University of Auckland | SDG Competition:
Improve Digital Literacy in Underserved Areas

Mission ConnectED:
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Executive Summary:

Mission ConnectED is a targeted initiative aimed at bridging the digital literacy gap in underserved communities through **Digital Literacy Kits**—portable affordable toolkits that combine practical digital resources with structured, equipped training materials. Each DLK provides students with hands-on exposure to digital skills essential for modern educational and professional arenas, focusing on adaptable solutions suitable for areas with limited access to electricity and the internet.

The kits contain a basic tablet preloaded with offline digital learning applications, an illustrated guidebook to facilitate independent learning and access to a local mentorship network that provides periodic in-person support. Unlike traditional computer-based programs that depend on constant connectivity and access to infrastructure, *Mission ConnectED*'s kits empower students to build digital confidence at their own pace, overcoming common barriers like device scarcity and internet dependency.

Furthermore, large-scale feasibility is enhanced as the preloaded tablets enable a unique solar-powered charging capability - which significantly and systematically reduces the energy input requirements for an ambitious, cross-communal initiative like ours. It is also imperative to note that community member volunteers–tech-savvy children, teachers, parents, etc.–will be recruited and present in order to assist with trouble-shooting enquiries, and any other issue to that extent. Additionally, they will also conduct monthly check-ins at each school.

Mission ConnectED's model is cost-effective, adaptable, and scalable, offering a practical route to digital literacy that can be easily expanded to reach more communities. Through the combined efforts of local educators, mentors, and our team, we aim to deliver a lasting impact that equips students with lifelong skills for a digitally connected world.

Problem

Digital illiteracy remains a pressing issue in underserved communities globally, creating barriers to educational achievements and limiting future job prospects for students. Research indicates that these communities face a multitude of obstacles:

1. **Scarcity of Devices and Connectivity**: Most students lack personal digital devices and access to reliable internet, leaving them without opportunities to engage with technology at school or home. Public facilities like libraries or community centres often lack the resources to provide widespread access.
2. **Lack of Structured Digital Training**: Even when devices are available, underserved communities often lack structured programs that teach essential digital skills, such as navigating a plethora of online resources, and understanding online safety protocols.
3. **Intimidation and Knowledge Gaps**: Many students in these communities experience intimidation or frustration with digital tools, which often leads to disengagement and prevents them from acquiring crucial skills needed in the digital economy.

These gaps perpetuate cycles of educational disadvantage, hindering students from genuinely accessing their potential and contributing to community development. *Mission ConnectED***'s DLKs** offer a feasible, scalable solution that directly addresses these core challenges.

Solution

Mission ConnectED's **Digital Literacy Kits** are designed to meet the specific challenges of underserved communities by providing students with a flexible, guided approach to digital learning that doesn't rely on extensive infrastructure. Here's a detailed look at the components and feasibility of our proposed solution:

1. **Digital Literacy Kit Components**:
   - **Basic Tablet**: Each kit includes a low-cost tablet - costing $100 - preloaded with offline applications covering essential digital skills such as internet basics, email setup, word processing, and safe online practices. These apps work offline, so students can learn without an internet connection.
   - **Illustrated Guidebook**: A printed manual with step-by-step instructions and illustrations covers basic digital skills and common technology tasks. The guidebook will be designed for beginners and includes clear, language-appropriate instructions that allow students to learn independently.
   - **Local Mentorship Network**: *Mission ConnectED* will recruit and train local volunteers, including teachers, community leaders, and tech-savvy students, to provide periodic support and troubleshooting for kit recipients. Mentors will meet with students monthly to address questions and reinforce key digital literacy concepts.
2. **Adaptability and Feasibility**:
   - **Low Power Requirement**: The tablets selected for this mission are energy-efficient, require minimal charging, and can be powered by compact, affordable solar chargers if electricity is limited.

- ○ **Preloaded Offline Content**: By preloading each device with a curated set of apps and tutorials, students can engage with the content regardless of internet availability. This independence from connectivity is key to feasibility in infrastructure-limited areas.
  - ○ **Scalability and Local Empowerment**: The kits are designed to be replicated easily with basic resources. The use of local mentors not only fosters community involvement but also reduces reliance on external trainers, making the model scalable and sustainable.

By combining these elements, *Mission ConnectED's* DLKs offer an effective solution that is both sensitive to the unique challenges of underserved communities and adaptable to various levels of infrastructure and connectivity.

Execution Plan

Phase 1 – Launch and Community Engagement (Month 1):

- **Partnerships**: Locate two partner schools in the areas to receive the kits, with selection based on need and engagement.
- **Kit Distribution**: Distribute the first set of kits, focusing on those that need it the most.
- **Introductory Workshop**: Host an introductory workshop in each school to introduce the kits and provide a brief overview of how to use them. This workshop will also include a digital pre-test to evaluate the student's starting skill levels.

Phase 2 – Self-Driven Learning and Mentorship (Months 2-4):

- **Independent Study**: Students will begin independent study with the DLKs, progressing through the guidebook at their own pace.
- **Monthly Check-Ins and Mentorship**: Local mentors will conduct monthly check-ins at each school, where they will monitor student progress, offer guidance, and address any challenges.
- **Weekly Digital Literacy Challenges**: To promote regular use, students will participate in weekly "challenges," which are simple tasks or tests designed to apply what they've learned, such as composing an email.

Phase 3 – Evaluation and Refinement (Months 5-6):

- **Post-Program Assessment**: Evaluate the student's progress and the kit's effectiveness after the program by conducting a post-program digital literacy test.
- **Feedback**: Gather feedback from students, teachers, and mentors to identify areas for improvement in the kit's content or mentorship structure.
- **Report and Future Planning**: Document the impact of the program, including quantitative improvements in digital skills and qualitative feedback from the community. Refine the kit contents, mentorship structure, or curriculum based on results.

Budget

With a budget of $3000, *Mission ConnectED*'s DLKs are designed for maximum impact within minimal costs. Here's the budget breakdown:

Item	Quantity	Cost (USD)
Basic Tablets (Preloaded)	20 Units	$2000
Illustrated Guidebooks	20 Units	$200
Solar Chargers	2 Units	$200
Volunteer Training & Stipends	N/A	$300
Support Materials (Miscellaneous)	N/A	$300
Total	-	$3000

This budget focuses on essential resources, allowing for low-cost, yet high-impact DLKs. The use of solar chargers ensures functionality in areas without reliable electricity, while volunteer support minimizes long-term costs.

Impact Measurement

To measure *Mission ConnectED*'s success, we will track the following:

1. **Digital Literacy Improvement**: Using pre and post-tests, we will evaluate skill progress in areas like navigation, communication, and basic computing.
2. **Engagement**: Monitor tablet use and completion of digital challenges to assess student engagement and kit effectiveness.
3. **Mentor and Teacher Feedback**: Collect qualitative feedback on student progress, challenges, and engagement from mentors and teachers to continually improve the program.
4. **Community Impact**: Examine the program's wider impact, including changes in students' confidence with digital tools, their ability to use online resources, and increased school participation.

Conclusion

Mission ConnectED's **Digital Literacy Kits** provide a practical, low-cost solution to a global problem. By supplying underserved students with preloaded tablets, guidebooks, and mentorship support, this program makes digital literacy accessible without any heavy demands. Our portable, scalable model enables communities to expand digital literacy sustainably, enabling individual and community empowerment. *Mission ConnectED* presents a pathway to equitable and equal education, giving students in underserved areas the digital skills they need to thrive in today's increasingly connected world.