
WHITEHAT JR

The 4th “R”

Update | August 2018

-- STRICTLY CONFIDENTIAL --

PURPOSE

IMMERSE KIDS IN THE “4TH R”
IN EARLY CHILDHOOD (4-10 YEARS¹)



3R's: **R**eading, w**R**iting, a**R**ithmetic

+

4th R: algo**R**ithmic thinking

(coding: logic, structure, sequence → creative expression)

Teaching a generation to CREATE vs. CONSUME¹

PROBLEM

Parents have a strong, latent desire for their kids to master computers at the earliest¹ in the computer age

HOWEVER, EARLY-CHILDHOOD (5-10 YEARS OLD) COMPUTATIONAL THINKING/ COMPUTER RESOURCES ARE NON-EXISTENT OR COMPLETELY FRAGMENTED

Current coding resources for kids less than 10 years old



SCHOOLS

- ✗ <10% of US/India Schools have structured computer courses in early childhood
- ✗ Structured courses focused on computer literacy vs. computational Thinking



LOCAL CODING CLASSES

- ✗ Physical limitations²
- ✗ No standard curriculum
- ✗ Expensive

VIRTUAL CODING CLASSES

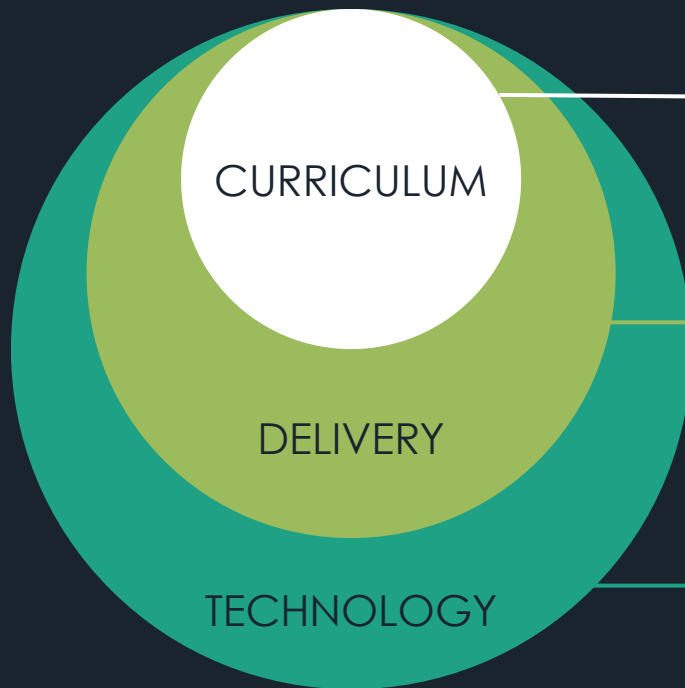
- ✗ Very low student engagement³
- ✗ Complex for parents to follow
- ✗ No H2H element - critical for early childhood development

+ STRUCTURAL LONG-TERM ECOSYSTEM PROBLEM: INABILITY TO SYSTEMIZE ABSTRACT THINKING/ CREATIVE EXPRESSION RESULTING IN SIGNIFICANT KIDS CREATIVITY DECLINE FROM 5+⁴

SOLUTION: LIVE ONLINE for COMPUTATIONAL THINKING

FIRST H2H TECHNOLOGY PLATFORM CONNECTING 5-10 YEAR OLD KIDS TO QUALIFIED TUTORS
WITH STANDARDIZED COMPUTATIONAL THINKING CURRICULUM

Innovation in every layer of product ecosystem



DESIGNED BY EARLY CHILDHOOD CODING EXPERTS

- Curriculum based on Creative Computational Thinking Curriculum. Focus on algorithmic thinking + creative expression.
- Created by IIT/IIM Computer Science experts.



