POLITECHNIKA BYDGOSKA im.

Jana i Jędrzeja Śniadeckich

WYDZIAŁ TELEKOMUNIKACJI, INFORMATYKI I ELEKTROTECHNIKI

PREZENTACJA TEMATU PRACY INŻYNIERSKIEJ

na kierunku Infromatyka stosowana

Aplikacja webowa do automatycznego generowania i harmonogramowania postów publikowanych w mediach społecznościowych

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Politechnika Bydgoska
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Wydział Telekomunikacji, Informatyki i Elektrotechniki

KARTA PRACY DYPLOMOWEJ

Kierunek: *Informatyka Stosowana*

Forma studiów: stacjonarna/~~niestacjonarna~~*

PRACA INŻYNIERSKA/~~MAGISTERSKA~~*   NR .... /........./........./.......

Student (imię i nazwisko): Paweł Pauszek

Temat pracy (w języku polskim): Aplikacja webowa do automatycznego generowania i harmonogramowania postów publikowanych w mediach społecznościowych

Temat pracy (w języku angielskim): Web application to automatic generation and scheduling of posts published in social media

Słowa kluczowe (w języku polskim): media społecznościowe, harmonogram postów, AI

Słowa kluczowe (w języku angielskim): social media, posts scheduler, AI

Zadania szczegółowe:

1. Analiza rozwiązań dostępnych na rynku.
2. Funkcjonalność:
- Możliwość dostosowania tematyki generowanego tekstu za pomocą słów kluczowych lub krótkich opisów
- Możliwość wyboru dat, dni tygodnia oraz czasu publikacji
- Zmniejszenie powtarzalności / podobieństwa postów o tych samych słowach kluczowych do tygodnia wstecz /lub możliwość wygenerowania nowego tekstu
- Możliwość podglądu oraz edycji wygenerowanego tekstu manualnie przed opublikowaniem posta
- Możliwość zaplanowania publikacji własnych treści
3. Przeprowadzenie testów aplikacji.
4. Przedstawienie podsumowania i wniosków.

Celem pracy jest projekt i implementacja aplikacji webowej wykorzystywanej do publikowania postów w mediach społecznościowych jak np. LinkedIn, Twitter, Instagram, itp. Aplikacja będzie w sposób automatyczny generowała posty w oparciu o wykorzystanie narzędzi wspomaganych przez sztuczną inteligencję, np.: ChatGPT, copy.ai, itp. Dodatkowo będzie możliwość ustawienie harmonogramu publikacji postów polegającego na określeniu dnia oraz czasu w którym dany post powinien zostać opublikowany.

**Kierujący pracą** (imię i nazwisko): dr inż. Michał Kruczkowski

....
(podpis)

Podpis studenta: ....

Recenzent/Recenzenci (imię i nazwisko): ....

PRODZIEKAN
ds. Kształcenia i Spraw Studenckich

dr inż. Mścisław Śrutek

*) niepotrzebne skreślić

Postępy

Upiększenie GUI oraz zoptymalizowanie kodu. Dodatkowo jest jeden wspólny formularz dla wszystkich 3 serwisów. Za pomocą sesji automatycznie wykrywa i przypisuje pod które API będzie wysyłany post.
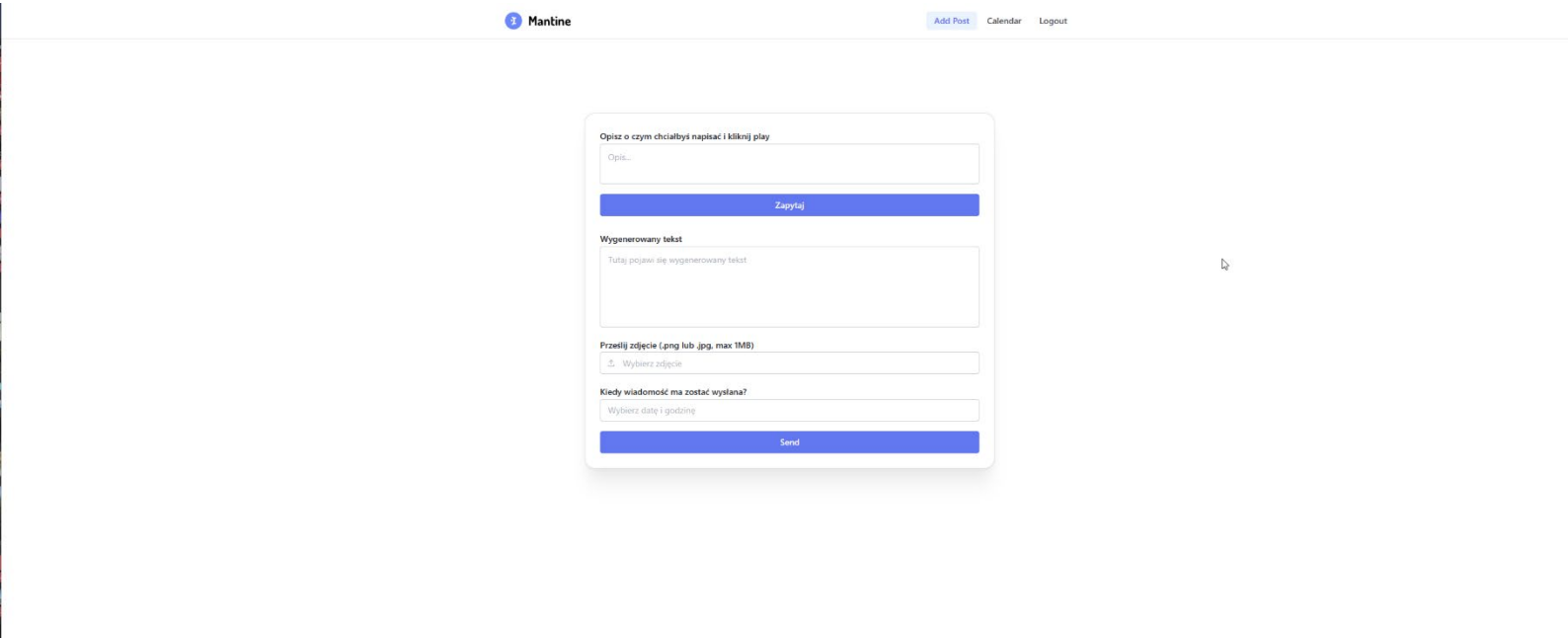
Warto wspomnieć, że aplikacja automatycznie skaluje się wraz ze zmianą rozdzielczości.

