRAMES







Sign up Log in **Register now** Search View more \heartsuit See Educational Resources

Quick links to different aspects of the event

Section dedicated to upcoming events, workshops, etc.





Get Involved

Join the **Jr. Innovation Challenge** and make a difference! By volunteering, you can *inspire* young minds and help shape the future. Your contribution is **invaluable** and will have a *lasting impact* on the community. Be a part of something **extraordinary** today!

Volunteer Roles Available

Event Organizer

Coordinate and manage event logistics for Jr. Innovation Challenge.

Skills: Leadership, Communication

Apply

Social Media Manager

Manage social media channels to promote the challenge.

Skills: Social Media, Creativity

Apply

UOLUIITER Page

Clear call-toaction button to get participation

Section dedicated to different roles available



Join Us



Guide young participants through their innovation projects.

Skills: Mentoring, Technical Knowledge

Apply

Logistics Coordinator

Oversee logistics and ensure supplies are ready for the event.

Skills: Organization, Time Management

Apply



WIREFRAME CRITIQUES







FEEDBACK SESSION WITH AMBER CITY OF KINGSTON REP

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Clarity and Simplicity Across Pages

Engagement and Visual Appeal

Clear Calls-to-Action (CTAs) and Benefits



<u>PROTOTYPE</u>



LANDING PAGE





Involved

LANDING PAGE



Testimonials



Sponsors

₩ Jr. Innovation Challenge







View more





Mentors' Experiences



Volunteer Feedback

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REGISTRATION PAGE

Participants can register with their teammates names

Jr. Innovation Challenge 4 Home Activity Registration Dashboard

Register now to gain access to personalized dashboards, collaborative group spaces, and exclusive event resources to elevate your challenge experience.

S Full Name

Email Address

Password

I agree to the terms and conditions

Register Now



Add Team members name here

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ACTIVITY PAGE



Basic information about the Challenge.



Robotics 101

Learn More

building.

Challenge

Learn More

Engineering Basics

Learn engineering principles through creative model

Camp Curriculums for students & parents

Explore the basics of robotics with hands-on activities.



Coding Camp Introduction to coding with fun interactive exercises

earn More





Chemistry Fun Discover the wonders of chemistry with simple experiments.







Save Your Spot!

Join the Jr. Innovation Challenge and unleash your creativity. Secure your place today!

Register

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Quick links to workshops and training sessions

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Skills: Social Media, Creativity

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VOLUJUTEER Page

Clear CTA buttons

Easy access to apply for various volunteering roles



Registration Dashboard Volunteering

Resources





Volunteer Roles Available



Mentor

Guide young participants through their innovation projects.

Skills: Mentoring, Technical Knowledge





Logistics Coordinator

Oversee logistics and ensure supplies are ready for the event.

Skills: Organization, Time Management





WORKSHOPS TRAILING PAGE

Place to feature new and upcoming workshops for participants

Jr.	Innovation Challenge

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JR. INNOVATION CHALLENGE

Upcoming Workshops

Unleash Your Creativity

Join our exclusive workshop to develop innovative skills and unleash your potential. Sign up now to secure your spot and be part of the Jr. Innovation Challenge.

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Volunteering

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Basic contact information

Space to contact with a detailed message

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Contact Information

✤ +1-800-555-0199 Contact@jrichallenge.org

Location and Hours

- 123 Innovation Drive, Tech City
- Mon-Fri: 9 AM 5 PM

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KEY TAKEAWAYS

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The focus of the challenge should be broader and not centered around robotics

Teamwork and monetary prizes are some of the main incentives for students Importance of workshops and training

The age range should be shortened to Grade 7 and Grade 8 students

NEXT STEPS

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Decide on a central theme for the challenge

Build a website

Finalize the time period for the challenge

Recruit volunteers for the challenge