DELIVERED BY VETTED KIDS-ENGAGEMENT EXPERTS

- Top 10% of STEM & English Fluent Early Childhood Teachers
- Vetted by rigorous 3 step selection process-a) Interview b) Training b) Demo

EXECUTED BY H2H PERSONALIZED TECHNOLOGY

- Mobile/ Desktop/ Tablet-enabled Real Time Video Stream
- Split Screen with Whiteboard/Coding App
- Uploading/Downloading provision for review and assessment

STANDARD USE CASE



Demand Side (parents)

- Searches for tutors
- Books a slot
- Reviews tutors at end of class

Avg. US price: \$21 per class
Avg. INR: Rs. 500 per class



WhiteHat Jr Platform

- Creates Curriculum.
- Qualifies Top 10% tutors via interview and demo class and “Trains the Trainer”.
- H2H technology connects students to tutors



Supply Side (Tutors)

- Qualifies
- Uploads schedule
- Student assessment after class

Avg. US pay: \$14 per class
Avg. INR: Rs 350 per class

WHY NOW?

STRUCTURAL CULTURAL TRANSFORMATIONS CAUSING UNPRECEDENTED DEMAND SURGE; MASSIVELY UNDER-UTILIZED SUPPLY SIDE CAN BE TAPPED WITH TECHNOLOGY

Demand Surge (parents)

- Curriculum: Unprecedented parental coding interest
 - Gallup 2015: 90% of parents want kids to learn coding
 - Surge in offline coding tuition start-ups in 2017/18 (limited by scale) - 24 Countries (Lego Research). India: 10+.
 - 2m+ downloads of top early childhood coding apps.

Under-utilized Supply (qualified K5 STEM tutors with low wages)

- Wide disparity in Teacher Income within India & US allowing significant pool of STEM qualified, low-income teachers.
 - India Teacher Income in Non-metro (\$2.2/hr) 50% < than metro.
 - US Teacher Income (25% below average: <\$24/hr) in high school density markets: South Dakota, Mississippi, Oklahoma, etc.
- Additional India Significant Supply Pool: Under-employed STEM College Grads, IT Moms (3MM+)
- Low Teacher wages in English-fluent, Top STEM Markets
 - Teacher Salary (<\$10/HR): Romania, South Africa, Malaysia.

CURRICULUM PACKAGING/PRICING

Level	Typical Age Group	Concepts	Tangible Kid Creative Outcomes
Beginner	5-6years	Commands, Loops, Conditions	Board Game, Pictures
Intermediate	7-8 years	Algorithms, Pattern Recognition, Abstraction	Characters, Animation
Advanced	9-11 years	Variables, Events, UI Design	Games, App



Per Level	Coding Package	
Class duration	21 mins/class	
Total classes	50	
Structure	2 classes/week for 6 months	
Student Price per class ¹	INDIA Rs. 500	US \$21
Teacher Cost per class ¹	Rs. 350	\$14
(Per Hour)	(Rs 700)	(\$28)
Gross Margin	30%	33%

(1) Prices pegged based on competitive analyses: Student pricing in line with alternatives; Teacher pay 40% higher than alternatives.

Management Team



Karan Bajaj
(CEO, Founder)

- Discovery India CEO, bestselling novelist
- 15-years P&L/ operational experience across India & US: P&G, BCG, Kraft-Mondelez, Discovery.
- Selected Top 40 Under 40 (Fortune US; Ad Age US); Top 35 Under 35 (India Today).
- #1 Bestselling Novelist
- Education: BIT, IIM



Anurag Shukla
(VP, Engineering)

- Lead Technology Team at various startups and created scalable systems.
- 10+ Years Technology Experience
- System Architecture and Product User Flows
- Built more than 100 websites and apps
- Hacking since age 7. Won National Level Hackathons

Curriculum Team: Computer Science + Early Childhood Experts

- Josna Vaz (Mobile): B Sc. Computer; American School of Bombay Tech Integrator.
- Gauri Parulkar(Beginner): Computer Engineer; Founder, Kids Science Quotient
- Dr Farida Umrani (Intermediate): IIT Computer Research Scientist; K8 Computer Curriculum Expert.
- Abhijeet Gawande(Advanced): Engineer; K12 Robotics/ML Expert

MARKET SIZING: Immediate \$3 Billion+ Market

Global Roll-out: India/US/UK/China

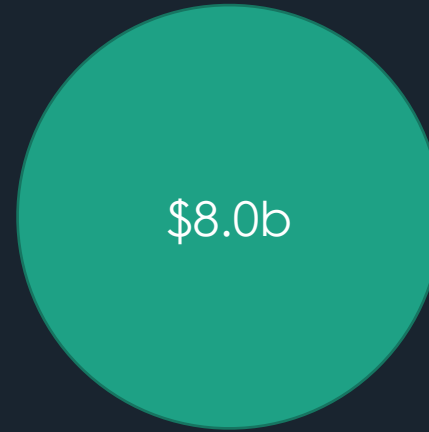


TAM

(Total Available Market)

- Markets: US, UK, China, India
- Target Audience: 4-10 Year Olds; Top 15% India/China, Top 30% US/UK.