Analiza rynku

Buffer

Create Post

Hejka

Drag & drop or
select a file

2995

Schedule date: **Jun 28, 10:00 AM** Edit

Schedule Draft ▾ **Schedule Post**

LinkedIn Preview ⦾

Piotr Gryf
1h · ⊕   ⋯

Hejka

👍   💬   ⟲   ➤
Like   Comment   Repost   Send

Pakiety:

Free	**Essentials**	**Team**	**Agency**
For individuals and businesses getting started with social media.	For professionals who use publishing, analytics & engagement tools.	For teams who want unlimited users, collaboration, and reporting.	For marketing agencies with 10 or more channels.
Get started	Try free for 14-days	Try free for 14-days	Try free for 14-days
$0	$6 / monthly for 1 channel	$12 / monthly for 1 channel	$120 / monthly for 10 channels
Connect up to 3 channels	Add additional channels for $6/month	Add additional channels for $12/month	Add additional channels for $6/month
	Billed monthly	Billed monthly	Billed monthly
✓ Planning & publishing tools	✓ **Free features, plus:**	✓ **Essentials features, plus:**	✓ **Team features, plus:**
✓ Landing page builder	✓ Engagement tools	✓ Unlimited team members & clients	✓ Custom access & permissions
✓ AI Assistant	✓ Analytic reports	✓ Draft collaboration tools	✓ Agency-friendly pricing

Funkcjonalności:

		Free $0 per channel Sign up for free	**Essentials** $6/mo per channel Try free for 14-days	**Team** $12/mo per channel Try free for 14-days	**Agency** $120/mo for 10 channels Try free for 14-days
Basics					
Monthly Price		Always $0	Starts at $6/mo	Starts at $12/mo	Starts at $120/mo
Channels	⌄	Up to 3	$6/mo per channel	$12/mo per channel	$120/mo for the first 10 channels. Additional channels for $6/mo per channel
Scheduling Posts	⌄	Up to 30	Unlimited*	Unlimited*	Unlimited*
Included Users	⌄	1	1	Unlimited	Unlimited
Invite Additional Users	⌄			Unlimited	Unlimited
Buffer AI Assistant (Beta)	⌄	50 AI Credits	150 AI Credits (+150 for each additional channel connected)	300 AI Credits (+300 for each additional channel connected)	3000 AI Credits (+300 for each additional channel connected)
Channels					
Instagram ⌾	⌄	✓	✓	✓	✓
TikTok ♪	⌄	✓	✓	✓	✓
Facebook f	⌄	✓	✓	✓	✓
Twitter 🐦	⌄	✓	✓	✓	✓
LinkedIn 🔗	⌄	✓	✓	✓	✓
New **Mastodon** @	⌄	✓	✓	✓	✓
YouTube ▶	⌄	✓	✓	✓	✓
Google ⊝	⌄	✓	✓	✓	✓
Pinterest 📌	⌄	✓	✓	✓	✓
Start Page	⌄	✓	✓	✓	✓

	Free	Essentials	Team	Agency
	$0 per channel	$6/mo per channel	$12/mo per channel	$120/mo for 10 channels
	Sign up for free	Try free for 14-days	Try free for 14-days	Try free for 14-days
Planning and Scheduling				
Post Scheduling ⌄	✓	✓	✓	✓
Set Posting Schedule ⌄	✓	✓	✓	✓
Drafts ⌄	✓	✓	✓	✓
Tailored Posts for Each Channel ⌄	✓	✓	✓	✓
Calendar View ⌄	✓	✓	✓	✓
Instagram Reels and Carousels ⌄	✓	✓	✓	✓
buff.ly link shortener ⌄	✓	✓	✓	✓
Instagram Tagging ⌄	✓	✓	✓	✓
Instagram Stories Scheduling ⌄	✓	✓	✓	✓
Twitter Hashtag Suggestions ⌄	✓	✓	✓	✓
Facebook Page Mentions ⌄	✓	✓	✓	✓
Twitter Mentions ⌄	✓	✓	✓	✓
Google Business Profiles ⌄	✓	✓	✓	✓
Ideas ⌄	100 ideas	2000 ideas	2000 ideas	2000 ideas
New Twitter Threads ⌄	✓	✓	✓	✓
Custom Video Thumbnails ⌄	✓	✓	✓	✓
bit.ly link shortener ⌄		✓	✓	✓
Custom Link Shortener ⌄		✓	✓	✓
Multi-Channel Campaigns ⌄		✓	✓	✓
Hashtag Manager ⌄		✓	✓	✓
Instagram First Comment ⌄		✓	✓	✓
Shuffle Queue ⌄		✓	✓	✓

	Free $0 per channel	**Essentials** $6/mo per channel	**Team** $12/mo per channel	**Agency** $120/mo for 10 channels
	Sign up for free	Try free for 14-days	Try free for 14-days	Try free for 14-days

Analytics, Insights & Reporting

Feature	Free	Essentials	Team	Agency
Performance Overview ⌄		✓	✓	✓
Individual Post Analytics ⌄		✓	✓	✓
Historical Data Access ⌄		✓	✓	✓
Data Storage ⌄		✓	✓	✓
Campaign Analysis ⌄		✓	✓	✓
Boosted Post Insights ⌄		✓	✓	✓
Hashtag Performance ⌄		✓	✓	✓
Audience Demographics ⌄		✓	✓	✓
Machine Learning Insights ⌄		✓	✓	✓
Instagram Stories Analytics ⌄		✓	✓	✓
Shopify Performance ⌄		✓	✓	✓
Custom Reports ⌄		✓	✓	✓
Exportable Reports ⌄		✓	✓	✓
Branded Reports ⌄			✓	✓
Cover Page ⌄			✓	✓

Engagement

Feature	Free	Essentials	Team	Agency
Grid view ⌄		✓	✓	✓
Important Comment Detection ⌄		✓	✓	✓
Hotkeys ⌄		✓	✓	✓
Easy Account Switching ⌄		✓	✓	✓