India/US: Mobile Solution



SAM

(Serviceable Available Market)

- Markets: US, India
- Target Audience: 4-10 Year Olds; Top 15% India, Top 30% US.

India/US: Laptop,
Desktop , Tablet Solution



SOM

(Serviceable Obtainable Market)

- Markets: US, India; Metro Cities Only
- Target Audience: 4-10 Year Olds; Top 5% Households in India; Top 15% in the US.

(1) Assumes 45% Churn Rate from Classes; 30-40% lower pricing for Middle Market Solution; 50% Addressability from city targeting

NEXT STEPS



TIMING

OBJECTIVE

BUSINESS
KPIs

PRODUCT
ROADMAP

FUNDING

Phase 1: Prototype Test

Jun 1-June 30 2018

Product Market Fit Gut-Check

- Reach: 91 Students
 - Paid Conversion: 57%
 - Qualitative: Excellent
- ALL KPIs EXCEEDED SIGNIFICANTLY

- External solution: Skype + Kodable
- Manual Scheduling/Payment

<\$10k: Self-Funded

Phase 2: India/US Top 4 City Scaled Launch with External Solutions 25,000 Students , 2500 Teachers

Nov 5-Mar 1st 2019

Full PMF and Financial Validation

- CAC: \$110(US); \$27.5(INDIA)
- LTV: \$329(US);\$105(INDIA).
- Churn: 56%
- GMV: \$1.2MM/Month
- Breakeven: India(M5), US(M5)

- External Solution: Zoom + Code.Org
- Student and Teacher Portals with scheduling & payment

\$1.3MM: External Funding

Phase 3: India/US Top 20 City Expansion with Owned Product

Mar 1'2019+

Scale with owned IP/Build Data

- 2019 RUN RATE: \$100MM
- EBITDA: 25%

- Bespoke Whitehat VC + Coding Platform
- Deep Learning Algorithms to auto-suggest engagement improvement

TBD

Phase 4: Deep India/US with Mobile Solution

Jul 1'2019+

Critical Escape Velocity with Mass Solution

- TBD

- Mobile Enabled Platform
- Deep Learning Algorithms to auto-suggest engagement improvement

TBD

COMPETITION

WHITEHAT JR WILL FILL WHITESPACE IN H2H STEM



Competitive Advantage

H2H First-mover: Platform Network Effects

Strong IP at every stage: Curriculum(Phase 2); 1st Ever VC + Coding Product(Phase 3); Mobile Solution+ Deep Learning/ Data(Phase 4).

Proven CEO with global expansion experience

Jun Prototype Results: Blockbuster Interest & Conversion

Test Results

Test: Mumbai/Bay Area
www.whitehatjunior.com/betaus
6 Teachers, 90 Students



Whitehat Jr.

Live 1:1 Online Coding Classes for Kids Grade 1-8

Make your kid a creator
and not a consumer of technology

REGISTER YOUR KIDS NOW

1st 30 Students only. Email info@whitehatjr.com



**Beginners
Coding Bootcamp:
6 Classes only Jun 16-Jun 30**

Rs 2,499 for 6 classes. Trial Class Free.

	Plan	Actual	Index vs Plan
Marketing	7-Day Paid FB Campaign	1-day Organic FB Posts	Demand Significantly Exceeds Expectations
Sign-Ups	60	91	152
Paid Conversion Rate	20%	51%	255
Qualitative Feedback	"Great initiative but don't know how to measure kid progress and outcomes"	"Kid loves it. This is what he needs everyday."	Significantly Exceeds Expectations

User Reviews

"My kid is ahead of the curve. This is exactly what he/she needs. School doesn't cover this"

"I've seen a change in my kid in the last 3 days—he's creating steps even on simple things like eating a banana"

Test Learnings: Improvements for Phase 2

Issues

1. Manual Scheduling & Payment
2. Kids Engagement Highest in Creation vs Coding
3. High Variance in Teacher Conversion
 - 20-75%
4. (Not in test) Tangible Outcomes