Hootsuite
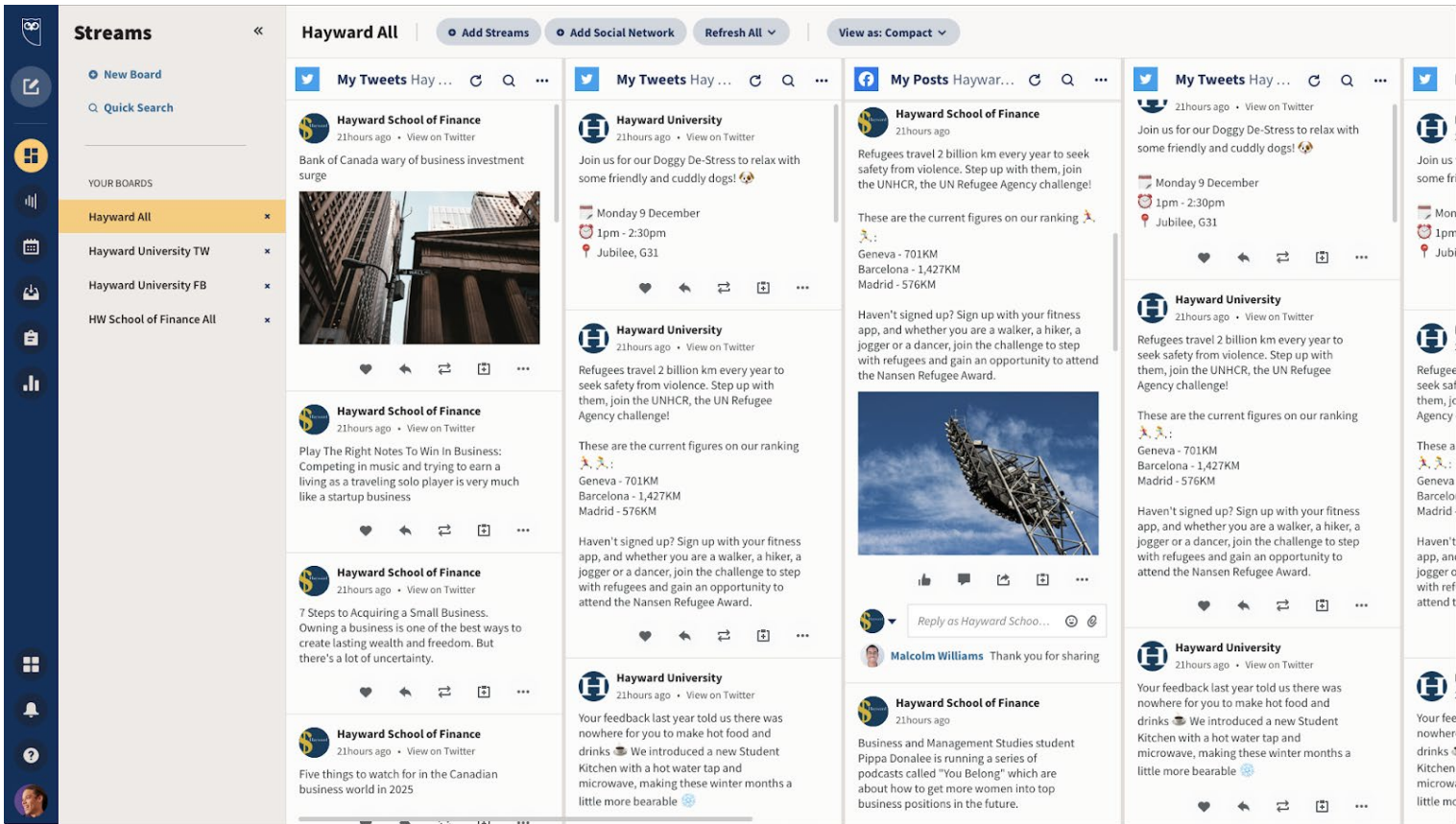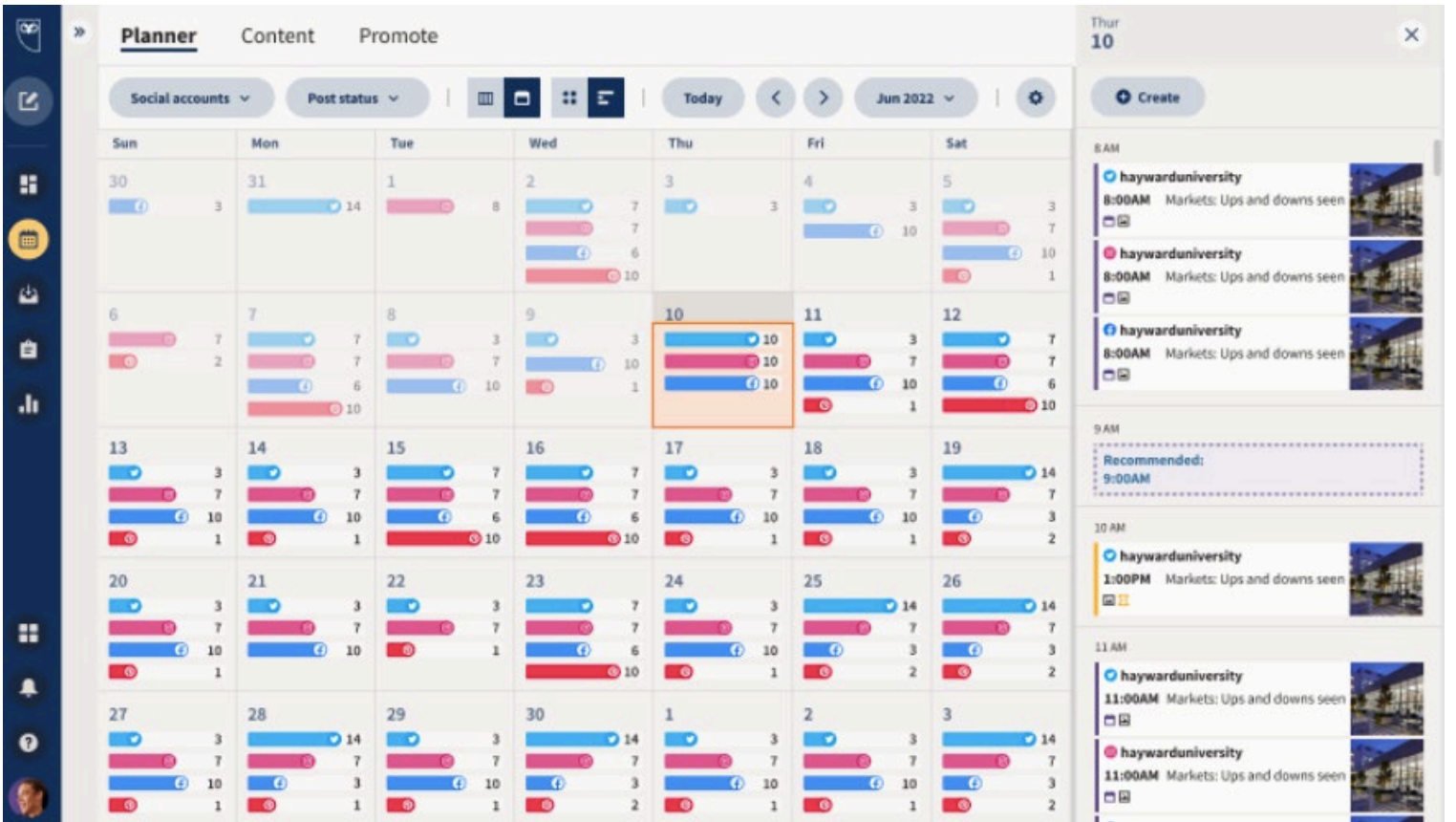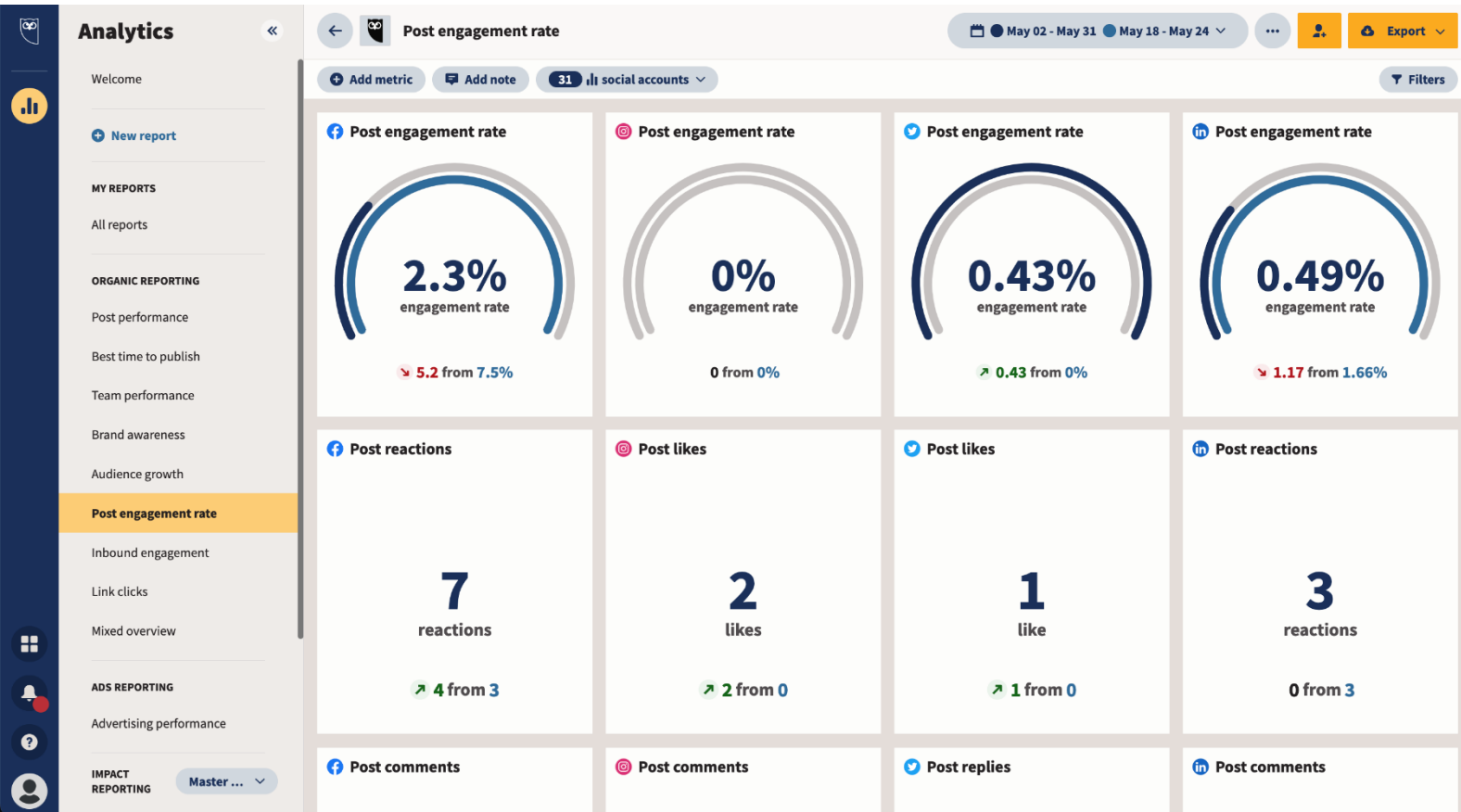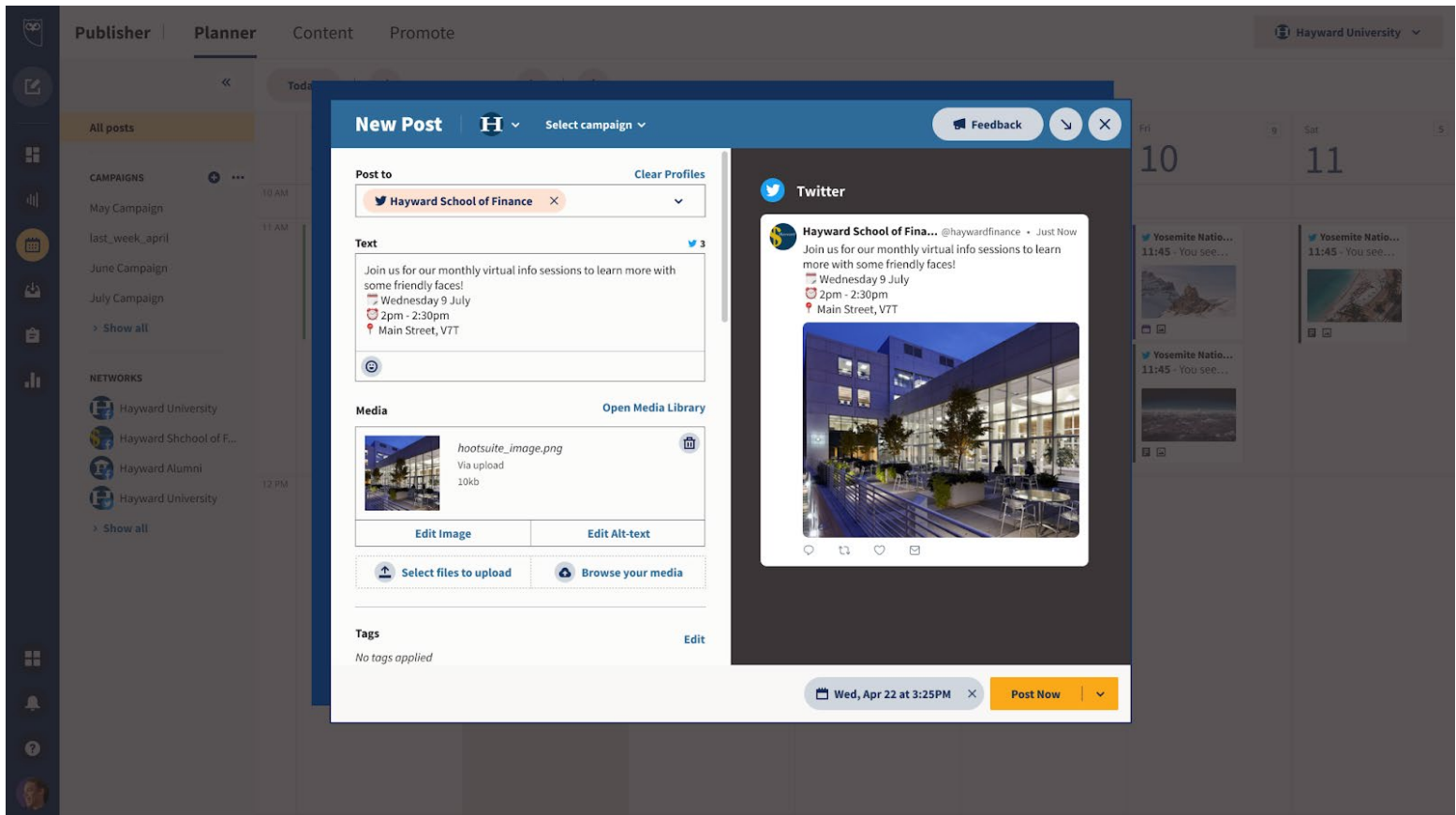
Funkcjonalność + pakiety:

Legend	PROFESSIONAL	TEAM	BUSINESS	ENTERPRISE
✔ Included with plan ✖ Not included with plan	**$99** / mo, billed annually **Free 30-Day Trial**	**$249** / mo, billed annually **Free 30-Day Trial**	**$739** / mo, billed annually **Request a Demo**	**Contact for pricing** **Request a Demo**
❯ Social Accounts	**10**	**20**	**35**	**50**
❯ Users	**1**	**3**	**5**	**5**
❯ Additional users	✖	✖	**Add-on (per user pricing)**	**Add-on (per user pricing)**
❯ Additional social accounts	✖	✖	**Add-on (per social account pricing)**	**Add-on (per social account pricing)**
❯ Departmental organization	✖	✔	✔	✔
Publishing and scheduling				
❯ Unlimited posts	✔	✔	✔	✔
❯ Draft, schedule, and publish	**Unlimited**	**Unlimited**	**Unlimited**	**Unlimited**
❯ Multi-profile scheduling	✔	✔	✔	✔
❯ Social content calendar	✔	✔	✔	✔
❯ Social content calendar sharing	✖	✔	✔	✔
❯ Approval workflows	✖	✖	✔	✔
❯ Recommended times to publish	✔	✔	✔	✔
❯ Hootbio	✖	✔	✔	✔
❯ Bulk scheduling	✔	✔	✔	✔
❯ Link shortening and tracking	✔	✔	✔	✔
❯ Custom branded URL (Vanity URL)	✖	**1**	**5**	**Unlimited**
❯ Automated link tracking	✖	✔	✔	✔
❯ Integrate with bit.ly	✖	✖	✔	✔
❯ Linkedin Page target audience	✔	✔	✔	✔
❯ Suspend scheduled posts	✖	✔	✔	✔

Content curation				
Content inspiration	✔	✔	✔	✔
Content discovery streams	✔	✔	✔	✔
Content apps	✔	✔	✔	✔
Outgoing message content tagging	✘	✘	✔	✔
Hashtag suggestions	✔	✔	✔	✔
Stock photo library	✔	✔	✔	✔
Digital media editing	✔	✔	✔	✔
Asset and content library	✘	✘	✔	✔
Design with Canva	✔	✔	✔	✔
Grammarly writing suggestions	✔	✔	✔	✔
Campaign Management				
Campaign planning	✘	✘	✔	✔
Campaign tagging and reporting	✘	✘	✔	✔
Messaging and customer service				
All-in-one centralized inbox	✔	✔	✔	✔
Contact management	✔	✔	✔	✔
Team assignments	✘	✔	✔	✔
Agent collision	✘	✔	✔	✔
Dashboard notifications	✘	✘	✔	✔
Tags and tag automations	✘	✘	✔	✔
Configurable auto-resolve conversations	✘	✘	✔	✔
Saved and suggested replies	✘	✘	✔	✔
Business hours	✘	✘	✘	✔
Build complete contact profiles	✘	✘	✘	✔
Auto-responder	✘	✘	✘	✔
Skill based routing	✘	✘	✘	✔
CSAT surveys and notifications	✘	✘	✘	✔
Advanced Inbox	✘	✘	✘	**Add-on**
Heyday FAQ Conversational AI chatbot	✘	✘	✘	**Add-on**