Phase 2 Improvements

- ✓ Automated Technology & Payment
- ✓ Switch code.org/blockly; Prep Owned Platform with creation at center.
- ✓ Stringent Teacher Selection Criteria
 - Only 10% Selection Rate
- ✓ Tangible Learning Outcomes
 - Games, Animation, App Design
 - +Create Test Pool: Kid-created Physical Artefact(shipped to parents at extra cost)

PHASE 2: FUNDING FLOW

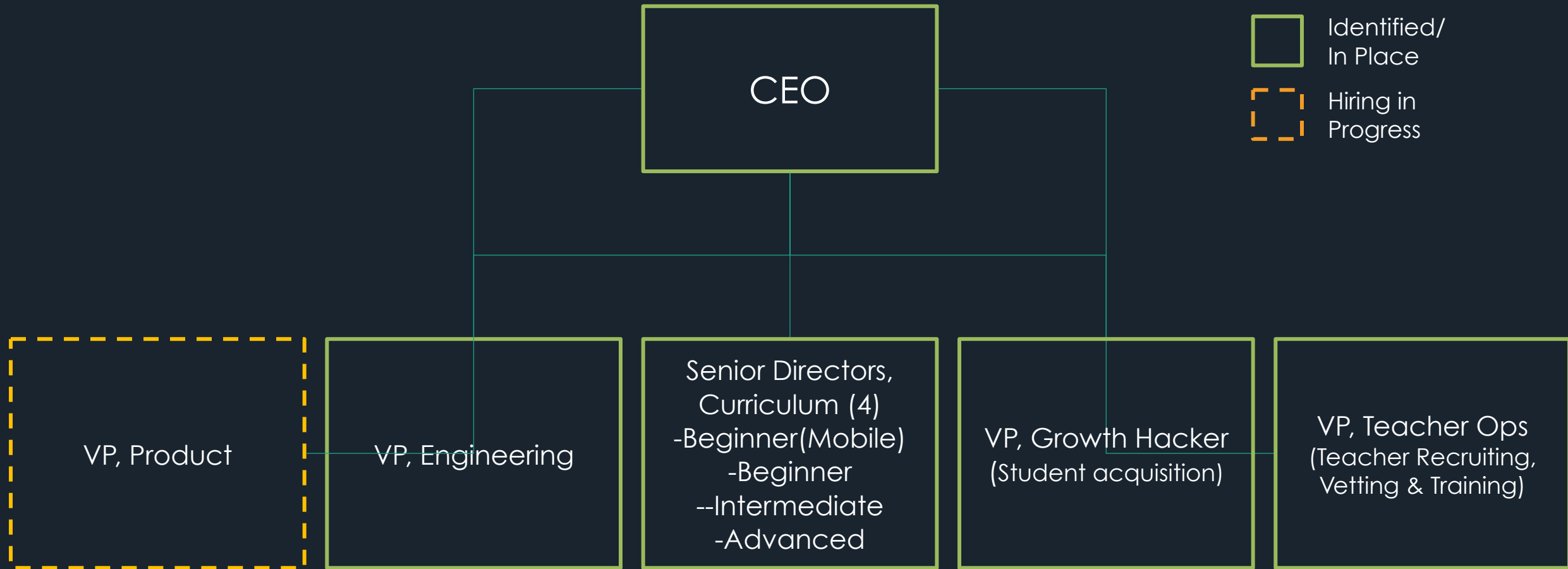
~ 85% of funding spent in core business metrics vs fixed assets to test/
establish business model scale-ability

Monthly Cost Phasing(\$)	Sep	Oct	Nov	Dec	Jan	Feb	Total	% of Total
Curriculum	12,955	10,955	10,955	10,955	10,955	10,955	67,731	5%
Technology	8,633	8,633	8,633	8,633	8,633	8,633	51,976	4%
Salary/Office	16,915	16,915	16,915	16,915	16,915	23,134	107,711	8%
Net Acquisition Working Capital	-	-	63,835	229,470	512,883	271,916	1,078,103	83%
Total Costs	38,533	36,533	100,368	266,003	549,416	314,668	1,305,522	100%
# Students	-	-	1,000	4,000	10,000	10,000	25,000	-
# Teachers	-	-	100	400	1,000	1,000	2,500	-
Churn Rate	-	-	30%	15%	10%	10%	45%	-
GMV Total	-	-	113,851	535,099	1,525,031	2,267,395		-
Net Revenue	-	-	36,955	173,690	495,015	735,982		-

Unit Economics

Paid Conversion Rate	30%
CAC: India(Student+Teacher)	\$27.5
CAC: USA(Student+Teacher)	\$110
Margin/Student/Class: India	\$3
Margin/Student/Month: US	\$7
LTV: India	\$105
LTV: US	\$329
Breakeven: India	M5
Breakeven: US	M5

Founding Team Structure



APPENDIX

Beginner Curriculum (4-6) | 50 Classes

16

6

Commands
Sequence

4

Pattern
Recognition

5

Algorithm
Decomposition

16

6

Loops

6

Animation

2

Internet Safety

16

5

Test, Debug

5

Conditions

4

Functions

1

1

Draw a picture
using 2D shapes
with its algorithm

2

2

Functions Song
- Algorithm

3

2

Rule book for
a Game
(Snake &
Ladder)

Intermediate Curriculum (7-8) | 50 Classes

16

5

Decomposition

4

Command
Sequence

6

Algorithm
Debugging

16

4

Pattern
Recognition

8

Conditionals &
Loops

2

Responsible
internet use

16

2

Digital Footprint

6

Abstraction

5

Events

1

1

Create a Marvel
character

2

2

Create Picture
Story Book

3

3

Animation of
Play Book for
Play Equipment

Advanced Curriculum (9-11) | 50 Classes

15

3

Sequences

3

Variables

9

Loops

15

5

Events

6

Conditionals

4

Functions

15

3

UI Design

7

Properties

5

Debugging

1

1

Game 1

1

1

Game 2

3

3

APP

TECH DETAILS

Phase 1 Prototype

- Basic Landing Page
- Skype + Kodable
- Manual Scheduling & Payment

Phase 2

Early usable version

- Homepage
- Student and teacher portals with scheduling, and payment
- Curriculum Creator
- Feedback for Teachers and Student
- Portal works on Web Browsers
- One click from portal to start class that integrates conferencing and coding
- Timer and Alert Mechanism

Phase 3

Whitehat Jr video conferencing solution

- Build bespoke solution using WebRTC and remove existing off shelf provider to manage costs**
- Whitehat Jr block-coding platform
- Feature parity with Scratch Jr and Kodable
- Derive an outcome after taking the course
- Allow children to build more detailed stories than Scratch Jr
- Teacher-Student match algorithm.
- Build longer narratives
- Create Games which eases out the learning curve of Children
- Reports for Children after every course
- Build Internal Process and Panels to solve operational problems
- Seamless UX for Payments and Scheduler
- Data sourcing for ML/AI Models

Phase 4

Mobile Enabled H2H

Deep learning makes better teachers and students

- AI/ML Models to recommend courses
- Automated Reports by the End of course
- Performing Analytics on video, audio, and monitor activity during classes. Prompt suggestions (during a class) to the teacher to increase engagement/efficacy.
- Providing Feedback to Parents about the course
- Add support for new curriculums
- Support syntax highlight for new languages

Phase 2 Top 4 City Roll-out: Detailed Plan

INDIA

Phase 2 Student Markets # Premium Students(MM)

Mumbai	0.36
Bangalore	0.19
Total	0.549

Phase 2 Teacher Markets # English Fluent, STEM Expert Teachers(MM)

Mumbai	0.016
Delhi	0.012
Kolkata	0.001
Bengaluru	0.006
Chennai	0.007
Hyderabad	0.005
Pune	0.003
Ahmedabad	0.001
Surat	0.001
Vishakhapatnam	0.001
Total	0.054

US/International

Student Test Markets # Premium Students(MM)

New York	0.52
Bay Area	0.3
Total	0.82

US Teachers	#STEM Qualified. Premium Teachers	Avg. Wage/30 mins Teacher
Mississippi	0.03	\$10
Oklahoma	0.04	\$10.5
Bucharest, Romania	0.02	\$1.5
Cape Town, South Africa	0.02	\$2.5
Kuala Lumpur, Malaysia	0.05	\$2.5
TOTAL	0.16	