Ads

Feature				
> Multiple channels post boosting	$500.00 limit	$2,000.00 limit	Unlimited	Unlimited
> Social ads campaign management	✕	✕	✕	10 Ad profiles included (Add-on for more)
> Social ads analytics & reporting	✕	✕	✕	✔

Analytics

Feature				
> Report templates	✔	✔	✔	✔
> Customizable reports	✔	✔	✔	✔
> Post performance	✔	✔	✔	✔
> Best time to publish	✔	✔	✔	✔
> Report export - basic	✔	✔	✔	✔
> Report export - advanced	✕	✕	✔	✔
> Multiple networks reporting	✔	✔	✔	✔
> Performance by goal reports	✔	✔	✔	✔
> Industry benchmarking	✔	✔	✔	✔
> Competitive benchmarking	2 competitors	2 competitors	5 competitors	20 competitors
> Social Score	✔	✕	✕	✕
> Report export scheduling	✔	✔	✔	✔
> Team productivity reporting	✕	✕	✕	✔
> Advanced report customizations	✕	✕	✕	✔
> Paid and organic ROI reporting	✕	✕	✕	Add-on
> Social listening	✕	✕	Add-on	Add-on

Tailwind

Working from scratch?

Upload or Create Posts

| ✉ Send emails | 🔵 Ghostwriter AI |

Make the most out of Tailwind
0/5

⊕ Add additional account ⓘ →
✈ Set up auto post ⓘ 🔒
✳ Install browser extension ⓘ →

✉ Add email contacts ⓘ →
🔗 Set up Smart.bio ⓘ 🔒

Suggested content ideas to post this week: ⓘ

♥ ● Awareness ● Consideration ● Conversion | Filter Campaigns ⌄ |

Educate Your Followers (Jun 26th) ⓕ ⓟ ✉ ⊙ | ↻ New Prompt | ♡ ≡

Showcase Your Evolution
Highlight how your offerings have evolved and grown over time. Is there new inspiration that drives you? Is there a new way you are tackling roadblocks? Share a bit about your creat ...read more

Why this campaign? ⓘ

Jun 26

📅 Get a Personalized Marketing Plan ⓘ

| New Task | ☰ Filter | Weekly ⌄ | Today | ← Jun 25 - Jul 01 → |

Sunday 25	Monday 26	Tuesday 27	Wednesday 28	Thursday 29	Friday 30	Saturday 1
	Educate Your Followers ⓕⓟ✉⊙ Showcase Your Evolution	**Ask Me Anything** ⓕ⊙ Share a "Free Time" AMA Prompt	**Behind the Scenes** ⓕ⊙ Spotlight What Are You Working On?	**Lifestyle Content** ⓕ⊙ Add Your Two Cents on a Trending Topic	**Email Newsletter** ✉ Create and Run a Short Email Survey	**Collaborative Marketing** 📄 Contact Other Blogs to Get Guest Posts
	Grow Your Email List ⊙ⓕ Create a Quiz With Results Shared Through Email as an Opt-in Incentive					

Your Plan Progress at a Glance

Browse upcoming content in your plan by Campaign to plan ahead, batch your work, or get a head start!

Get a fully personalized plan for your business

Take 60 seconds to tell us more about your business and get an easy-to-follow Marketing Plan created just for you.

Get started

| Educate Your Followers |
| Grow Your Email List |
| Ask Me Anything |
| Behind the Scenes |
| Lifestyle Content |
| Email Newsletter |
| Collaborative Marketing |
| Brand Story |

| Week 1 6/26 - 7/2 | Week 2 7/3 - 7/9 | Week 3 7/10 - 7/16 | Week 4 7/17 - 7/23 |

Monthly posts ⓘ   0/20   **Upgrade**

Optimize your Tailwind experience

📢 Tailwind now includes *Email Marketing* !   Get started now   ✕

Home

Create

Drafts

Email Marketing New

Communities

Smart.bio

Insights

Get started with email marketing

👤 **Add email contacts**

✉ **Build subscription form**

Skip for now

Generate designs instantly

✏ **Create designs**

Skip for now

Schedule your posts

Upload media ⌄

Select account to upload

🔴 **@reddhotwheels**

👤 **@sfbreezy** ❯

👤 **Lyn Wildwood**

Your Schedule

Scheduled   Failed/Missed Posts 0   ☰ Filter   Today   ← Jun 12 – 18 →

Sunday • **12**	Monday **13**	Tuesday **14**	Wednesday **15**	Thursday **16**	Friday **17**	Saturday **18**

⊞

1

📋 Post Caption   T ℱ B I

Have you ever road your bike along the beach. Now you can, and in style, too!

We have new beach cruisers in stock, and we're having a huge sale to celebrate.

Grab one before we run out! Link in bio

😊 Emoji   # Saved hashtags & captions   #0/30

Hashtags suggestions   ↻ Refresh

#biologico ✕   #trading ✕   #eco ✕

#celebration ✕   #cycling ✕

#nicegirls ✕   #ตามหา ✕   #alnatura ✕

● Niche ● Good ● Best ● Competitive

Pakiety:

Pro

Everything you need to grow your brand

$19.99 /mo

Save $84 a year by switching to annual

Buy Pro

WHAT'S INCLUDED

- ✓ 1 Pinterest Account
- ✓ 1 Instagram Account
- ✓ 1 Facebook Page
- ✓ 100 Posts/mo across Instagram, Pinterest & Facebook
- ✓ 200 Post Designs/mo
- ✓ 50 Ghostwriter Credits/mo
- ✓ 5 Tailwind Communities
- ✓ Smart.bio Custom Link
- ✓ Advanced Analytics
- ✓ 1 user
- ✓ Unlimited Email Contacts
- ✓ 200 Email Sends/mo

See more features

Advanced

Advanced features for growing multiple brands

$39.99 /mo

Save $240 a year by switching to annual

Buy Advanced

WHAT'S INCLUDED

- ✓ 2 Pinterest Accounts
- ✓ 2 Instagram Accounts
- ✓ 2 Facebook Pages
- ✓ 1,000 Posts/mo across Instagram, Pinterest & Facebook
- ✓ Unlimited Post Designs
- ✓ 250 Ghostwriter Credits/mo
- ✓ Unlimited Tailwind Communities
- ✓ Smart.bio Custom Link
- ✓ Advanced Analytics
- ✓ 2 users
- ✓ Unlimited Email Contacts
- ✓ 500 Email Sends/mo

See more features

Max

Unlimited access for managing multiple accounts

$79.99 /mo

Save $480 a year by switching to annual

Buy Max

WHAT'S INCLUDED

- ✓ 3 Pinterest Accounts
- ✓ 3 Instagram Accounts
- ✓ 3 Facebook Pages
- ✓ Unlimited Posts/mo across Instagram, Pinterest & Facebook
- ✓ Unlimited Post Designs
- ✓ 500 Ghostwriter Credits/mo
- ✓ Unlimited Tailwind Communities
- ✓ Smart.bio Custom Link
- ✓ Advanced Analytics
- ✓ 5 users
- ✓ Unlimited Email Contacts
- ✓ 1,000 Email Sends/mo

See more features

Free Forever

Essential tools to get you started with your brand

$0 /mo

Get Started Free

WHAT'S INCLUDED

- ✓ 1 Pinterest Account
- ✓ 1 Instagram Account
- ✓ 1 Facebook Page
- ✓ 20 Posts/mo across Instagram, Pinterest & Facebook
- ✓ 20 Post Designs/mo
- ✓ 10 Ghostwriter Credits/mo
- ✓ 5 Tailwind Communities
- ✓ Smart.bio Custom Link
- ✓ Basic Analytics
- ✓ 1 user
- ✓ Unlimited Email Contacts
- ✓ 20 Email Sends/mo

See more features

Funkcjonalność:

Plans	Pro	Advanced	Max	Free Forever
	Buy Pro	Buy Advanced	Buy Max	Get Started Free
The Basics				
Email Contacts	Unlimited	Unlimited	Unlimited	Unlimited
Email Sends/mo	200	500	1,000	20
Pinterest Accounts	1	2	3	1
Instagram Accounts	1	2	3	1
Facebook Pages	1	2	3	1
Scheduled Posts	100 Posts/mo	1,000 Posts/mo	Unlimited Posts/mo	20 Posts/mo
Social Post Designs	200 Designs/mo	Unlimited	Unlimited	20 Post Designs/mo
Ghostwriter Credits	50 Credits/mo	250 Credits/mo	500 Credits/mo	10 Credits/mo
Tailwind Communities	5	Unlimited	Unlimited	5
Instagram Link in Bio Tool	✓	✓	✓	✓
Users	1	2	5	1
Email Contacts	Unlimited	Unlimited	Unlimited	Unlimited
Email Sends/mo	200	500	1,000	20
Planning & Scheduling				
SmartSchedule	✓	✓	✓	✓
Photo & Video Support	✓	✓	✓	✓
Bulk Uploads	✓	✓	✓	✓

Literatura:

[23 Free Social Media Scheduling Tools to Boost Your Social Media ROI (influencermarketinghub.com)](#)

[Buffer: All-you-need social media toolkit for small businesses](#)

[Social Media Marketing and Management Tool (hootsuite.com)](#)

[Tailwind Social Media & Email Marketing Tool (tailwindapp.com)](#)